

SUMMER 21 ISSUE 22

# mineral

products today

Supply cannot be assumed  
Meeting demand needs a long-term plan



**Mythbusting concrete**  
Decarbonise, don't demonise

**Gone to pot**  
Funding holes in local roads

**Quarries and nature**  
50 years of biodiversity gain

# WELCOME

**Sometimes problems are not all bad. As the economy gathers strength and business confidence increases, mineral products activity is not only recovering to pre-Covid levels, but is surging ahead due to the release of pent-up demand.**

This is good news as it reflects the shift from a suppressed market in 2020 to a growth market in 2021. However, it also strains supply chains and capacity to supply, particularly where stocks have reduced when production was sub-optimal during various phases of lockdown. The recent and continuing shortages of both bagged and bulk cement has attracted media attention and raised construction industry concern. This is less a matter of shortages *per se* but more an issue of increased demand outstripping the supplier's ability to increase production and delivery capacity at the same rate. The industry has had no option but to share the pain by extending delivery times

and using allocations to try and ensure customers are treated fairly until demand and supply can be more 'in sync'. Whilst the situation will progressively ease, it is likely to last for most of the year as economic momentum gains force. A difficult problem materialising because of a positive situation.

The question is how long will pent up demand last before it wanes, and the market stabilises within the more normal market envelope experienced in recent years? Time will tell, but right now the outlook for the next 12 to 18 months looks pretty positive barring any major regression due to new or more virulent Covid variants. However, the big 'take away' from this exceptional period over the last year or so is the need for a wider appreciation of how complex and sensitive essential supply chains are. Not just in terms of production capacities, but logistics models, availability of drivers, spare and replacement parts, and plant but also planning permission for new primary mineral resources. With lead times for converting new reserves into economically recoverable reserves that can

supply markets typically taking 10 to 15 years from identification to supply, it is no wonder that exceptional increases in demand can stimulate 'shortages'.

Given the already worryingly low replenishment rates for new aggregate reserves, plus the current review of the planning system (just the latest in an endless stream of failed reviews) the writing is on the wall that supply cannot be assumed; it has to be planned, monitored and managed. The industry very much hopes that Government is taking note of the advice it has been given over the 10 years to realise that essential minerals need to be regarded as part of critical national infrastructure and the planning system resourced properly to ensure a steady and adequate supply of minerals and mineral products which, after all, are the largest material flow in the economy.

*Simon Willis, Chairman, MPA*



## Priorities for Government will help deliver ambitions

**Government aspirations for improved infrastructure, affordable housing and a green industrial revolution rely on policies to create the right conditions for a strong and sustainable UK mineral products industry.**

That's the message in the MPA's latest 'Delivering for the UK' statement which sets out the Government's 'to do' list for minimising uncertainty, building confidence and encouraging investment in the sector.

In return, the industry has outlined its world-leading commitments in areas such as decarbonisation, biodiversity enhancement and resource efficiency.

Representing more than 90% of the heavy-side construction materials industry, MPA has called for a collaborative approach, highlighting how the industry's economic, social, environmental and material contribution can support the Government's agenda.

For example, the National Infrastructure Strategy, Industrial Decarbonisation Strategy, Planning Policy changes and the Prime Minister's 10-point Plan For a Green Industrial Revolution all depend on a steady, local and responsibly-sourced supply of mineral products.

Key issues addressed in the MPA's 'Priorities for Government', include the sector's unique and impressive contribution to improving biodiversity, plus the policies needed to deliver the industry's plan for concrete and cement to go beyond net zero carbon.

As the UK recovers from the impact of Covid, adjusts to the post-Brexit world and commits

to net zero carbon by 2050, UK-sourced mineral products – recognised by the Government itself as one of the most essential foundation industries – are now more critical than ever.

Nigel Jackson, Chief Executive of the MPA, said: "The mineral products industry aims to work with Government to help deliver its agenda. We're not asking for special treatment but sensible, fair and supportive policy that will help us deliver for everyone in the UK."

The MPA's 'Delivering for the UK' can be viewed on the MPA website [www.mineralproducts.org](http://www.mineralproducts.org)



## Precast concrete merges with MPA

**The UK's concrete producers will be represented for the first time in one trade body, helping accelerate the industry's journey towards beyond net zero carbon emissions by 2050.**

British Precast, the trade body for the country's precast concrete producers, will merge with MPA from 1 January 2022. The combined association will encompass both ready-mixed concrete and precast concrete products, from building blocks and paving slabs to structural flooring, drainage systems, railway sleepers and other construction components.

The merger will enable a more integrated approach as the UK concrete and cement industry implements its ambitious 'Roadmap to Beyond Net Zero' responding to the urgent challenges of climate change and the need for more sustainable construction.

Alan Smith, President of British Precast, said: "I am delighted that our members have supported this merger which could only have happened after many years of successful

affiliation with MPA. Now the industry is not just able to think more strategically but can deliver real change as we address a myriad of issues, not least of which is responding to climate change."

MPA CEO Nigel Jackson said: "Building on last year's launch of the MPA's UK Concrete, the merger with British Precast combines all the industry's key activities into one group to ensure a strategic and integrated approach to the development of our sector. Now more than ever the cement and concrete industry must work hand-in-glove to promote the essential role concrete plays in our economy and our quality of life. Mitigating the industry's environmental impacts whilst supplying solutions that help people to adapt to climate change is an important balance to be struck."

## Outlook positive but the stakes are high

**UK construction's demand for big-volume mineral products like aggregates and concrete showed resilience in the first quarter of 2021, despite lockdown restrictions, Brexit and wet weather hampering activity.**

That's according to the latest MPA survey data which warns that an encouraging start to the year should not distract from the challenges ahead. MPA says the recovery in construction must not be taken for granted because so much depends on the Government's policy stimuli in housing and infrastructure.

Aurelie Delannoy, Director of Economic Affairs at the MPA, said that a balanced perspective is required: "The outlook for this year and next is positive, but the stakes are high. Any optimism assumes activity is not disrupted by renewed outbreaks of Covid and relies on the Government delivering on its commitments."

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## Planning reform must cover minerals, says report

**The Government's proposed reforms to the planning system need to consider minerals, according to a new Select Committee report welcomed by the MPA.**

The Housing, Communities & Local Government Select Committee report into the future of the planning system in England points out that the Government's proposals have omitted the potential implications for mineral planning among other sectors.

