

WINTER 20 ISSUE 21

mineral

products today



How low can you go?

Beyond zero carbon concrete



Essential mineral products
Has Govt finally got it?

A change of plan
Mineral planning matters

From the ashes
Saving secondary sources

WELCOME

I write after what we all know has been an extraordinary year in so many ways. A wet January and February promptly gave way to the onset of COVID-19 which has hijacked the best of plans and dominated our lives ever since.

The mineral products sector was recognised by Government as 'essential' in the spring on the sound basis that it is the largest supplier to the construction industry and other key strategic sectors such as the utilities, transport and manufacturing.

That recognition – coupled with the deferral of VAT and other public sector charges and fees, not to mention loans and grants – have combined to enable our sector to play an invaluable role in the recovery over the summer whilst doing as much as was possible to retain jobs.

The MPA is grateful for the support provided by Government. Equally our members have

responded well too by developing and adopting vital COVID-19 health and safety guidance to protect the industry's workforce. Their efforts have also played into a wider shift in behaviour in the minerals and construction industries which results in COVID-19 secure activity.

Our members have shown enormous resilience and the ability to flex and adapt to a fast moving situation whilst continuing to produce essential mineral products for key developments whether for housing, infrastructure or, of course, NHS Nightingale hospitals.

All this has been happening in a year where we have had to keep our focus on addressing Net Zero carbon and Net Gain for nature. It is therefore so encouraging that we are able to feature in this issue of Mineral Products Today the launch of our UK Concrete & Cement Industry Roadmap to Beyond Net Zero and a refresh of our unique Biodiversity Strategy. These are key achievements for our members in the most challenging of years.

We are also contributing to the review of the planning system to ensure that the vital role mineral planning makes in enabling demand to be supplied is not overlooked, left behind or damaged. Local authorities play a crucial role in this process and both they and the limited human resource in the Ministry of Housing, Communities and Local Government needs bolstering. Deploying some of the ample Aggregates Levy revenue to help support the industry's future licence to operate – whilst funding local community and nature conservation projects – is an aspiration that remains firmly on our agenda.

In a year of such unprecedented difficulty, rather than stepping back, I for one am proud that this industry has stepped up to meet the challenges.

Simon Willis, Chairman, MPA



'Vision Zero' 5-year health and safety plan launched

Building on the progress of previous years, the MPA has launched 'Vision Zero – Safe & Well Every day' as the foundation for its health and safety plan until 2025.

Health and safety remains the industry's number one priority and good progress has been made over recent years.

And the new Vision Zero will help the industry to achieve its goal of eliminating the causes of the high consequence hazards most likely to seriously injure or impact the health of its 75,000-strong workforce.

The new set of shared values designed to help change behaviour are: empowerment; engaged, visible and consistent leadership; zero tolerance of unsafe working conditions; high quality implementation; collaboration and sharing; and compliance.

The Vision employs a range of strategies including: developing competent and

committed leaders at all levels; promoting recognition; creating forward looking measurement systems; supporting the management of health and wellbeing; and promoting engagement from member companies.

Building on its existing 'Clear, Simple, Smart' campaign resources covering topics such as Energy, Isolation, COVID-19 and Mental Health and Wellbeing, the MPA will work in collaboration with other industry bodies to provide members with the tools to help them further improve on site behaviours and safety practices.

A key aspect of the new strategy remains the role of 'Safer by Sharing'. MPA member



VISION ZERO
SAFE & WELL EVERY DAY

companies are committed to working together, sharing resources and ideas in order to realise our Vision. Just one way this will be achieved is by acknowledging health and safety innovation and good practice at the new MPA & British Precast Health & Safety Awards 2021.

Meanwhile to view a recording of the MPA's recent Health and Safety Leadership Conference, please visit the MPA YouTube channel, 'MineralProducts1'.

Design and print: www.generateuk.co.uk

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Printed on FSC paper

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Landmark recognition of industry's essential contribution

The essential contribution of mineral products to construction and wider society has been acknowledged in an open letter and COVID-19 related guidance from Business Secretary Alok Sharma MP.

As the country went into its first national lockdown, the Secretary of State for Business, Energy and Industrial Strategy (BEIS) paid tribute to everyone working in the UK construction industry to recognise their essential role in the economy.

He specifically referenced the mineral products sector as a key player in the supply chain – the first time since the publication of the Construction Sector Deal that a Government minister has made such a reference and, it is hoped, a reflection of the Government's growing understanding of the industry.

"In these challenging times, I want to pay tribute to all those who are working tirelessly within the construction industry," wrote the Minister. "Delivering on large or small construction sites across the country, in

builders' merchants and logistics providers, or producing construction and mineral products.

"Our country and our economy needs all our support. And the construction industry has answered the call to action. Whether by building temporary hospital wards, installing complex and life-saving oxygen systems, constructing the infrastructure that society needs to function or ensuring that people have safe and healthy homes to live in, you are delivering for our Nation through this difficult time.

"You are making a hugely valued and critical contribution to the resilience of our Nation and I salute you for the enormous efforts you are individually undertaking to support the UK economy," he concluded.

MPA Chief Executive Nigel Jackson said: "We



Credit: PA Images / Alamy Stock Photo

welcome recognition from the Business Secretary of the contribution our members make to construction. His recognition of the essential contribution our sector makes, and the important jobs that cannot be done from home, is a great help and encouragement in these challenging times.

"The same is true of other important strategic sectors such as agriculture, the utilities and manufacturing more widely who rely on industrial minerals such as lime and silica sand."

MPA sees red over 'unfair' diesel tax plans

Government proposals to remove the mineral products industry's exemption from diesel tax have been challenged by the MPA which has called for a delay until alternatives are available.

Red diesel is the same as standard diesel except it is dyed red to identify it as low-tax fuel, primarily for use in non-road vehicles such as tractors, excavators and dump trucks.

It currently accounts for around 15% of all vehicle fuel used in the UK, but in March the Chancellor announced plans to put an end to the tax exemption in 2022 for a number of sectors, including mineral products. A consultation has

since opened to assess if other industries ought to be allowed to retain the rebate alongside the likes of agriculture and forestry.

MPA set out four reasons why the sector should retain the rebate for the foreseeable future. Firstly, and fundamentally, there are no non-diesel fuel alternatives for mobile equipment and fixed machinery used by the industry and won't be for some time.

Secondly, the MPA has argued that April 2022 is too soon in the recovery from an unprecedented economic crisis, and the extra cost of fuel will hit confidence and investment plans, slowing job creation and growth. Removing the rebate would cost the industry at least £100 million per year – that's on top of other environmental taxes like the Aggregates Levy, Emissions Trading and other carbon costs.

Then thirdly, an MPA survey found that all its members would have no choice but to pass on the cost to customers, 86% in whole or 14% in part. This would directly impact the cost of things like new housing and infrastructure, and for sectors that are traded internationally the tax burden would hamper British companies in competitive markets.

