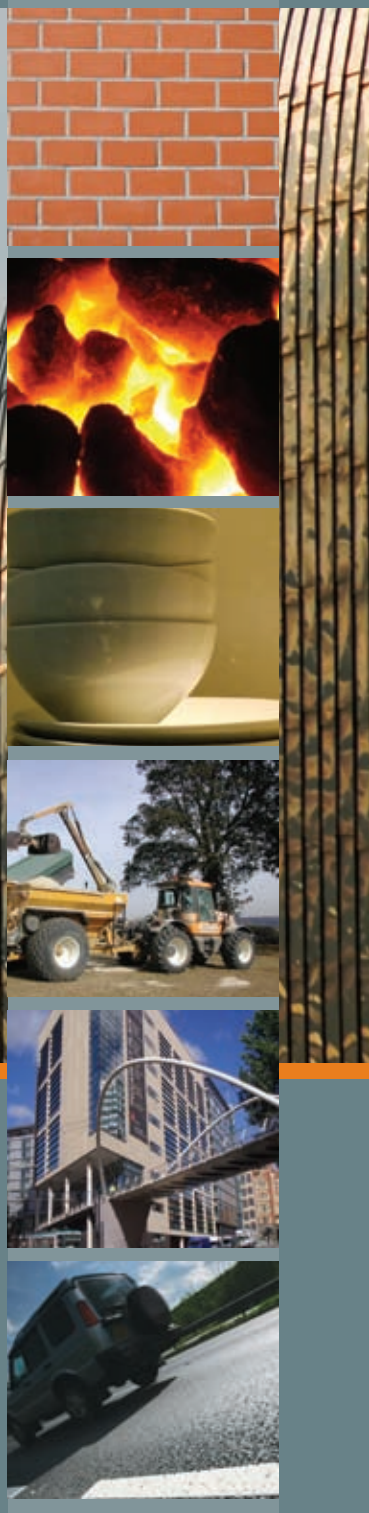
UK Minerals Forum

# Shaping UK minerals policy



September 2009

**This document has been prepared by the *UK Minerals Forum* to summarise reports prepared by its four working groups. The reports were originally presented at the CBI Minerals Group's *Living with Minerals* conference in November 2008. The full text of the reports can be found on the *UK Minerals Forum* website: http://www.bgs.ac.uk/ukmf/home.html**

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## 1 Minerals for tomorrow?

Minerals are essential and make life work. They put the fabric and strength into our buildings, they satisfy our energy needs, and they play a key part in manufactured products ranging from aeroplanes to aspirins. Even our food and clothing rely heavily on minerals for their production, packaging and distribution. A significant proportion of our non-energy minerals still come from the UK's own uniquely diverse geology. Other less common but equally important minerals are also potentially in short supply. It is sensible that we make the best use of the UK's own mineral resources where it is economically viable and environmentally sustainable to do so. While this will obviously require planning approvals being granted in appropriate locations, it is essential that applications fully address valid environmental issues.

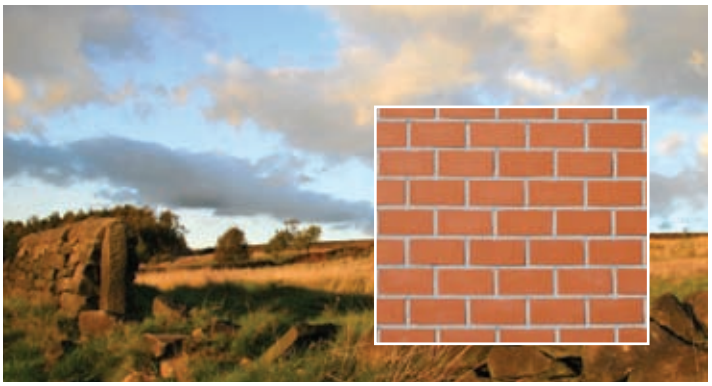
Being vital to life and to the economy is not a guarantee of survival. The UK minerals industry is having increasing difficulty in finding environmentally acceptable sites to work, which could have serious implications for future minerals supply. Permitted reserves of some specialist minerals like fluorspar, fireclay and, to a lesser extent, silica sand and opencast coal are of growing concern. Permitted reserves of more widely available sand and gravel have diminished very significantly over the past ten years.