Announced in August 2020, the 'Planning for the Future' White Paper focuses almost entirely on housing delivery. Yet the Select Committee's

report, to which the MPA submitted evidence, has made it clear that planning is about much more than housing, which it says cannot be treated in isolation from other development such as mineral extraction.

The report identifies the absence of any consideration of the expected impact of the reforms on minerals planning and development – despite the huge volume of mineral products

like aggregates, concrete and asphalt that will be needed for housing. The Committee recommends that Government addresses the shortcomings of the proposals before a Planning Bill is brought forwards.



## MPs form all-party mining and quarrying group

**Members of Parliament have formed a new All-Party Parliamentary Group (APPG) on Mining and Quarrying, supported by the MPA.**

This cross-party group will help to keep the Commons and Lords up to date with issues affecting the industry and allow the MPA to keep its members abreast of relevant issues of interest to Parliamentarians.

At the first virtual meeting of the new APPG in June, Steve Double MP (St Austell and Newquay) was elected as chair, with other Members from different parties and from around the country elected as vice-chairs including Jane Hunt

MP (Loughborough), Robert Langan MP (High Peak), Kenny MacAskill MP (East Lothian), Jessica Morden MP (Newport) and Mark Pawsey MP (Rugby).

Steve Double said: "The mining and quarrying sector is vital to our economy and it is important that we ensure a smooth flowing supply chain for the Government's ambitious housing and infrastructure. I am pleased to have been elected chair of the APPG, which will ensure that

parliamentary colleagues are informed about the challenges facing the sector and that it has a voice in Parliament."

Mark Russell, the MPA's Executive Director for Planning & Mineral Resources, said: "The MPs in the group represent constituencies with quarries and other sites producing a wide variety of essential mineral products and being part of this APPG will enable them to gain a good understanding of issues such as mineral planning, biodiversity net gain and the industry's drive towards net zero carbon."

# Never assume supply

**'Told you!' It should be no surprise that with so much pent-up demand being unleashed at once, that pre-Covid supply capacities and rhythms would be tested as the economy recovered.**



VIEWPOINT by MPA Chief Executive  
Nigel Jackson

**But for the mineral products industry and its family of essential materials, that's mainly affecting bagged cement for builders who buy from merchants. To put this in perspective, that particular material 'flow' represents about three days in the annual pipeline of overall mineral product supply. An important three days, admittedly, because of the amplifying effect it has across the domestic home improvements and landscaping markets. I have every sympathy with clients, builders and merchants as they all struggle to recover from the rigours of the last 15 months by investing in their homes or businesses and our industry is doing all it can to ensure that their demand is met.**

The situation forms part of a far bigger picture. In the UK we consume around 15 million tonnes of cementitious materials per annum, around 3 million tonnes in bags and the balance of 12 million tonnes in bulk, it sounds like a lot. But it's not cement that should be our sole worry. It is the aggregates that are mixed with cement to make concrete and mortar and with bitumen to make asphalt for our roads. In a typical year we consume around 250 million tonnes of aggregates, a million tonnes for every working day – one million tonnes extracted from quarries, processed, stocked and delivered, mainly loose and in bulk. Eighty times the tonnage of cement currently in focus.

Mixing cement and aggregates with water makes concrete and the inconvenient truth is that this amazing product is the most sought-after man-made material in the world. Not by accident. Its versatility and outstanding properties mean that it is hard-wired into the foundation and fabric of our built environment, both onshore and offshore, above ground, on the ground and beneath our feet.

Much as many would like to 'wish away' concrete, that is unlikely to be realistic by dint of the sheer scale of the substitution challenge and the probability that there would be no environmental gain arising. Timber foundations, basements, bridges, tunnels, flood defences and wind turbine bases simply won't cut it.

Even if eliminating concrete were a good idea, which it patently is not, you could not deforest enough timber (as if we aren't doing far too much already) or mine, process and supply enough steel to replace over one million tonnes a day of aggregates, concrete, mortar. The UK is fortunate that its rich and diverse geology enables us to produce virtually all of our mineral products needs locally. Furthermore, the UK also happens to be amongst the least hungry developed economies in terms of mineral product consumption per capita. And we're also one of the greatest when it comes to recycling waste into aggregates and restoring land to improved agriculture or nature conservation.

Most policy makers do not appreciate that without a steady and adequate flow of aggregates construction, manufacturing and many other sectors would really, really struggle.

That is why Sir Ralph Verney's Royal Commission back in 1975, 'Aggregates the Way Ahead' found the need for a mineral planning policy system to be created to ensure that the economy received the aggregates it needed.

And so, the 'essentiality' of aggregates and quarrying was born and over the years has evolved into the 'Managed Aggregate Supply System' or MASS. The system has worked reasonably well over the last 45 years but as local authority planning departments lose minerals expertise, capacity and capability, and more planning and environmental constraints emerge in a constantly changing (and some say failing) planning and permitting system, operators have to play their cards slower and more carefully. Planning applications typically cost between £100,000 and £1 million and planning determinations can typically take up to three years to be made. In the event that your proposed site is included in the minerals local plan, and you time your application right and actually secure a planning permission, the pain of Environment Agency permitting and licensing kicks in, adding duplicated costs and wasted time.

The system has become a 'can't do' process rather than 'can do'. Many Ministers have attempted to 'fix a broken planning system' mainly predicated on trying to sort out housing under provision but they have all failed and probably always will because as fast as they preach growth and talk a good game, 'localism' slows it all down.

Consequently, replenishment rates for sand and gravel quarries have been running at around 60% for the last 10 years and even the larger more strategic and rail-linked rock quarries are having to invest more effort and resources to extend their lives. Ultimately you can't under replenish indefinitely without supply strains, particularly as MPA estimates that around 3 billion tonnes of reserves will be required to supply the demands created by society up to 2030, like it or not.

**"We consume around a million tonnes of aggregates every working day."**

Given the significance of mineral products as the largest physical flow in the economy one might have imagined that Government would be more pro-active in ensuring supplies are secure, particularly as they are predominantly indigenous, and the import

risk is low. It may be right, as well as fashionable, to aspire to lithium mines in the South West, but the first aim should be to support the extraction sites we already have whether aggregates, cement, china clay, ball clay, silica sand, dimension stone or industrial or agricultural limestone. No surprise then that the industry had to develop a 'UK Minerals Strategy' in 2018, which was supported at launch by BEIS, and which is aimed at keeping the strategic role the industry plays in the minds of policy makers and addresses the future long-term provision of minerals and mineral products.