Finally, there's not even an environmental benefit because diesel will still have to be used. With the impact on confidence in a tough market companies would probably slow renewal rates of their equipment, meaning there would actually be a perverse outcome of slowly reducing efficiency over time.



Delivering both Net Zero and Net Gain

These are serious times for many species, habitats and our planet. Unlike the army of 'armchair experts', the mineral products industry is focussed on delivering action, as it has been for the past 30 years.



VIEWPOINT by MPA Chief Executive Nigel Jackson

Next year, COP 26 (the 26th UN Climate Change Conference) in Glasgow will be another important step towards confronting the harsh realities we all face. It should prove to be the most 'can-do' yet. I certainly hope so. MPA will be actively engaged as best we are able, sticking to the science, staying practical and proportionate, and guided by evidence.

As an industry we recognise our responsibilities, highlighting feasible solutions and responses, playing our part in the collective journey to Net Zero by 2050. Determination and transparency underpins our approach; not rhetoric, not denial, not greenwash. With MPA representing over 90% of the UK's largest material supplying foundation sector, I know we will make a meaningful contribution.

"When it comes to environmental action this sector has a long and proud legacy, and bold ambitions for the future"

Astonishingly, some still claim we are "doing nothing" about climate change or, more accurately, man-made global warming and biodiversity loss. But when it comes to environmental action – especially the twin challenges of Net Zero carbon emissions and

Net Gain in biodiversity – this sector has a long and proud legacy, and bold ambitions for the future.

MPA's Restoration Awards have been running for nearly 50 years, showcasing hundreds of restored quarries that are havens for wildlife. And our Restoration Guarantee Fund has been running for over 40 years; an industry pledge that enables local authorities to claim for unfinished quarry restoration if an MPA member happens to go bust. Such unrivalled environmental commitment is even recognised in planning guidance.

"In 10 years MPA members have planted over 1.5 million trees and 100km of hedgerows"

In 1998 we agreed our four point plan for National Parks, with members yielding up old planning permissions to reduce the possibility of quarrying in key areas. In 2005 we formed our partnership with English Nature, now Natural England, to showcase MPA members' biodiversity achievements.

In 2006 we published our first annual Sustainable Development report; we now produce five such reports evidencing environmental performance in marine aggregates, cement, concrete, industrial lime and all mineral products.

In 2007 we produced our first 'carbon advice card' setting out the steps members could take to reduce their carbon footprint. In 2011 we launched our carbon portal, supported by the Carbon Trust, giving further guidance on energy and carbon reduction to members.

In 2013 we were the first UK industry to launch a Biodiversity Strategy which, 7 years later, has just been refreshed. I am not aware that any other sector even has such a strategy.

In 2013 we launched our virtual National Nature Park which now hosts 80 sites with

public access, field study and education centres, nature trails and SSSIs, many managed by or in liaison with the Wildlife Trusts and RSPB.

In 2015 we hosted the first Quarries & Nature event, a two yearly celebration of the industry's contribution to nature which showcases the rich diversity of wildlife that thrives in and around quarries and is actively recovering nature whilst others just talk about it.

And in 2017 we launched the MPA Charter which sets out our Seven Strategic Priorities, of which Climate Change & Energy and the Natural Environment are but two. In the first 10 years of the MPA our members planted over 1.5 million trees and 100km of hedgerows, and had already created 8,000 hectares of priority habitats with at least another 11,000 planned.

We have published papers evidencing that we are recycling or reusing 82 million tonnes of construction waste each year, either as construction aggregate or for land remediation. The UK actually has the highest per capita recycling rate in Europe and therefore probably in the world. That recycled material represents 30% of the country's total aggregate supply, taking pressure off the demand for primary resources.

Unlike some industries, who have a far greater impact on the environment, and many who export their impacts (out of sight and out of mind), mineral products companies pay going towards £1 billion per annum in environmental taxes. Unlike some more polluting and harmful activities we are not subsidised. Unlike many industries we are not deforesting at scale to make way for damaging agriculture. Unlike other sectors we have reduced our carbon emissions, for example by 53% in cement and concrete since 1990, outstripping the UK overall. Total UK cement emissions are also five times better than the global average. Real, measured improvements, not conjectural.

This year we have published the landmark UK Concrete and Cement Industry Roadmap to Beyond Net Zero – an industry first. Concrete is the world's most versatile and sought-after man made material. We are evidencing not just the environmental cost of using concrete, but

the real, social and environmental benefits of using this local, essential, durable, versatile and sustainable product.

"Transforming our existing production methods is a massive challenge requiring innovation, investment and time"

In launching our roadmap, we have not arbitrarily nominated unrealistic and opportunist target dates. This is not a time for empty gestures and virtue signalling. 'Quick wins' are fine and may make us feel good, but it takes time to transition to sustainable long-term changes at scale. Transforming our historical and existing production methods is a massive challenge requiring both innovation, investment and crucially time, whether we're talking about cars or concrete.

Whilst there is an urgent need to move to more effective mitigation, we also need to accelerate adaptation as global warming and the other effects of climate change are already a reality. The mineral products industry has been doing that for well over a decade yet others have barely begun.

And, yes, we can do more. On the plus side Government has made progress with the Climate Change Act, the 25 Year Environment Plan and the developing Environment Bill, but it could help accelerate progress by adopting a full-economy appreciation of the link between consumption, demand, need and supply. And incentivising innovation will be more likely to change the game than regulation alone.

"Consumers and society drive demand for our products – we respond to that demand"

All we ask is for parity of treatment across all business and industry sectors and for consumers to 'make the link' between their quality of life and the essential materials they need to maintain it. Consumers and society drive demand for our products for good reasons. As an industry we respond to that demand. Our products are essential to our quality of life, they enable us to be safe, secure, healthy, protected and connected, and above all civilised.

So this is not a time to exacerbate divisions. There is no 'them and us'. We're all part of the same giant supply chain. On our treasured planet there is only 'us'. Essential mineral products, like it or not, are here to stay and fortunately the UK industry is well advanced when it comes to embracing the challenges of Net Zero and Net Gain.

Fresh pledge on better biodiversity

The MPA has rejuvenated its Biodiversity Strategy, 7 years after mineral products became the first UK sector to launch an industry-wide commitment to ensuring 'net gain' in wildlife habitats.

The 2020 update of 'Building on our legacy... realising our potential' refreshes the industry's previous commitments to delivering more and better biodiversity as part of its long-standing and proven legacy in quarry restoration.

Biodiversity loss is recognised as one of the biggest threats facing humanity as recently highlighted in the European Union Biodiversity Strategy for 2030 'Bringing nature back into our lives' (2020).

Since mineral extraction is a temporary use of land it is known to have a hugely positive impact through the creation and management of new habitats that are often better than before quarrying – resulting in a net gain in biodiversity.

The Natural Environment is one of MPA's 7 Strategic Priorities set out in its Charter which producer members are committed to as part of their membership, including

Quarries support nature recovery

The MPA welcomes the Government's support for the 'Leaders' Pledge for Nature' announced in September.