So where do we go from here? The idea of a forum to concentrate the thinking of all parties was first mooted at the *Living With Minerals 1* conference in 2004, and the *UK Minerals Forum* came into being at *Living With Minerals 2* in 2006 when it was formally launched by Baroness Andrews OBE, Parliamentary Under Secretary of State at Communities and Local Government. Dr Brian Marker OBE, formerly of the Office of the Deputy Prime Minister, agreed to act as independent Chair of the forum for the first two-year cycle of its work.

It represented an innovative approach built on the passion and goodwill of participants – the first time representatives of the land-based minerals industry had come together with representatives from key

Government departments and agencies such as Natural England and English Heritage, the Welsh Assembly Government, the Scottish Government, the Northern Ireland Assembly, non governmental organisations and planners to seek solutions.

The *UK Minerals Forum* has met five times over the past two years and has set up four working groups which have each been tasked with tackling agreed issues. Each group has had its own convenor and has met three times with inputs from their own e-forum for other participants. This briefing summarises the work of the four groups.



**The UK Minerals Forum has addressed four issues via its working groups:**

- Security of supply of minerals
- Mineral extraction in National Parks & Areas of Outstanding Natural Beauty (AONBs)
- Carbon and proximity of mineral supply
- Cumulative impact of policy legislation and regulation.

For further information on the work of the *UK Minerals Forum*, including more extensive papers on the above issues, go to **www.ukmineralsforum.co.uk**

# 2 Security of supply

## THE ISSUES

The UK economy – and indeed our way of life – is heavily dependent upon a continuing secure supply of essential minerals. While public attention is focused on how we will meet our need for primarily imported minerals such as oil and gas, there is growing concern about impending supply problems of some indigenous minerals.

Although permitted reserves of many minerals are substantial, others are declining. In the case of fluorspar, they are now perilously low. Permitted reserves of sand suitable for glass making are comparatively small and permitted reserves of opencast coal are low in relation to the overall level of consumption. Reserves of sand and gravel in England have declined by 29 per cent between 1995 and 2005 (in the South East by 60 per cent) due to a failure to replenish permitted reserves with new permissions.

Whilst permitted reserves of crushed rock are large overall, the figures mask regional and local imbalances in relation to size, location in relation to markets, production capacity and aggregate quality. There are also important issues about where the next generation of strategic, rail-linked quarries will be sited and the ability to secure sufficient "train paths" to transport aggregates to the market in the face of pressure from increased passenger traffic.

## ANALYSIS

It makes good sense to make the best use of the UK's indigenous mineral resources where it is economically viable and environmentally sustainable to do so. This requires not just access to resources through planning approvals but operators being able to identify and subsequently pursue new applications in acceptable locations.

The UK also needs a balanced minerals supply, maximising the contribution from recycling, substitution and resource efficiency. Such diversity improves security by keeping more options open. The security of supply working group also recognised the need for a more holistic approach to

the joint challenges of mineral supply and waste management. Cement manufacture, for example, not only provides an essential construction material but also a means of energy recovery through the incineration of suitable waste materials, so reducing landfill.

The minerals that are most critical to the UK economy are energy minerals – those that underpin industries with a high value-added component (such as chemical feedstocks and glass making materials) and construction minerals (particularly aggregates and cement). The most vulnerable in terms of future supply are minerals located almost entirely in designated areas, notably fluorspar.

Minerals are consumed in large quantities and UK industry will continue to require supplies from both domestic and imported sources. Given the complex relationships between the natural distribution of mineral resources, environmental considerations, infrastructure and the nature of supply and demand, it is difficult to see how future demand can be met in a sustainable way without a strategic, forward-planning approach.

It is important, therefore, that the nation's raw material needs, whether from overseas or domestic sources, are kept under regular review. We should monitor and improve our knowledge base on the location, supply, characteristics and demand for all minerals and value indigenous mineral resources as national assets.