**"Most people don't get that without a steady flow of aggregates construction, manufacturing and many other sectors would really, really struggle."**

As local planning authorities increasingly declare climate emergencies and local politicians and opposition groups drop the net from 'net zero', carbon-based opposition to future quarries and quarry extensions is likely to increase straining supply chains even further particularly in periods of high demand.

If the current temporary shortages of bagged cement have demonstrated anything it is that only when the construction industry can't be served does it 'make the link' to its supply chain and what makes it tick. Disruptive as longer lead times and allocations currently are, imagine how much worse this would be if just one of our major rail linked rock aggregate quarries delivering millions of tonnes per year becomes exhausted, is not replaced or cannot secure the next extension. We have not permitted one large major rail linked rock quarry for well over a generation and no obvious new ones are in the pipeline. From quarry concept to operation for a major new quarry would take between 10 and 15 years to become a reality. There are no quick fixes, not even imports.

The major rock producing and exporting regions such as the South West and East Midlands prop up demand in London and the South East so 'localism' is not really a sensible approach to what is a seriously strategic national supply network. Where local land-sourced sand, gravel and crushed rock can't supply recycled and marine

aggregates fill the gap, but they too are not without their own challenges.

Our current MASS based supply model knits all these factors together. It is a genuinely effective strategic approach to a fundamental need of the economy and society yet barely registers in Government as worthy of investment in data and adequate resources. For Government, planning means housing, with no shortage of both data and resources, although the link back through housing's supply chain is not made and perversely housing targets are not met (even in a subsidised sector!)

In truth aggregates mineral planning (as well as underpaid and undervalued local authority planning officers) should be acknowledged as being critical to national infrastructure as should all mineral products. There is an old industry maxim 'if you can't grow it, you have to dig it'. Can we really contemplate life without minerals? In reality essential minerals and mineral products may be more critical than we think. This will not just be about rare earths for batteries and electronics. Understanding supply chains is going to become an increasingly important feature of our national decarbonisation debate as we try to work out how to best meet our economic needs and have a decent quality of life on the way to net zero by 2050.

**"There is an old industry maxim 'if you can't grow it, you have to dig it'. Do people still not realise what their world is made of?"**

One recurring truth will emerge. None of us can ever believe that what we consume will necessarily be supplied indefinitely, but some supplies will emerge as more important than others. Amongst those are mineral products and now more than ever Government must acknowledge that there is a 'national need' and ensure that the strategic system that has enabled a steady and adequate supply for the last 45 years continues with the right investment and resources.

Availability of resources is no good without access. Access is conditional upon planning. No planning means no mineral extraction and no business. If we reach that point, shortages of bagged cement will look like a stroll in the park.

Never assume supply. You have been warned.

## 80 years of SAMSA

**A specialist association established in 1941 as part of the war effort is celebrating its 80th anniversary this year.**

The UK's silica sand producers are marking 80 years since the launch of SAMSA, the Silica and Moulding Sand Association, now a constituent body of the MPA.

Silica sand is an essential raw material in a variety of industries including glass, foundry, ceramics, sports and leisure, paints, plastics, sealants and adhesives, oil and gas, horticulture and agriculture. SAMSA was founded during World War Two to co-ordinate the UK's silica sand resources and ensure the industry was able to provide enough high-purity silica sand to make optical glass for periscopes and to create casts for components needed for machinery used in the war.

## Living with Minerals 7

**The seventh Living With Minerals conference takes place in July 2021, organised by MPA on behalf of the CBI Minerals Group.**

The conference reviews progress of the UK Mineral Strategy three years after its publication. The strategy is designed to ensure that UK demand for minerals and mineral products is met sustainably for the next 25 years.

Director-General of the CBI Tony Danker is the keynote speaker along with Director of the British Geological Survey Dr Karen Hanghøj and a wide variety of speakers with an interest in the industry, its contributions to the economy and society, and its progress in key environmental areas.

## Planning a green recovery

**Nearly 300 professionals from over 150 different organisations attended the annual Mineral Planning Conference in June.**

Jointly hosted by the MPA and the Royal Town Planning Institute (RTPI), the largest professional body for planners, the event was themed around 'Planning for a Green Recovery'.

The conference considered the role of mineral planning in responding to the twin challenges of climate change and biodiversity loss, alongside the emerging reforms being proposed for the planning system. Opening remarks were given by RTPI President Wei Yang FRTPI and the keynote address was provided by Simon Gallagher, Director of Planning for MHCLG. They were joined by a line-up of eminent speakers from across the sector.

## Report shows improvement

**MPA's latest 'Sustainable Development Report' shows industry improvements across the board despite challenging circumstances.**

Among the highlights in the 2020 document are the launch of the 'UK Concrete and Cement Roadmap to Beyond Net Zero' and the revised 'MPA Biodiversity Strategy'. 2020 also saw a re-focussing of MPA's health and safety activities with the launch of 'Vision Zero – Safe and Well Everyday' underpinned by a new set of shared values to help change behaviours. Elsewhere the publication reports that recycled and secondary aggregates accounted for 28% of total aggregates supply, well above the European average. MPA Members have also recorded the creation of over 8,000ha of priority habitat with a further 11,000ha planned. And in 2019, over 10km of new hedgerow was planted.

## Financing Nature

**MPA is among the wide range of interested parties to join the Financing UK Nature Recovery Coalition to identify and address barriers to private investment in a UK nature recovery.**

The coalition brings together leaders from the business, finance and environment sectors to work with the Government to establish a shared commitment to remove obstacles to the private investment needed to help reverse the decline of biodiversity and meet the UK's nature-based targets. The work of the Coalition will culminate in an implementation plan with recommendations to establish the UK as a leader in creating and operating markets for nature. The report is expected to be published in autumn 2021.

## Respect the water

**Following an alarming increase in water-related deaths last year, the MPA is one of over 50 organisations to issue coordinated safety advice for the first time.**

The joint campaign, run by the National Water Safety Forum (NWSF), aims to reduce the number of deaths and accidents in lakes, waterways and the sea, as part of the #RespectTheWater campaign. The campaign comes with the publication of the latest figures from the Water Incident Database which shows that 58% of accidental drownings are at inland locations. The national campaign provides simple lifesaving advice, which can help members of the public take personal responsibility for their own and family's safety by remembering key lifesaving tips based on the principle of 'float to live'.