Yet the ambition to protect a third of the land and sea for wildlife must be properly resourced, for both creation and enhancement of new areas but also management of existing protected sites.

More could be done if some of the tax paid on every tonne of construction aggregate extracted were to be recycled back into nature enhancement schemes. The Aggregates Levy Sustainability Fund – which was cut without notice in 2011 – along with support of wildlife organisations and local councils, could provide funding for such projects.

clear objectives and targets relating to biodiversity and land restoration.

Recognising their unique role, to date MPA members have created at least 8,000 hectares of the UK's most important and threatened habitats such as meadows, heathlands, woodlands, and wetlands through restoring quarries following extraction of minerals, with at least 11,000 hectares committed to in restoration plans.

Indeed, up and down the country restored quarries represent a national resource of important habitats and wild places. A nationwide network

– the National Nature Park – already includes over 80 sites accessible for public enjoyment. For details visit www.mineralproducts.org/nature_map.php.

The MPA sees further potential to protect and enhance biodiversity, including rare and threatened species and habitats. Restoration and after-use of minerals sites will contribute significantly to the achievement of nature recovery in the UK, particularly for more, bigger, better and joined-up habitats.



How low can you go?

The UK concrete and cement sector has cut carbon emissions by more than 50% since 1990. And last month the industry launched an ambitious roadmap to tackle the other 50% by 2050 and go beyond zero carbon emissions.

Concrete is the world's most versatile and sought-after man-made material, made by mixing aggregates with cement and water under strict planning and permitting conditions.

For decades concrete has been one of the most maligned and misunderstood materials, despite the fact that we each rely on it every day – whether we know it or not. Concrete literally forms the foundations for almost every aspect of modern life. It's the only material that can

meet the demand for built development and regeneration. And it's a locally-made product using raw materials largely sourced in the UK.

What's more, despite being seen as an easy target for eco-criticism, few industry sectors have achieved as much as concrete (and

The concrete industry has been decarbonising faster than the UK economy as a whole

its key constituent cement) in reducing emissions and tackling climate change.

It's the production of cement that generates the sector's main carbon dioxide emissions, arising from both the combustion of fuels and as a by-product of the chemical reaction needed for cement. This makes decarbonisation more challenging than simply switching fuel sources, which is the main option for many other industries.

Yet cement and concrete companies in the UK have taken considerable early action and – thanks to investment in fuel switching, changes in product formulation and improvements in production – emissions are 53% lower than in 1990.

UK concrete is...

Essential for our economy, homes, buildings, infrastructure and quality of life

Sustainable, local and responsibly sourced

Protecting people and properties against fire, flooding and other threats

Tackling climate change and key to a net zero carbon economy

Innovating to meet the future needs of society

Enabling great design that enhances our communities

In 2018, UK carbon dioxide emissions from concrete and cement were 7.3 million tonnes, approximately 1.5% of UK greenhouse gas emissions. Now, in an unprecedented and collective commitment to tackling climate change UK concrete and cement has become the first foundation industry to develop a roadmap to go beyond net zero by 2050, removing more carbon dioxide from the atmosphere than it emits each year.

Following in-depth studies, UK Concrete – the branch of the MPA which represents the UK concrete and cement industry – has identified that net zero can be met through decarbonised electricity and transport networks, further fuel switching, greater use of low-carbon cements and concretes, as well as Carbon Capture, Use or Storage (CCUS) technology for cement manufacture. For the first time, the 'Roadmap to Beyond Net Zero' calculates the potential of each technology and the carbon savings which can be achieved.

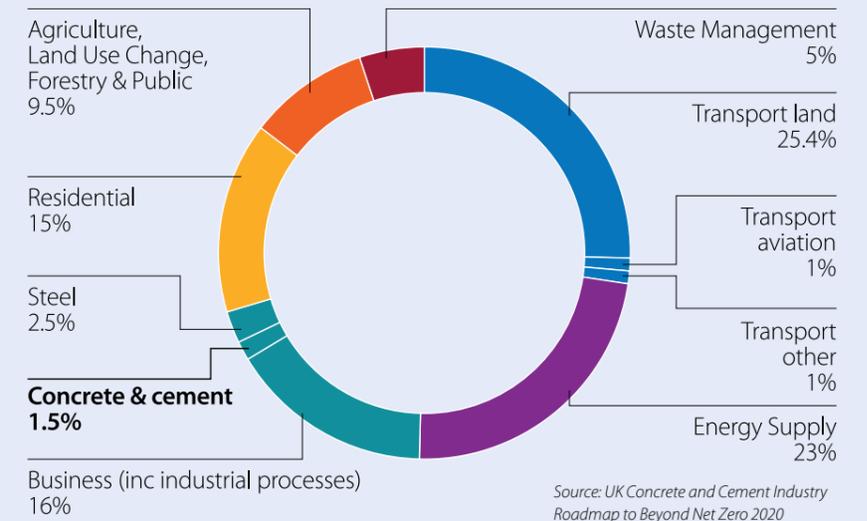
"Through the UK concrete and cement industry net zero roadmap, the Mineral Products Association is setting a world-leading industry ambition to reach net zero emissions," said Chris Stark, Chief Executive of the Committee on Climate Change – the independent body advising government on building a low-carbon economy and preparing for climate change.

The MPA is setting a world-leading industry ambition to reach net zero emissions

"Decarbonising emissions from concrete and cement is one of the key challenges for getting to net zero with knock-on effects for helping to reduce emissions from the built environment. Net zero is a fundamental goal, requiring bold leadership from Government and from commerce – I highly commend this initiative."

CCUS is vital to delivering net zero manufacturing and will be expected to deliver 61% of the required carbon savings. And a net negative industry by 2050 can be achieved by using the natural, in-use properties of concrete including its ability to absorb carbon dioxide, and its thermal properties in buildings and structures to reduce 'operational' emissions from heating and cooling.

But the roadmap doesn't stop there. The MPA is currently undertaking ground-breaking demonstrations of cement manufacture using hydrogen and plasma technology. Part-funded by the Department for Business, Energy and



Sector contributions to 2018 UK greenhouse gas emissions (Source: BEIS)

Industrial Strategy (BEIS), such research is already showing the potential of these technologies to reduce carbon emissions through switching away from fossil fuels in cement and lime production.

Having set out how net zero can be reached, the industry is now calling on Government to come up with a robust financial support model, including for the capital and operational costs of carbon capture, by no later than 2021. This would ensure the technology can be developed, deployed and become an investable proposition in the 2030s.