What would be invaluable for stakeholders is a series of concise "strategic statements," endorsed by Government, for the range of minerals produced in the UK describing their economic importance and the role they play in supporting a very wide range of user industries*.

## KEY DISCUSSION POINTS

**A secure supply of indigenous minerals is key to sustaining the economy**

**Good spatial planning and clear and unambiguous planning guidance is key to maintaining security of supply**

**Better advocacy for minerals**

**A series of concise Government-endorsed "strategic statements" for the range of minerals produced in the UK describing their economic importance and the role they play in supporting user industries***

**The strategic statements should set out clearly the economic importance of each mineral type and the roles they play in supporting downstream industries.**

* Note: While the majority of the working group favoured the strategic statement approach, some members felt that, for England, the generic statement on the importance of minerals and continuity of supply contained in Minerals Policy Statement 1: Planning and Minerals (MPS1) was sufficient.

# 3 Mineral extraction in National Parks & AONBs

## THE ISSUES

There are nine National Parks in England, two in Scotland and three in Wales. Britain also has 40 Areas of Outstanding Natural Beauty. Between them, these areas cover more than four million hectares. While they receive the highest level of landscape protection in Government policy, these areas are not wildernesses as they are in many other countries. They are lived-in, working landscapes that play an important role in the economic well-being of the nation as a whole. That is particularly true in terms of minerals production. In 2008, some 97 of the 2,100 active mineral workings in England, Scotland and Wales (4.6 per cent) were located in National Parks and 168 (eight per cent) in AONBs.

Because of the existence of alternative supplies, new permissions for aggregate extraction in National Parks and AONBs have become almost non-existent, and permissions for extensions are rare. There has been a trend towards consolidation into a few, relatively large aggregate sites with 2042 end dates. A number of dormant sites with planning permissions within National Parks have been voluntarily given up.

In the case of non-aggregate minerals, which have a more restricted geographical distribution, arguments persist over whether national need should outweigh other considerations.

## ANALYSIS - AGGREGATES

26 percent of all active crushed rock quarries and 6 percent of all active sand and gravel quarries in England lie within a National Park or AONB. Between them, they supplied 22.6 million tonnes in 2005, which is 16 per cent of our overall primary, land-won aggregate needs. In terms of permitted reserves, they contain 987.6 million tonnes (24 per cent). While Carboniferous limestone is by far our largest source of crushed rock, nearly half of the outcrop area of the resource lies within a National Park or AONB.

Nowhere is the role of limestone more significant than in the Peak District National Park, which contains 61 per cent of the total aggregate reserves in all English National Parks. But its ability to meet our needs is set to decline as reserves are worked out and permissions expire. Sales are predicted to decline to 80 per cent of current levels by 2011 and 45 per cent by 2030.

With the aggregate supply role of the National Parks and AONBs generally set to decline in the years ahead, the shortfall must be met from other sources. The main options are:

- Existing quarries outside designated areas - many larger sites have limited capacity to play a bigger role, totaling up to 12 million tpa. Increasing extraction would, however, speed up depletion.

### Minerals extracted in National Parks & AONBs

- BUILDING STONE (most National Parks & AONBs)
- BARYTES (Peak District National Park & Loch Tummel National Scenic Area)
- CEMENT MINERALS (Peak District National Park)
- CRUSHED ROCK AGGREGATE (Peak District National Park, Yorkshire Dales National Park, various AONBs, particularly in the north and west)
- FLUORSPAR (Peak District National Park)
- BALL CLAY (Dorset AONB)
- POTASH (North York Moors National Park)
- SAND AND GRAVEL (numerous AONBs)
- SILICA SAND (Kent Downs, North Pennines AONBs)
- BRICK CLAY (various AONBs)
- OIL & GAS (Dorset, East Hampshire, Surrey Hills AONBs and the proposed South Downs National Park).
- SLATE (Snowdonia & Lake District National Parks)