# Hard Facts & Home Truths

**The UK has the technology and the economic capability to achieve net zero by 2050, but mixed signals from Government are deterring investment and progress.**

That's according to Prof Tom Burke, chairman of independent strategic political think tank E3G, who was among the key speakers at last week's Mineral Products 2021 conference, bringing the event to life with fascinating insights, thought-provoking ideas, and compelling hard facts and home truths.

Moderated by BBC television producer Samantha McAlister, the online event 'Growth & Climate Change ... Balancing the Issues' saw 300 delegates hear a line-up of leading experts explore the UK's political landscape, economic outlook, climate change realities and the mineral products industry's response to the decarbonisation challenge.

MPA Chief Executive Nigel Jackson opened the event on location from MPA member J & J Franks' sand quarry and waste facility in Surrey.

Emphasising the importance of diverse geology in counties like Surrey in meeting the need for essential mineral products, he talked to Franks' Managing Director Peter Crate about the challenges and opportunities of securing planning consent and obtaining permits when setting up a new site.

Opening the formal proceedings was Prof Vernon Bogdanor CBE FBA of the Centre for British Politics and Government at King's College London who provided a captivating insight into the UK's political landscape as the country emerges from the pandemic and gets to grips with life after Brexit. He was followed by Dr Gemma Tetlow, Chief Economist at the Institute for Government, who gave an interesting overview of the economic environment and explained why Government needs to focus on its key priorities and not spread itself too thinly.

Next to the 'stage' was Ecological Economist Prof Tim Jackson, Professor of Sustainable Development at the University of Surrey and author of 'Post Growth – Life After Capitalism', who put forward a thought-provoking argument that decoupling economic activity from environmental impact was ultimately the only way to achieve sustainable development.

Mike Thompson, Chief Economist at the Climate Change Committee, an independent advisory body to the Government, explained the UK's Climate Change Act and Carbon Budget, discussed levers to prevent carbon leakage and outlined the case for carbon capture, use and storage. He said: "Government has grasped the scale of what needs to happen to achieve net zero but getting the policy in place and the infrastructure built – it's a big process, it takes time and it needs to move quickly. I have no doubt that net zero can be achieved – the programme is designed with the constraints in mind – but we have to work together to get to the goal."

Then came Rachel Wolf, Founding Partner at public policy and research specialists Public First, who discussed the challenges and opportunities presented by decarbonisation, emphasising the importance for all industry sectors to have a credible roadmap to net zero with proposals aligned with policy.

Turning to practical progress within the mineral products sector, Steven O'Mara, Mines & Quarry Manager for Hitachi Construction Machinery UK, and Toni Hagelberg, Director of Sustainable Power Systems at Volvo Construction Equipment, talked about innovations designed to reduce the carbon impact of mobile plant. The session concluded with an overview of the 'UK Concrete and Cement Industry Roadmap to Beyond Net Zero'.

Closing the event, Nigel Jackson said: "Each year the UK consumes 400 million tonnes of mineral products – more than 1 million tonnes a day. We're the biggest flow of materials in the economy, providing essential materials without which construction, manufacturing and many other industries would struggle.

"I'm very proud that working with our members we have been able to develop a roadmap for concrete and cement to go beyond net zero by 2050. Early action to reduce carbon means that today UK concrete and cement emissions are around 1.5% of the total UK carbon emissions. Now we need Government, the construction industry and other sectors to play their part to help the UK go beyond net zero."

# Are we running out of mineral?



"First things first. We are not running out of minerals. The UK has an abundance of mineral resources thanks to its diverse geology," says Mark Russell, the MPA's Executive Director for Planning & Mineral Resources. "And that means that unlike steel, timber and plastic products, most of which have to be imported, we are virtually self-sufficient in high-quality aggregates, the core commodity from which concrete, asphalt and many other products are made."

According to Mark, the problem lies in the fact that little or no consideration is given to the quantities of material required for future construction and redevelopment: "The further up the supply chain you go the less interest there is in where raw materials might

**Shortages of building materials have hit the headlines recently, shedding new light on concerns about longer-term replenishment of essential minerals – not because the country is running out, but because supply is assumed.**

come from or how they might be delivered efficiently – a steady and adequate supply is simply assumed.

"Combine that with the unwieldy and under-resourced systems for accessing and managing the country's resources – systems that have been neglected for too long and are no longer fit-for purpose, and then sprinkle with a dose of intervening knee-jerk politics and the whole thing threatens to unravel."

That issue has led to very real concerns about the decline in availability of consented, permitted minerals at a time when the Government's ambitions for infrastructure, housing and green energy are the greatest in a generation. All of this requires hundreds of millions of tonnes of mineral products.

"Minerals and mineral products represent the largest flow of materials in the economy," said Mark. "These materials underpin our way

of life, where we live and work, and how we travel. As a result the UK consumes about a million tonnes a day – which, incidentally, is a lot less per person than most of our European neighbours. Those materials delivered through complex and finely-balanced nationwide systems of licencing, extraction, processing, production, distribution and recycling.

“Apart from the occasional blip, the industry does an outstanding job at meeting the need for materials. But looking to the horizon we urgently need a long-term plan and a system overhaul to sustain a supply of minerals to meet the demand, most of which is generated by Government itself.

“Take, for example, a major infrastructure scheme like HS2 which could require more than 40 million of tonnes of mineral products. Meeting the demand for those kinds of volumes puts pressure on the supply chain and the consented minerals reserves in the ground. That could easily impact the rest of the country’s day-to-day need for building materials. And that’s before you consider the reduction in mineral reserves once the project is complete.”

Another example is the recently announced developments in the Oxford Cambridge Arc – so far there’s little mention of the minerals required for delivery but extensive discussions to consider the waste arising. The rumoured

one million houses in this project will require around 200 million tonnes of aggregate, and that’s before taking on board other infrastructure, utilities, schools, hospitals, etc.