The roadmap does not rely on carbon offsetting or offshoring emissions

"We have already made significant progress to reduce carbon emissions, but are under no illusion about the scale of the net zero challenge," said Nigel Jackson. "Achieving this will require the wholesale decarbonisation of all aspects of concrete and cement production, supply and use. "We will only be able to go beyond net zero with concerted support from

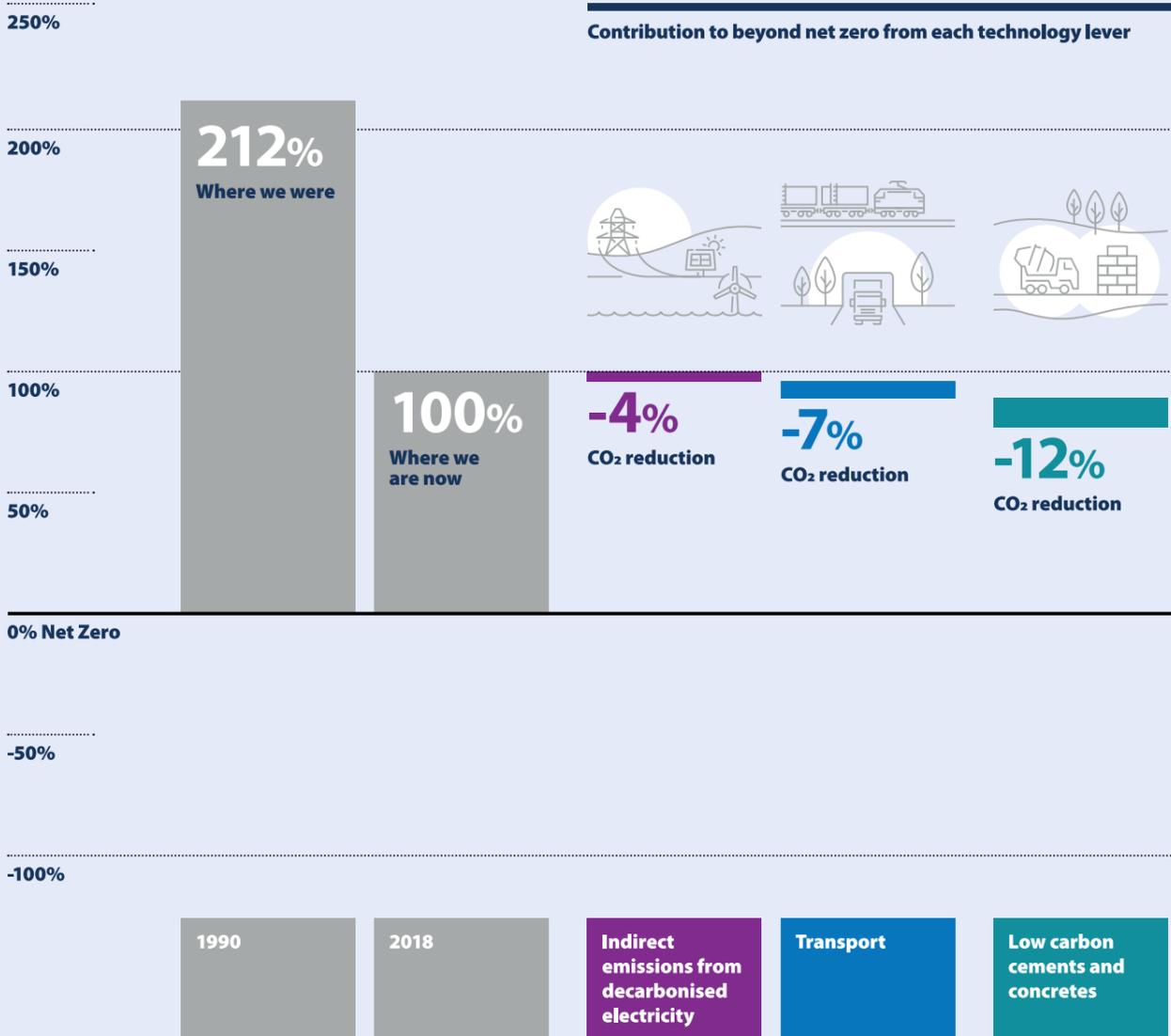
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GOVERNMENT AND INDUSTRY ENABLERS

Delivering beyond net zero requires our industry, all levels of Government and the wider construction, energy and transportation sectors to work together. There are a number of enabling actions required by Government in order for the industry to achieve its targets:

- Set a net zero goal on consumption emissions, to ensure net zero is not met by closing UK manufacturing and importing goods instead
- Ensure national greenhouse gas accounting includes the CO₂ permanently captured and stored by the carbonation of concrete
- Ensure that the UK electricity system is regulated to provide decarbonised electricity at internationally competitive prices
- Provide regulatory certainty in climate change policy to create long-term visibility for company capital investment programmes
- Require that CO₂ emissions from buildings and infrastructure are assessed over their whole life and introduce this principle into public procurement policy
- Provide subsidies for energy intensive industries with support for research, innovation and deployment of low carbon technologies
- Support the creation of a public and/or private UK CO₂ transport and storage network
- Support the development of a zero carbon gas network and market at cost competitive prices

Beyond net zero: the roadmap in numbers



... continues from previous page

Government, as well as with significant changes across the wider construction, energy and transportation sectors.

"Critically, our roadmap will be delivered without offsetting emissions or offshoring production facilities. We believe that net zero should be achieved by reducing emissions from materials manufactured in the UK, rather than by 'carbon leakage' where UK production is replaced with imports that simply moves the emissions responsibility abroad. The aim should be to retain jobs and economic value in the UK whilst ensuring that the UK takes responsibility for the emissions it creates."

For further information visit www.thisisukconcrete.co.uk

Fuel switching trials

TWO MPA member companies are taking part in ground-breaking trials of hydrogen and plasma technologies to reduce carbon emissions in cement and lime production.

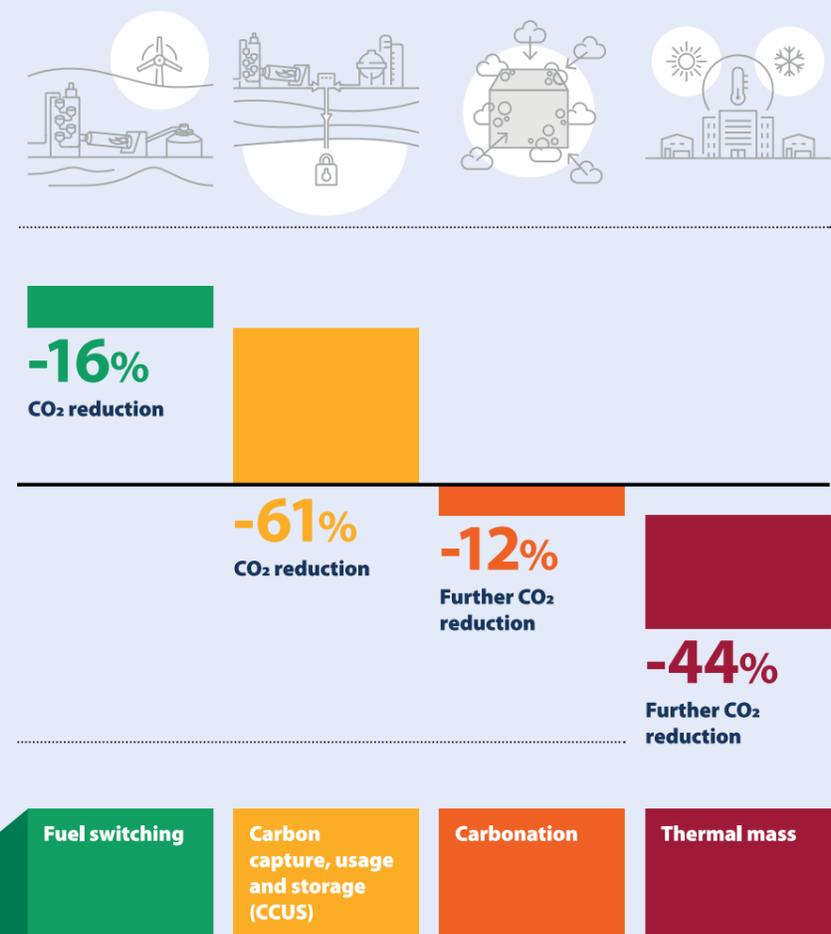
The Department for Business, Energy and Industrial Strategy (BEIS) has awarded the MPA a grant of £6.02 million to explore the potential of these technologies to deliver decarbonisation by switching away from fossil fuels.