- Recycled & secondary aggregates – already playing a major role but nearing their final capacity. The 56 million tonnes supplied in 2005 could grow by a further seven million tonnes.
- Marine dredged sand and gravel – the industry is already working at capacity and contributing 13.7 million tonnes in England. Increasing this would depend on diverting current exports and losing important markets in Belgium and the Netherlands or increasing dredger capacity.
- Importing aggregates – England currently imports four per cent of its primary aggregate needs (10.7 million tonnes). Most comes from Wales, with more limited quantities from Scotland and Norway. Increasing imports from the home nations is an option but is constrained by policy limits and could be politically sensitive. Potential for greater ship imports from other countries is limited by capacity to stockpile and distribute through existing wharves and local road networks.
- Underground mining – not currently utilised for aggregates in England. There is potential but capital investment requirements would be very high and the economic viability is uncertain as operating costs would rise significantly.

There is, therefore, some potential for the alternatives to take over the important role currently played by National Parks and AONBs. However, each has its own economic, political and environmental implications that have to be balanced – and European policy will have a major bearing.

## ANALYSIS – OTHER MINERALS

Resources of some non-aggregate minerals, notably fluorspar, are almost entirely confined to National Parks and AONBs.

The planning policy framework which might assist the system in making judgements relating to "national considerations of mineral supply" for minerals other than aggregates lacks clarity. Specific guidance is only available for some minerals (such as cement minerals and silica sand), and much of this has not been updated for several years. There is also some confusion over the roles and responsibilities of government departments. In particular, there are expectations (that may be unrealistic) that the Government should assist the decision-making process by making statements about the relative importance of particular minerals to the national economy.

### KEY DISCUSSION POINTS

**A clear approach is needed to the issue of "national considerations of mineral supply" for minerals other than aggregates in National Parks and AONBs. A straightforward statement is needed from government on how the issue should be approached**

**An overarching statement on the importance of natural resources (including minerals) would also assist the process.**

**Some National Parks and AONBs currently make a substantial contribution to the supply of minerals. However, the supply of aggregate minerals from these areas is likely to decline significantly before 2042.**

**Although a variety of future supply options exist for aggregate minerals outside National Parks and AONBs, they present political, environmental and socio-economic challenges. Further research on the nature of these challenges would assist in assessing the potential contribution from these supply options.**

**The planning framework for supply of minerals other than aggregates from National Parks and AONBs lacks clarity, particularly with regard to "national considerations of mineral supply".**

# 4 Carbon & proximity in mineral supply

## THE ISSUES

The UK Government has set a target to decarbonise the UK economy by 80 per cent by 2050. It is an issue for every industry – and the minerals sector undoubtedly has its part to play in the overall drive for change. It is, however, important to appreciate where the extraction and transportation of land-won minerals stands in the overall carbon "league table". Generating an estimated 4 million tonnes of $CO_2$ per year, it is responsible for less than one per cent of national annual emissions. It lies considerably behind energy (232 million tonnes pa), transport (130 million tonnes) and manufacturing industry (93 million tonnes).

A bigger impact arises from downstream processing of extracted minerals such as cement, brick, plaster/plasterboard and glass manufacture. However, as energy intensive industries, they are already covered by formal carbon reduction measures such as the EU's Emissions Trading Scheme and the UK's Climate Change Agreements.

The working group focused its attention, therefore, on the stages from point of extraction to first point of processing or customer use. It did, however, extend its scope to include the processing of aggregates into asphalt and ready-mixed concrete as they are not covered by statutory carbon schemes.

| UK carbon generation - in million tonnes $CO_2$ | |
|---|---|
| Energy generation | 232 |
| Transport | 130 |
| Industry | 93 |
| Domestic | 76 |
| Commerce and institutions | 23 |
| Agriculture ($CO_2$ equivalent) | 19 |
| Landfill ($CO_2$ equivalent) | 19 |
| Minerals extraction/transport | 4 |

## ANALYSIS

The working group made an early decision to concentrate on what could be achieved through voluntary action. It did so because it believed the extension of statutory carbon reduction measures would not suit the wide diversity of activity, scale and corporate structures in the minerals industries not at present subject to formal carbon controls. This would create arbitrary baselines and risk distortions in competitiveness. It would also be bureaucratic, encouraging routine compliance rather than initiative and innovation.