**Why can’t we recycle more?**

**Recycling is already at the optimum achievable in the UK with more than 90% of all ‘hard’ construction and demolition waste such as crushed concrete, brick and asphalt is processed and reused as asphalt.**

**But recycled materials still only make up around a third of the total demand. Being reliant on local demolition also means the use of recycled materials are also by issues of quality, specification, consistency and availability – the industry does a great job to use recycled materials as efficiently as possible.**

“It’s clear that Government departments, authorities, consultants and lead contractors assume that mineral supply is effectively available ‘on tap’, even though the volumes are enormous and the timescales are not clear,” continued Mark.

“We’ve been trying to explain that UK’s mineral production and distribution systems run at close to optimum efficiency so there is little scope to increase capacity. This is further compounded by the diminishing aggregate reserve replenishment rate – 75% for crushed rock and 63% for sand and gravel.

“In short, new quarries and extensions are not being consented at anywhere near the rate that the country is consuming minerals. It won’t be long before diminishing supplies could start to have knock-on consequences for infrastructure, redevelopment and regeneration.”

The good news is that this can be avoided with some strategic foresight and forward planning.

“The industry needs advanced warning – at least a decade – on Government plans so that it can get organised to meet demand, whether that’s working on plans for additional reserves or investing in new plant and equipment. Producers are not likely to invest based on the mere possibility of additional demand – they need early certainty and economic stability.

“So there’s an urgent need for material resource assessments and supply audits to be part of any project evaluation for major infrastructure and big development projects. That would provide visibility to allow the industry the time to plan for replacement reserves and to consider capacity.”

**Why don’t we just import?**

**Current shortages remind us that relying on imports creates problems of availability and places huge reliance on a fragile supply chain. Imports would increase carbon emissions through additional freight distances. Importing materials also means exporting our environmental impacts rather than working to reduce those impacts.**

**The UK mineral products industry directly employs more than 80,000 people and generates £5.8 billion in gross value added for the UK – imports would erode the value that the industry brings.**

**And the UK is also world leader in every aspect of quarrying, from initial design, through responsible and efficient operation, to quarry restoration for biodiversity net gain.**

Equally, mineral planning authorities need to have the same visibility so they can plan ahead through their mineral plans.

“Most mineral planning authorities tell us they too are unable to quantify the impact of demand from major construction and building schemes in their Local Aggregate Assessments (LAA). Like the industry, they don’t have visibility on total aggregate demand for major projects, or which regions might be supplying the material.

“The current arrangements for supporting the Managed Aggregate Supply System (MASS) are not fit for purpose and do not properly identify likely real future demand. Local authorities do not have the resources, skills or the political will to properly forecast future demand for the aggregates produced from their area – particularly where these may be supplying market demands elsewhere around the country.”

Rather than taking a strategic approach, there is a reliance on average past sales to assess future needs, based on historic data. In recent times that has given a false impression of falling demand due to the last recession and quarries running out of consented reserves. The lesson here is you can’t plan forwards by looking backwards.

Furthermore, mineral planning authorities often indicate their expectation for neighbouring regions to make up any short-fall in demand. Most authorities don’t tend to make provision in their Mineral Local Plans to supply neighbouring authorities and in some cases reciprocate the expectation that their neighbours will make up the shortfall in provision.

“It’s absurd for national and local governments to commit to building more homes, regenerating town centres, improving public services, and investing in infrastructure, yet at the same time fail to put in place functioning systems that supply the materials needed to build any of it. Build back better is admirable but it begs the question ‘with what?’”

**MPA is calling for:**



**SUPPLY AUDITS**

All infrastructure projects and housing projects above a certain threshold must provide a construction mineral resource and supply audit to clearly set out the volume required, where it is to be sourced and over what timescale to provide transparency around future needs.



**FRESH GUIDELINES**

The Guidelines for Aggregates Provision need to be refreshed and should replace the Local Aggregates Assessment (LAA) system. New guidelines need to reflect demand from planned national infrastructure projects and the housing and wider development programme.



**TEMPLATE APPROACH**

The Mineral Local Plan process must be streamlined and the need for minerals must not be exposed to last minute interference for political gain. A ‘template approach’ to the development of Mineral Local Plans is needed along with new National Aggregate Guidelines.



**MINERALS SURVEYS**

Aggregate minerals surveys (the last of which took place in 2009 before funding was withdrawn) should be reinstated and carried out annually so all stakeholders have visibility on reserve, demand, and regional supply flow. Ideally these should be statutory and undertaken on an annual basis.



# Decarbonisation

Concrete is coming in for some stick for its environmental impact, especially carbon emissions. But much of the criticism is based on misunderstanding and misinformation. With climate change higher on the agenda than ever, we dispel some of the most popular myths about concrete.

**Modern society cannot operate without concrete and its key constituent cement.** Making cement requires heating limestone and shale to 1450° which not only requires a lot of energy but also releases carbon dioxide in the process. Yet contrary to popular belief concrete offers huge sustainability benefits over other building materials.

Concrete has innate properties of strength, durability, resilience and versatility. It is locally available almost everywhere, relatively affordable, requires no additional finishes or treatments, and has thermal mass properties that lower the energy needs of buildings.

Furthermore, quarrying the abundant raw materials needed for concrete requires minimal and temporary use of land which can then be restored for permanent biodiversity net gain. Concrete also absorbs carbon dioxide during its lifespan and at the end of life can be recycled and reused again and again.

Low carbon concretes are already available and, whilst a credible and affordable alternative is yet to be developed, the concrete and cement industry in the UK is already well on the way to producing this amazing material with net zero emissions within this generation.

Finally, concrete can realise amazing design – the Sydney Opera House, the Lotus Temple in Delhi, the Burj Khalifa in Dubai as well as the magnificent Pantheon in Rome all owe their form to the material. In the UK concrete has created iconic structures from Wembley Stadium and The Shard to the Prince of Wales Bridge and the stunning V&A Dundee design museum.

## MYTH 1: Concrete is bad for the environment.

**Reality:** Concrete is an ‘umbrella’ term for hundreds of different products with a range of impacts and benefits, depending on numerous factors. The concrete and cement industry takes its environmental obligations extremely seriously and has, since 1990, reduced its carbon outputs by 53%, decarbonising faster than the UK economy as a whole. It is also working hard to reach net zero.

Low carbon and zero carbon concretes have been available for many years, using secondary cementitious alternatives. Work is well underway to push these innovations further and faster. Early engagement with architects, specifiers, developers and contractors also enables minimisation of carbon in concrete. The industry is seeking changes to product standards to ensure the lowest carbon products can be specified and is working on a set of generic EPDs (Environmental Product Declarations) to enable the right choices to be made.