The cement trials will take place at sites operated by Tarmac and Hanson – one will explore the use of electrical plasma energy with biomass fuel while the other will focus on hydrogen and biomass energy. Tarmac will also host lime production trials, demonstrating the applicability of hydrogen as an alternative to natural gas for lime manufacturing.

The projects follow a BEIS-funded study in 2019 which found that a combination of 70% biomass, 20% hydrogen and 10% plasma energy could eliminate fossil fuel carbon emissions from cement manufacturing. The aim now is to test that theory with initial results expected mid-2021.

The chart shows absolute 2050 CO₂ emissions reductions compared to a 2018 baseline. Seven technology levers are forecast to play an important and active part in delivering beyond net zero for concrete and cement.

Source: UK Concrete and Cement Industry Roadmap to Beyond Net Zero 2020



Chris Leese
Director – UK Concrete



"The UK's journey to net zero needs new technologies on an industrial scale – plus no shortage of ambition. We really need a far more informed and

intelligent conversation about the materials we use across the built environment. Our roadmap is part of that process because its honest, detailed and sets our direction of travel. Delivering net zero undoubtedly requires more action and the wholesale decarbonisation of all aspects of concrete and cement production, supply and use."

Dr Richard Leese
Director – MPA Cement



"While technologies like CCUS are achievable and viable there are unknowns that are currently outside our control. Some of the answers will be shaped

by Government policy. It's positive that climate change is now central to all Government departments' thinking, but post-Brexit it's critical that we have clarity from Government on the UK carbon pricing scheme to ensure that the UK remains an attractive place to invest and to allow businesses to prepare for the start of the new year."

Concrete's Sustainable Construction Strategy

The Beyond Net Zero Roadmap will form an important part of the revised UK Concrete Sustainable Construction Strategy to 2030 (due in early 2021) and is a fitting response to the UK Government's Green Industrial Revolution ten point plan.

The first Concrete Industry Sustainable Construction Strategy was launched in 2008 – an industry – wide commitment, signed by trade bodies and companies alike, to measure and report annually on the sustainability performance of the industry.

Targets (to 2012) were first set in 2009 and detailed in the second annual report. In the third report the industry showed significant progress including exceeding the government target on responsible sourcing; exceeding UK average reduction of greenhouse gases and exceeding energy performance targets.

In 2018, the concrete industry celebrated 10 years of its Sustainable Construction Strategy with a publication reflecting on a decade of achievements. The industry continues to report annually and engage with external stakeholders to play its part in creating a sustainable built environment.

For further information visit www.sustainableconcrete.org.uk

Dr Diana Casey
Director – Energy & Climate Change, MPA



"For the first time our pathway to beyond net zero is clearly set out, with an achievable and viable route that uses seven key decarbonisation

technology levers. To get to net zero and beyond, significant technological, structural and behavioural changes are required by our industry, clients, and specifiers of construction materials – as well as investment and buy-in from Government. With the route now plotted using our seven levers, we know where we're going and know there's no going back."

A change of plan?

It doesn't take a chartered geologist to see that a quarry is not the same as a house. The former is a source of essential materials and an economic contributor. The latter is a structure made from those same materials – on average 200 tonnes per house – providing shelter, security, somewhere to live, the place we call home.

Yet this distinction seems to have escaped the authors of the Government's White Paper 'Planning for the Future' which aims to revolutionise the planning system in England. Despite MPA calls for changes to the mineral planning system – most recently in June 2020 ahead of the publication of the White Paper and previously in the UK Minerals Strategy in 2018 – the consultation document is firmly focused on housing development and delivery. Meanwhile, minerals are not mentioned at all, despite falling under the same Town and Country Planning Act legislation that is set to be replaced.

"Minerals are different to housing or any other kind of built development," said Mark Russell, the MPA's Executive Director for Planning, Mineral Resources & Marine Aggregates. "You can only extract minerals where they exist in the ground, and the demand for those materials is often elsewhere in the country. Consequently, minerals are a strategic resource that require national thinking to join up availability with market demand in order to ensure supply."

Minerals are a strategic resource that require national thinking to join up availability with market demand

National policy recognises that development of all types – from homes and health centres to major infrastructure and regeneration – is reliant on a steady and

adequate supply of mineral products. Industrial minerals also provide essential raw materials for a wide range of downstream manufacturing industries, and building stone is needed to support the Government's ambitions for sympathetic design and place-making.

"Minerals are a finite resource, so not only do they need to be used efficiently and appropriately, but they also need to be safeguarded against other forms of development. The protection of areas of mineral resources, in advance of any development is not only possible but also logical because mineral extraction is effectively a temporary use of land – restoration plans are a key element of any quarrying activity and, as the raw materials are extracted, attention turns to realising planned subsequent land uses."

Minerals must be a key consideration in any planning reforms

With UK demand for minerals and mineral products estimated to be around three billion tonnes over the next 10 years, the failure to include consideration of minerals in the Planning White Paper is a major oversight on the part of the Government. That's especially the case since around half of those materials will be needed for publicly-funded works, whether that's schools and hospitals, better transport networks, renewable energy schemes or flood defences.

Yet surveys by the MPA over 10 years show that land-sourced aggregates consumption outstrips reserves newly permitted for extraction by 75% (crushed rock) and 63% (sand and gravel) – a trend that could have a serious impact on the country's ability to realise its regeneration and growth ambitions in the long term.