The group noted that there was plenty of good practice already in use across the industry but that commitment and monitoring was sometimes patchy. The real challenge, it decided, was to bring the rest up to the level of the best.

**The group identified three good practical tools**

- The 2002 *Guide for managers in the extractive industries on fuel, power and water* from the *Energy Efficiency Best Practice Programme*.
- The 2008 *Carbon Management Good Practice Guide* from the Quarry Products Association.
- A "carbon footprinting" model for aggregates developed by Imperial College under Mineral Industry Research Organisation sponsorship.

There is also a wealth of site-based case studies covering energy management in the extraction, processing and movement of material, including action on pumping, conveyors, and fuel-efficient driver training.

Transporting minerals accounts for just over 32 per cent of the industry's $CO_2$ output. The working group decided the challenge was, wherever possible, to reduce the distance minerals travel. Two potential approaches were identified:

- Tougher planning policies to reinforce the proximity principle by giving preference or greater weight to using local sources, notably for aggregates, which are widely available
- Intervention to give preference or added weight to local sources for minerals such as coal and cement that are both available in the UK and, increasingly, imported.

This raises the wider question of how carbon reduction can be factored into regulatory decisions alongside more traditional environmental factors in the overall judgment of "sustainability". Decisions need to be taken on whether carbon might trump other issues or whether it should simply be added to the "environmental pot". What is the regulatory signal to which the minerals industries should respond through the preferred context of voluntary action?

### KEY DISCUSSION POINTS

**Instigate a coordinated campaign of voluntary carbon reduction action amongst the UK's minerals industries. Spread awareness, broaden company commitment and ensure action is followed through across the whole of the sector**

**Back the voluntary campaign with a "realistic and harder edge" led by the industry collectively, to ensure wide and sustained commitment amongst operators**

**Consider specific regulatory policies that reinforce the proximity principle by encouraging the reduction of mineral transport distances. Coordination of effort could be by the *UK Minerals Forum* under the auspices of the *CBI Minerals Group*.**

# 5 Cumulative impact of policy, legislation & regulation

## THE ISSUES

Good regulation is good for minerals, as it is for any other industry that needs permissions to operate. It provides a level playing field on which all operators in a given sector know what is required of them in key disciplines such as health & safety and environmental performance. Good regulation protects industry just as it protects those upon whom it has impacts.

But the reality today is that there is a growing volume of legislation that is not good – rules that are not properly thought through and are often devised and applied without proper "joined-up thinking" on the part of diverse regulators. The majority of such regulation emanates from Brussels and is then cascaded down into national regulation. It is not just the breadth of it that is of concern to the industry but the sheer volume and the fact that the UK often tends to "gold plate" its legislation when transposing EU directives, so adding to the overall cost, complexity and bureaucracy.

An example is the current planning for implementation of the Mining Waste Directive in the UK. Officials performed well in negotiating the Directive, achieving a realistic outcome appropriate to the characteristics of mineral waste in the UK. But when it comes to the Directive's practical implementation, both the industry and the various regulators involved are having to devote considerable resource to ensuring that the UK regulations do not result in duplication and conflict between overlapping regulatory regimes and the imposition of unnecessary burdens on all interested parties with no net environmental benefit. Whether this goal will be achieved remains unclear.

Legislation required under the Water Act to introduce abstraction licences for the dewatering

of quarries, unless carefully crafted, could similarly create a regrettable situation in which the industry and the regulators have to resolve unnecessary conflict between planning and environmental regulation. There is now an opportunity to adopt a better approach to ensure that past mistakes are not repeated.

## ANALYSIS

Minerals fundamentally differ from other forms of development in that they are continuous - evolving often over several decades during which the legislative goal posts may move significantly. Extensions to sites may well face very different requirements on health & safety, planning, water, waste, and general environmental legislation than earlier permissions on the same site.