Concrete’s environmental performance also depends on how and where it is used in construction. Indeed, the whole life performance of concrete buildings over long lifetimes can offset the impact of construction through superior energy efficiency and reduced maintenance requirements. Concrete’s durability, longevity and resilience are critical characteristics that mean concrete structures remain fit-for-purpose for generations.

## MYTH 2: If the concrete industry were a country, it would be the third largest carbon emitter in the world.

**Reality:** The same could be said for many of the world’s essential industries. And besides, concrete isn’t a country, it’s a product that shapes our built environment. Concrete generates around 8% of global carbon emissions. This is because concrete can be made in almost every country of the world and it is the most useful, versatile, cost-effective and locally available building material.

Given concrete constitutes around half the world’s manufactured materials by volume (due to its popularity) its 8% footprint seems modest compared to transport (16%), heating/cooling of buildings (16%), agriculture (12%) and others. Equally, if other materials such as timber were used in the same volumes as concrete their carbon footprint would be enormous. And in the case of timber we’d rapidly run out of trees.

In the UK concrete and cement manufacture accounts for 1.5% of UK’s carbon emissions, a reflection of the maturity in the local market but also the industry’s ongoing drive to reduce carbon (53% reduction since 1990 with a roadmap to go beyond net zero by 2050). There is a huge difference between concrete produced in a well-managed, controlled environment like the UK compared to unregulated developing parts of the globe.

# not demonisation

## MYTH 3: Removing concrete from construction is the best way to achieve net zero.

**Reality:** There are many ways to reduce the carbon emissions of buildings, and these will depend upon the type of building, location, use, design life, etc.

Selection of materials is not the most significant factor, but rather how each is used, how much of it is used, and its impact on the whole design and whole life carbon performance. Concrete can be the lowest carbon option, when assessed as part of a whole life cycle carbon analysis.

To date, no material has been developed that delivers the performance of concrete, available everywhere in the volumes required. The two main ‘alternatives’ – steel and timber – can perform some of the tasks that concrete does, some of the time, but neither of these materials is as locally available, cost-effective, or as versatile as concrete.

Reducing the use of concrete in the UK would increase in the use of imported products whose carbon footprint is not yet fully understood. It would effectively export the UK’s environmental responsibilities to other parts of the world which supply products that cannot be so easily tracked or responsibly sourced. It is vital to look at the whole life of the product from sourcing of raw materials, processes and treatments, transportation, in-use performance and maintenance, and end-of-life applications.

## MYTH 4: Timber is a good sustainable alternative to concrete in construction.

**Reality:** Timber has dubious environmental credentials and limited applications. It doesn’t have the durability or strength for foundations for high-rise buildings or tall structures such as wind turbines, and can’t be used for bridges or tunnels, rail or marine terminals, water or energy infrastructure, flood defences, etc.

Unlike concrete, even treated timber is prone to fire risk, rot and insect attack, and it can’t be easily recycled. More than two thirds of the timber used in the UK is imported from other countries so it could arrive with significant carbon miles and without reliable environmental product data.

Timber is a heavily industrialised sector from mechanical felling and sawing, energy intensive drying, laminating and treatment with harmful chemical compounds to try to overcome wood’s shortcomings. Increasing the use of timber would also require accelerating deforestation to an unsustainable rate.

Forestry requires 50 times the land area of the equivalent quarries that supply concrete’s raw ingredients. In addition, managed forests have low biodiversity as they’re essentially a crop, and any habitats would be wiped out at a faster rate than quarrying which – as a temporary use of the land – ultimately creates a net gain for biodiversity. The UK quarrying industry plants more trees than it removes with new woodland created to enhance biodiversity.

## MYTH 5: The concrete industry is doing nothing to reduce carbon emissions.

**Reality:** The UK concrete and cement industry has already done more than any other major industrial sector to reduce its carbon impact. As a result the industry has already reduced absolute carbon emissions by 53% since 1990, decarbonising faster than the UK economy as a whole. More importantly, the industry has already published a credible roadmap that provides a pathway to beyond net zero with an achievable and viable route that uses seven key decarbonisation technology levers.

Net zero can be met through a blend of these levers, which include decarbonised electricity and transport networks, fuel switching, greater use of low-carbon cements and concretes, as well as advanced carbon capture technology. Many of these levers are already proven technologies, while others will require collaboration and input from more than one industry.

Most will need to be supported by Government over the long term, and critically all will require concerted action and investment. To reach net zero and beyond, significant technological, structural and behavioural changes are required by the industry itself, as well as specifiers of construction materials. At this stage, the roadmap represents the best course for achieving and going beyond net zero. However, as we approach 2050 each lever can be adjusted depending on progress.

There are numerous sources of information about the true benefits of concrete. Here are some places to visit for further reading: [www.sustainableconcrete.org.uk](http://www.sustainableconcrete.org.uk) | [www.concretecentre.com](http://www.concretecentre.com) | <https://www.istructe.org> | <https://gccassociation.org>



# WAKE-UP CALL

Inconsistent roads funding leads to quick fixes rather than the long term solutions that are required.

That's the key finding of this year's 'Annual Local Authority Road Maintenance (ALARM)' survey, published in the spring by the Asphalt Industry Alliance (AIA).

The independently verified annual survey, which compiles data provided by local authorities in England and Wales, shows that a legacy of inconsistent funding is still preventing highway engineers from being able to provide long-term, cost-effective maintenance improvements for local roads. And campaigners say that the lack of funding flies in the face of Government aspirations to encourage more cycling.

Now in its 26th year, the ALARM survey reports a positive 15 per cent increase in highway maintenance budgets, due in part to additional funding from central Government such as the 'Pothole Fund'.

However, councils report their budgets are still lower than two years ago, and that road conditions have yet to see any significant improvement. This 'up/down' approach to funding results in wasteful patch-and-mend repairs as local authorities have a statutory duty to maintain highways but don't have the scope or certainty of funding to implement more cost effective, proactive repairs.

Local authorities report that, despite the increase in budgets, target road conditions still remain out of reach. If they had enough funds to meet their target across all road types, there could be an additional 14,400 miles of local roads in a good state of repair and 2,000 fewer miles in need of urgent repair.