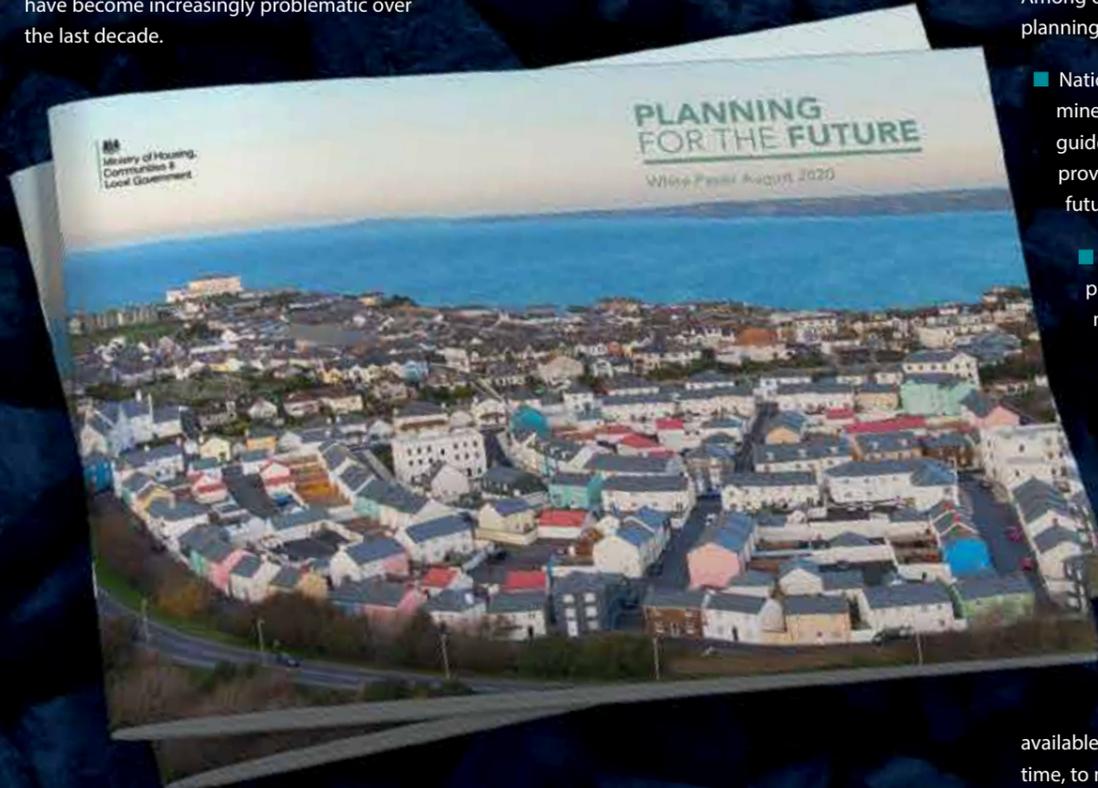
Few disagree that the planning system needs improving. But as the consultation period closes on the latest round of proposals for radical reform, has the Government forgotten something?

Although the fundamental structures are in place to deliver mineral planning – such as the Managed Aggregates Supply System (MASS) that balances the uneven distribution of minerals compared to the areas of demand – the fact is that things have become increasingly problematic over the last decade.

"Mineral planning doesn't work as efficiently or effectively as it should," said Mark. "Despite representing a strategic issue, the level of top-down forward-looking guidance and support has reduced and been replaced by a 'localist' approach to mineral planning that often stifles investment and undermining confidence by creating needless uncertainty. It's a slow and inconsistent process that has become onerous and costly for local authorities and business alike."

The good news is that the Government does acknowledge weaknesses in the current system and some of the general reforms proposed have been backed by the MPA – in principle at least. These include streamlining the preparation of local plans, more consistent local application of national policy, simplifying the environmental assessment process, standardising the information applicants must provide and making better use of technology during the process.

On the other hand, the proposals are light on detail about how things might work in practice, especially in mineral planning. And there are still some fundamental problems that the Government appears to have overlooked.



"Mineral planning has become increasingly marginalised as authorities have been forced to cut budgets," said Mark. "That's led to chronic under-resourcing and a loss of expertise and capacity in many planning departments. There's also been a depreciation in basic understanding and 'bigger picture' issues among planning committee members."

Better resourcing of mineral planning functions, by ring-fencing planning fees and improving the skills and knowledge of those involved in the process, plus strategic planning at a broader scale is among

several specific measures set out in the MPA's response to the Government White Paper.

"A whole different set of expertise is required to make informed planning decisions in relation to minerals, and as an industry we're willing to work with Government to support improvements in our sector."

The MPA has proposed the establishment of regional 'centres of excellence', pooling expertise into qualified teams of minerals planning professionals who work together on joint plans. Informal examples of this already exist in some regions and are proven to work well.

Among other MPA suggestions for planning reforms are:

- National 'statements of need' for mineral products including new guidelines for aggregates provision to provide a more consistent forecast of future demand;
- Major infrastructure projects to produce 'resource assessments and material supply audits' to provide visibility around future needs to ensure availability;
- Establishing the primacy of a planning permission as the main 'licence to operate' to reduce unnecessary duplication with other regulatory regimes.

"The planning system has a key role to play in ensuring the right minerals are available in the right place and at the right time, to maintain the continuity of supply and meet demand," said Mark. "The additional reforms proposed by the MPA would substantially improve how the system works."

The planning system has a key role to play in ensuring the right minerals are available in the right place and at the right time

"Mineral products are essential to all built development and the regeneration of our towns and cities, in addition to the wider economic contribution we make as a

domestic industry. And that's before we start to consider our world-class environmental practices from efficient transport and recycling to quarry restoration and biodiversity.

"To maintain this essential contribution, supply cannot be assumed – it has to be planned, monitored and managed. Long-term demands need to be supported by long-term policies and plans that provide confidence to planning authorities and mineral operators to ensure the most sustainable and cost-effective supply solutions can be delivered."

Land-won aggregates consumption outstrips the new reserves permitted

Only 63%
sand and gravel reserves replenished between 2009-2018

Only 75%
crushed rock reserves replenished between 2009-2018

2.4 billion tonnes
primary construction aggregates required to service UK demands between 2016-2030

25%
construction aggregate demand associated with new housing

5-15 years
to convert a new mineral site from exploration to operation

FROM THE ASHES

Fly ash from coal-fired power stations has become an important raw material for construction. But does the decline of coal power mean there's no more ash?

"Reports on the demise of fly ash have been greatly exaggerated!" said Nigel Cooke, Director of the UK Quality Ash Association (UKQAA), the latest trade body to become an affiliate member of the MPA. UKQAA represents companies involved in the supply or use of fly ash in construction materials – a practice that has grown rapidly in the past decade.

Fly ash, also known as pulverised fuel ash (or PFA) is a by-product of coal-generated electricity and is widely used in the manufacture of mineral products such as concrete blocks, ready-mixed concrete, grouts and mortars. And because of its pozzolanic properties – it behaves like cement – fly ash can enhance the performance and properties of concretes, mortars and grouts.