The big issue for mineral operators is one of certainty. The fact that laws can substantially change after the initial investment has been committed can be a big deterrent for multinational companies which can otherwise concentrate production in countries that offer them greater certainty and, therefore a more realistic prospect of an assured return.

The situation arises because of a fragmented and overlapping approach from regulators. There are many instances where different interpretations are applied to different pieces of legislation or regulation. They also often differ in how policy should be applied between the policy makers and the officers who implement it on the ground.

The challenge for the future is to deliver the certainty on which the future of an industry now heavily reliant on international operators can rely. The priority must be to design and coordinate regulations before implementing legislation. Achieving this demands "joining up" the regulators. A mechanism needs to be found to bring together the Health and Safety Executive, Environment Agency, Mineral Planning Authorities and Environmental Health Officers against a coordinated agenda.

The final piece in making the jigsaw bond together is to resolve the role of the Impact Statement. It is now widely accepted that the system is not working and a Better Regulation Executive review is now underway. This should involve advance coordination across departments and regulators, and a realistic dialogue with affected industries and, where appropriate, NGOs.

### ! KEY DISCUSSION POINTS

**Establish a mechanism that brings regulators together at the stage at which legislation is being planned**

**Ensure that the transition of legislation between policy makers and the officers who implement it is clear and consistent**

**Impact Assessments to achieve a system that both works and involves affected industries and non governmental organisations.**


# UK MINERALS FORUM

Dr Brian Marker / *Chairman*

Keith Duff / *Vice Chairman*

Duncan Pollock / *Secretary*

Andrew Bloodworth / *British Geological Survey*

Dwight DeMorais / *MPA, Lafarge Cement UK*

David Brewer / *Confederation of UK Coal Producers*

David Brock / *Mills and Reeve LLP*

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Chris Dobbs / *CBIMG, MPA, Tarmac*

Peter Doyle / *English Stone Forum*

Bob Fenton / *CBIMG, Mining Association of UK*

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Richard Read / *Hampshire CC, Planning Officers Society (POS)*

Andy Tickle / *Campaign to Protect Rural England*

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Chris Waite / *SE England Regional Assembly, SEERAWP*

Paul Wilcox / *Staffordshire CC , POS*

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John Cummins / *Dept of Environment, N. Ireland*

Richard Gill / *BIS*

Hugh Llewelyn / *DEFRA*

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Ian Mitchell / *Scottish Government*

Mark Plummer / *CLG*

Joanna Smith / *Welsh Assembly Government*

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Andrew Bate / *MPA, Lafarge Aggregates and Concrete UK Ltd*

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Noel Worley / *British Gypsum Ltd*

## AIMS and TERMS OF REFERENCE

**Aim:** To provide an overarching authoritative and representative National Minerals Forum, drawing together all key stakeholders, to debate and raise awareness of issues, and identify potential solutions, relating to the prudent use, sustainable management and security of supply of indigenous UK* minerals.

**Terms of Reference:**

1. To develop a coordinated and effective interface on minerals issues between the industry, government and other key stakeholders.
2. To address issues of minerals supply and inform understanding of the demand for indigenous minerals and how that might be met taking into account the principles of sustainable development.
3. To inform understanding of the nature and distribution of UK mineral resources and the constraints on their extraction.
4. To debate optimum approaches to the management and mitigation of the impacts, both positive and negative, of mineral working.
5. To debate the effects of current and proposed domestic and international legislation and policy for mineral working and supply, with particular regard to conflicts that may arise between different measures and where cumulative impacts of measures do not seem to have been taken fully into account.
6. To disseminate approaches to resolving actual and potential conflicts, clearly identifying those issues on which consensus has been reached and stating each alternative opinion where consensus has not been reached.
7. To identify and draw attention to key data sets and sources of information and the need to keep these up to date.

* England, Northern Ireland, Scotland and Wales

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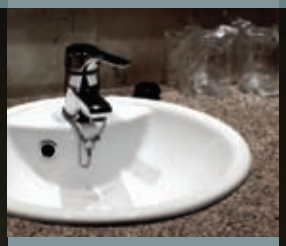

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