"The last year has been like no other and the 'hidden heroes' responsible for maintaining our local roads should be proud of the role they played keeping key workers and emergency services moving, supermarket shelves stocked and vaccines distributed," said Rick Green, Chair of the AIA.

"While the extra funding in 2020/21 was welcomed, using it to repeatedly fill in

potholes does nothing to improve the core resilience of the network. It is clear that a longer term approach to local road funding is needed, similar to the five-year commitment made to the strategic road network, to allow local authority highway engineers to plan ahead and implement a more proactive, sustainable and cost-effective whole life approach to maintaining the network.

"This commitment is vital to the nation's post-pandemic reset in which we will rely on our local road network to support recovery and underpin active travel and levelling-up ambitions."

The RAC's Head of Roads Policy, Nicholas Lyes, said: "The AIA's report lays bare the pressure on local authorities who are grappling with crumbling road surfaces. On the one hand additional money allows them to fix potholes but the inconsistent nature of this funding often means they focus on short-term quick fixes rather than preventing them from occurring in the first place.

"Potholes are a nuisance and not only cause expensive vehicle damage but can also lead to serious injury or even worse. The Government must now change tack and ring-fence a small proportion of existing fuel duty revenues over a five-year period so that local authorities are able to plan routine maintenance properly and get our local roads up to a fit and proper standard."

Edmund King OBE, AA president, says: "The ALARM report yet again shows the perilous state of many roads blighted by

potholes which can injure those on two wheels and cause expensive damage to those on four wheels. The AA has in recent years highlighted the skewing of emergency road repair funding towards restoring the condition of main roads while leaving residential and other minor roads in a poor condition.

"Government and councils urging more active travel by getting people to switch from car to bicycle doesn't sit right when local roads are riddled with potentially lethal potholes."

British Cycling's Policy Manager, Nick Chamberlin, said: "Poorly surfaced, potholed roads are bad for all users but they can be lethal for people cycling. We urge the Government to consider the AIA proposal to deliver a strategic, long-term settlement to tackle the issue, helping people on bikes to feel safer and supporting the Government's long-term Gear Change ambitions."

Head of Campaigns at Cycling UK, Duncan Dollimore, said: "Most journeys are either local or start locally, and local transport needs to be prioritised. That means long-term investment and certainty of funding, so councils can plan the repairs and improvements needed rather than just crisis managing road maintenance."

Institute of Highway Engineers Chief Executive, Steve Spender, said: "This report highlights the need for a more long-term approach to local road funding so as to allow local authorities to develop longer term plans for maintaining the highway asset."

**£752.6m**  
carriageway maintenance budget shortfall in 2020/21



**£10.24bn**  
one-time cost to get roads back into a reasonable state



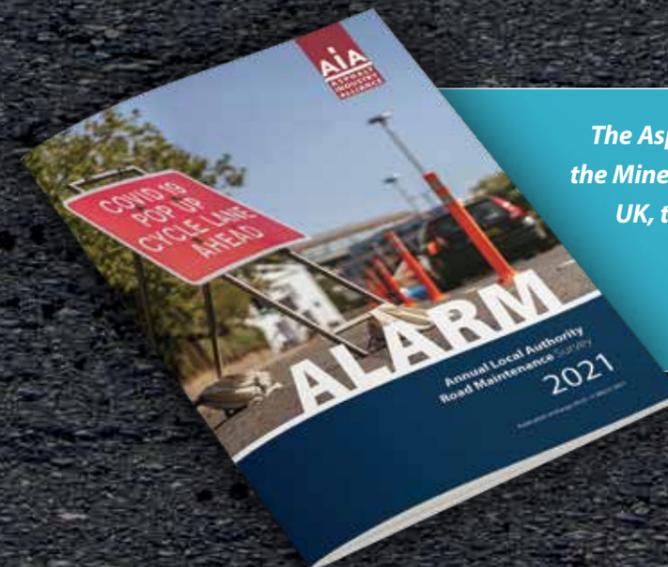
**10 years**  
time it would take to clear the maintenance backlog



**68 years**  
average time between each road resurfacing



**£15.0m**  
total cost of dealing with compensation claims



The Asphalt Industry Alliance is a partnership between the Mineral Products Association (MPA) and Eurobitume UK, the European Association of Bitumen Producers.

The full ALARM survey can be downloaded at [www.asphaltuk.org](http://www.asphaltuk.org)

# Setting an example

**It is two decades since the first global scheme to promote open and accountable management among the world's extractive industries was conceived. Today, MPA members are playing their part while setting an example for others to follow.**

In some parts of the world, extracting essential minerals to produce energy, everyday objects and the built environment around us has also given rise to corruption and conflict, especially in resource-rich developing nations.

Dodgy deals and a lack of transparency, among other reasons, have meant that the economic benefits of extracting oil and gas, metal ores and other mineral resources does not necessarily contribute to prosperity for a country as a whole.

Prompted by calls from civil society, the idea emerged in the late 1990s to establish a worldwide initiative to set clear governance standards for the extraction of natural resources.

And so the Extractive Industries Transparency Initiative (EITI) was formed ([www.eiti.org](http://www.eiti.org)), promoting open and accountable management in the extraction of natural resources. Its remit includes ensuring the process for issuing extraction licences and contracts is transparent, extraction itself is carried out responsibly, and operations result in payment of the right amounts of taxes and other fees.

The standards set by EITI are designed to complement mandatory reporting of payments made to governments worldwide by extractive companies under the applicable company and securities laws globally, including the UK, EU, Canada and Norway (and soon the USA).

Today more than 50 nations are signed up to implement the EITI standards with new countries coming on board each year. Countries are subjected to an audit every three years, which gives rise to corrective actions to address gaps and shortcomings which are then followed up by independent validators.

As one of the founders of the EITI, the UK is setting an international example, requiring its extractive companies and government to comply with the same reporting and verification requirements of all 55 implementing countries. Unsurprisingly, the MPA and its members play a key role in reporting the data required for verification.

The UK EITI Multi-Stakeholder Group (MSG) is responsible for the implementation of the EITI standards in the UK. It comprises

representatives from industry, civil society and government. Each constituency plays an important role in ensuring their views are considered when the MSG makes decisions on EITI implementation.

MPA Director of Economic Affairs, Aurelie Delannoy, who sits on the MSG, said: "The UK mineral products industry recognises the importance of transparency in creating a good business environment worldwide, leading by example, and ensuring that governments and businesses can be held to account. We are actively involved and fully support the intentions of EITI, and are committed to implementing the standards."