Using fly ash also helps to reduce the demand on primary quarried minerals and means the buildings created with fly ash

have a lower carbon footprint than if they had used the equivalent newly-manufactured cement.

In 2012, 50% of the fly ash produced in the UK was landfilled – just five years later, there was a net extraction of fly ash from landfill deposits. Over the next decade UK demand is expected to grow to 3 million tonnes – some of this could be met with imports but making use of the UK's own reserves makes economic and environmental sense.

However, Government policy in response to climate change has meant that the UK has seen a rapid decline in coal fired power generation. Today, the UK's demand for power is mainly met by renewables, gas and nuclear. The few remaining coal-fired power plants are all scheduled to close by 2025 at which point no more fly ash will be produced in the UK.

There are at least 16 locations of single use deposits of coal derived fly ash across the UK.



But the story doesn't end there . . .

"In fact, there are huge 'reserves' of coal derived fly ash across the UK," explained Nigel. "These reserves have accumulated over previous decades when supply far outpaced demand and fly ash was seen as a waste, rather than a resource. Together the reserves are estimated to be over 100 million tonnes – enough to supply block manufacturers, concrete producers and grouters with an excellent cementitious material for many decades to come."

And whilst the landfilled fly ash requires treatment such as screening, drying, de-agglomeration (and, when it's used as a pozzolan, carbon removal might be required) the UKQAA has identified commercially

viable technologies proven to produce materials that meet the required standards for construction. Indeed, when it comes to demonstrating the performance of ash in cement-based applications, the UKQAA has a history of sponsoring research projects with institutions such as the Concrete Technology Unit at Dundee University.

"Despite the fact that these single use deposits of fly ash are an important national resource, many organisations – from government departments and local planning authorities to landowners and developers – have written off, overlooked or simply not been aware of the potential of fly ash as a construction material," continued Nigel.

"Until the reserves are safeguarded, and treated in the same way as primary minerals by inclusion in national planning guidance, these locations are viewed as brownfield sites for redevelopment. That could prevent the deposits from ever being used. As a consequence the fly ash should first be extracted and then over time, the land can be restored and prepared for future use whether that's built development, agriculture or nature conservation."

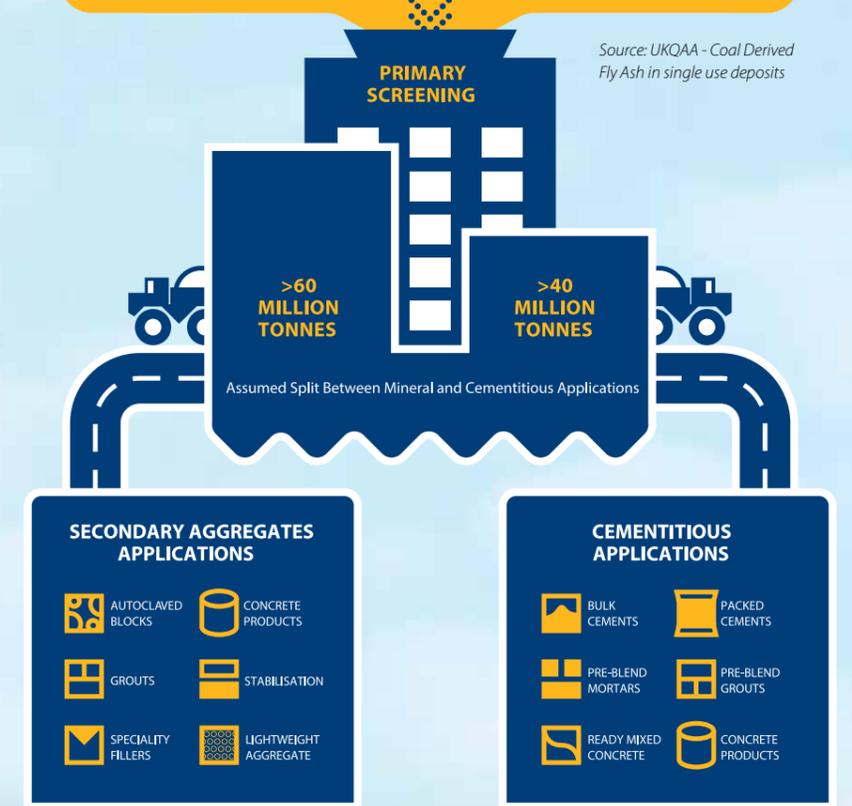
Safeguarding is also important because in the UK the landfill deposits are 100% fly ash rather than mixed with other coal power station by-products such as bottom ash, gypsum or 'scrubber' wastes. This means the ash is already of a relatively consistent quality which is essential to optimise its use as a secondary mineral or aggregate.

"So far we're getting positive signs from Government about safeguarding these single use deposits of coal derived fly ash," continued Nigel. "Discussions with MHCLG, DEFRA and BEIS – supported by our colleagues at the MPA – are going in the right direction but we're aware that it can take years to change planning guidance and we don't have that long before some of

these sites come up for redevelopment. In the meantime we hope that planning authorities will see the advantages of using coal derived fly ash and make the right decisions to allow this secondary mineral to make a valuable contribution to the UK construction sector for many decades to come."

>100mT FLY ASH RESERVES

Source: UKQAA - Coal Derived Fly Ash in single use deposits



Gale Common near the former Eggborough Power Station, North Yorkshire could supply up to one million tonnes of fly ash per year for 25 years.

RECYCLING

Prime minister visits London recycling facility

Prime Minister Boris Johnson recently visited FM Conway's asphalt and recycling plant near Heathrow to discuss the 'Build Back Better', the Government campaign for a coronavirus recovery plan.

Chairman Michael Conway MBE was joined by CEO Adam Green and Head of Operations Mark Whelehan to meet Mr Johnson for a discussion regarding the campaign and what this means

for the UK's infrastructure and supply chain.

Touring the asphalt plant and recycling facility Mr Johnson praised the company's asphalt recycling track record: "FM Conway are doing an astonishing job of resurfacing roads and what I don't think people realise is they are capable of recycling a road no fewer than eight times. I absolutely congratulate them on what they are doing."



INNOVATION

Major lime works to trial zero carbon production

Industrial minerals specialist Singleton Birch have partnered with Oxford University spin-off Origen Power to develop new kilns based on oxy-fuel calciner technology as a route to zero carbon lime production.

Martin Haworth, Managing Director of Birch Energy (pictured) said that a pilot plant could be built as early as 2021 at the company's North Lincolnshire base, producing 3,000 tonnes of carbon neutral lime a year. Once this process has been proven the next step would be a 50,000-tonne a year plant – a scheme that's already in design.

Lime is used in countless essential industrial processes including steel manufacture, paper

products, glass making, pharmaceuticals, food production, agriculture and many environmental applications.



CONCRETE

Low CO₂ for HS2

CEMEX is supplying its low-carbon ready-mixed concrete to HS2 contractors for an electricity substation in London.

The product has been designed to offer a reduction of 42% in carbon dioxide compared with standard concrete. In addition, the remaining carbon emissions are offset in accordance with the CarbonNeutral® Protocol. To meet the international carbon neutral standards audited actions are taken to remove greenhouse gas emissions from the atmosphere. This compensates for the emissions created elsewhere in the materials sourcing, manufacturing and distribution of the concrete.

RAIL FREIGHT

First stone railed into HS2

MPA members have joined forces to ensure the huge volumes of construction aggregate required for HS2 are delivered as efficiently and sustainably as possible.



Last month the first rail shipment of aggregate for HS2 was delivered from Tarmac's Hindlow Quarry near Buxton to Washwood Heath site in Birmingham in a scheme spearheaded by Rail Stone Solutions (RSS) part of the GRS Group.

Over the next decade, up to 15,000

freight trains will haul 10 million tonnes of aggregate to HS2 construction sites. Each freight train replaces around 70 lorries, representing a massive reduction in carbon emissions and marking a significant investment for Britain's rail freight sector.

Speaking on the day of the first delivery, Mike Lyons, HS2's Civils Client Director said: "HS2 is already playing a vital role in Britain's green economic recovery, and today marks a significant milestone in our ambitions to reduce the project's carbon footprint throughout construction."

Jon Fisher, GRS Chief Executive said: "The team at RSS is really proud to have achieved this first milestone in the delivery of materials to HS2, working in partnership with our rail haulage supplier GB Railfreight and our joint venture company Rail Freight Services (RFS) which handles the unloading."

SILICA SAND

New quarry for specialist industrial sand

A new quarry for high-purity silica sand has been opened in Cheshire by industrial minerals company Sibelco.

Five years in the planning, and with a multimillion pound investment, the company's new Rudheath Lodge site near Cranage went into production in September.

One of just a handful of its kind across the country, the quarry produces four grades of silica sand for a range of applications in sports and leisure (from pitches to play pits) as well as numerous specialist construction uses.

Most of the materials quarried and processed at Rudheath Lodge will be used by customers in the North West of England, but some specialist grades will travel as far as the South Coast and the north of Scotland.

Besides providing essential materials, the quarry scheme also involves regular ecology surveys during the development along with progressive restoration as the sand is quarried – this will restore the land to a part agriculture, part nature conservation with 8 hectares of woodland, 3km of additional hedgerow and a 36-hectare lake.



NEWS IN BRIEF

Rail freight award

Brett Aggregates in partnership with Network Rail have won the Rail Freight Group (RFG) 'Project of the Year' award for a new site at Newhaven Port, East Sussex.

The scheme has rejuvenated redundant port infrastructure to re-establish a rail freight operation on the South Coast after a 30-year absence. The remodelling of old rail sidings has resulted in a fit-for-purpose railhead serving a brand-new quayside processing facility for marine dredged aggregates. Sand and gravel brought in by ship are processed then loaded onto trains for distribution across London and the South East.

Seabed sourcing

Hanson has launched a new state-of-the-art marine aggregates dredger to operate in the North Sea and English Channel.



Capable of carrying 7,000 tonnes of material, the multimillion pound vessel, named the Hanson Thames, will play a key part in supplying essential sand and gravel for construction projects throughout the south of England. Marine aggregates meet a increasing proportion of the UK's demand for aggregates with 22 million tonnes of sand and gravel were dredged from Crown Estate licences in England and Wales during 2019.

Social impact win

Colas has won two Royal Institution of Chartered Surveyors (RICS) awards for a flood alleviation project in the East Riding of Yorkshire.

The Anlaby and East Ella Flood Alleviation Scheme won the Infrastructure Category and Project of the Year at the RICS Yorkshire & Humber Social Impact Awards. The project is one of several to reduce flood risk around Hull after devastating floods in 2007. Colas formed a joint venture with SIAC Construction for the scheme, which involved building a new flood water storage lagoon.

SUSTAINABILITY

Sustainability certification

Aggregate Industries has achieved international recognition from the Concrete Sustainability Council (CSC) for its Glensanda quarry on the West Coast of Scotland.

The largest granite quarry in Europe has received a Gold Certificate, the highest standard for supply of aggregates, making AI the first in the UK to receive the certification. The CSC is a widely recognised system for responsibly sourced concrete, demonstrating that concrete can be a sustainable building material to enable informed decisions in construction.

RIVER FREIGHT

Waterway to go!

AC Marine Aggregates Ltd has breathed new life into Yorkshire waterways by bringing sea-dredged sand and gravel from Hull into the centre of Leeds by canal barge.

The initiative will help to remove thousands of lorry miles from the road network into Leeds, reducing road congestion, pollution and carbon emissions. Barges emit an average of 75% less CO₂ than the equivalent lorries. Backed by the Commercial Boat Operators Association, the initiative was made possible thanks to Leeds City Council which safeguarded a number of wharves to ensure they could be used for unloading aggregates and other cargoes.

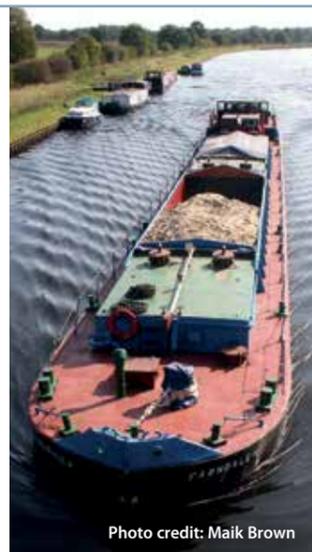


Photo credit: Maik Brown

COVID-19

Industry approach 'example to others'

MPA members have been recognised as being among the first to adapt to meet the surge in demand for essential materials following the first lockdown – helping to boost the economy.

Construction and manufacturing activity was seriously disrupted during the hiatus of the UK's first nationwide COVID-19 lockdown – and that had a major knock-on effect for the country's mineral products industry.

Yet once things started to pick up, the industry's quarries, factories and depots responded rapidly to ensure a supply of materials to enable construction and other sectors to restart quickly.

With working from home only possible for a fraction of the 75,000 plus people in the mineral products industry – companies were quick to introduce extraordinary measures to maintain a supply of vital materials whilst keeping workers safe – on quarries, in production plants, in offices and out delivering products.

Supporting this effort, the MPA launched industry-specific guidance for managers and employees, plus a poster campaign designed to

remind people to stay safe. With COVID-19 levels rising again, the MPA is re-iterating the importance of maintaining a disciplined approach to keep everyone healthy at work.

MPA Chief Executive Nigel Jackson said: "The original package – conceived, developed and published in just three weeks – reflects the 'can do' attitude of our members who are determined to play their part in rebuilding business confidence and boosting activity levels as the recovery gains momentum.

"It is incumbent upon the industry to make every effort to stay COVID-19 secure for the foreseeable future to ensure businesses can continue to operate whilst protecting vital jobs. Without our products Government will struggle to deliver its ambitions for infrastructure and housing."



The posters can be downloaded from www.safequarry.com