Mining, quarrying and related downstream manufacturing activities make a variety of financial and non-financial contributions to national and local governments and local communities. EITI helps to identify and address some of the gaps in the availability of data essential to inform policy makers and the public about our industry's unique contributions to the economy and to improving biodiversity, whilst also working towards delivering net zero carbon and beyond by 2050.

**For further information visit the UK EITI website: [www.ukeiti.org](http://www.ukeiti.org)**

*Below: Chuquicamata, the world's biggest open pit copper mine, Calama, Chile*



# NEWS MEMBER

## World first for carbon sequestration



**Crushed basalt from a Hanson quarry in Powys is being used in a reforestation scheme to measure the benefit it has on removing atmospheric carbon dioxide.**

The world-first project led by The Carbon Community, a charity dedicated to creating forests and accelerating carbon removal, aims to accelerate the sequestration of CO<sub>2</sub> in trees and

soil as well as improving biodiversity. As part of the project, more than 25,000 trees have been planted on 11 hectares near the Brecon Beacons in Wales. The initiative – will assess the effects of using live soils from nearby forests to reintroduce microbes and organisms to improve tree survival rates, as well as enhanced rock weathering (ERW) on carbon sequestration.

ERW takes crushed basalt, a by-product from some quarries, and applies it to the soil to capture CO<sub>2</sub> and provide essential nutrients to fertilise trees and the fungi in the soil that support tree growth. Already successful in agriculture, if it works for reforestation the Carbon Community aims to scale up the scheme elsewhere to enhance carbon removal from the atmosphere.

## Return of the sand martins

**Industrial minerals specialist Sibelco teamed up with Surrey Wildlife Trust to attract sand martins back to nest in the county for the first time 25-years.**

The nature conservation project involved building a giant 20-metre wide sandbank for the tiny brown and white birds, the perfect habitat to welcome them back to nest at a Surrey nature reserve on restored quarry land.

The nesting bank at Spynes Mere near Redhill was created with the help of professional sand sculptors Sand in Your Eye. Sand martins, the smallest of Britain's swallow and martin family, visit the UK annually on their return migration flight from Africa.



## Roman remains revealed

**A restored Tarmac quarry has become the focus of international interest after excavations unearthed a Roman mass burial site.**

Media outlets worldwide have been following the extensive discovery at the site in Somersham, Cambridgeshire, after a report was published revealing 52 burials including 17 decapitated bodies, believed to be victims of Roman execution.

## Practical steps to net zero



**Two UK cement plants operated by MPA members are undergoing multimillion pound investment programmes taking them a big step closer to carbon neutrality.**

CEMEX has invested in a new system to replace fossil fuels at its Rugby cement plant in Warwickshire, incorporating green hydrogen in the production process. The new system will enable the plant to operate with 100% alternative energy, which also includes the use of unrecyclable waste materials as fuel. Also seeking to maximise use of solid alternative fuels that would otherwise end up in landfill is Aggregate Industries.

At their Lafarge cement plant in Caudon, Staffordshire, work has begun on a project to build a new pre-processing plant for the storage, handling and feeding of non-fossil fuel materials. In addition, a new chloride bypass will be installed, which will ensure quality of the end product and result in no additional waste. Both sites have a history of moving away from fossil fuels and both projects represent important next steps towards achieving a circular economy.

## Food fuels healthy chat

**A team at Eurovia has been opening up about mental health with a 'Mood & Food' initiative for employees.**

Using tasty dishes as an ice breaker, Eurovia colleagues on the A127 highway works in Essex formed a Whatsapp community group to encourage sharing of anything food-related and mood-related. Workers can also choose to wear a 'mood card' in the see-through 'window' of their high-viz jacket. Together the two ideas encourage employees to check in on each other and to talk about how they are really feeling.

## Stone for Chinese garden

**The new RHS Garden Bridgewater has selected Shire Hill stone from Marchington for their Chinese Streamside Garden.**

Showcased on BBC2's "The Great Northern Garden Build" the garden celebrates the contribution Chinese horticulture has made to British garden design over 300 years.

Working closely with RHS designers, the team from Marchington Stone hosted several quarry visits to carefully select stone of the required size, colour and shape to fit the design brief.

# 50 years of 'net gain'

It's 50 years since the first awards celebrating the unique contribution of restored quarries to nature recovery. Isn't it time the industry's role was recognised more widely?

## Quarries & Nature

The mineral product sector's best kept secret is still the unique and significant role that quarry restoration plays in long-term nature recovery and conservation.

Maybe that's because by the time a well-restored quarry scheme has come to fruition, most people have forgotten that the site once provided materials for the places where they live, work and play. In fact, the chances are that your local nature reserve is the result of mineral extraction, as are many of the UK's flagship conservation parks.

In England alone there are over 2,000 quarries, covering 64,000 hectares (0.1% of the country's land area) all of which will be restored after quarrying. Each site is an opportunity to create a better landscape, where rare and endangered species can thrive – from wetlands and reedbeds to heathland and grassland, with hedgerows and many types of woodland.

In total, MPA members have already created over 83 sq km of priority habitat with a further 110 sq km pledged in approved restoration plans. Today more than 80 restored quarries make up the MPA's 'virtual' national nature park. Restoration work has also spawned long-standing partnerships with numerous well-known conservation organisations, many of whom take over the running of restored sites as nature reserves for all to enjoy.

This unique ability to create areas for nature to thrive has taken on a whole new perspective since the introduction of the Government's new Environment Bill which – amongst other things – will oblige all new developments in England to deliver an overall increase – a 'net gain' – in biodiversity.

No other industry comes close to being able to achieve this – indeed, the mineral products sector was restoring land to

enhance nature decades before the term 'net gain' was coined. No surprise then that the MPA was the first trade association to publish a biodiversity strategy.

So this October the MPA will celebrate 50 years since the industry's first restoration awards, showcasing the variety of ways in which former quarries are restored for the benefit of wildlife and people alike. It's essential for the industry to recognise the exceptional achievements to date and, perhaps most important of all, celebrate the quarry managers, restoration managers and their teams who continue to deliver a long-standing legacy.

**50 years of Quarries & Nature will be formally celebrated in October 2021. Follow @MineralProduct and @Quarries\_Nature for news and updates.**

