

SUMMER 19 ISSUE 19

mineral

products today

Climate of change Confronting the challenges



Circular economy
Recycling success

Low-carbon innovation
Where there's a will . . .

Grenfell lessons
Learning the hard way

WELCOME

In spite of the worst recession in a generation, three general elections, two referenda and the ensuing chaos as the UK grapples with how to deliver Brexit, the MPA has reached its 10th anniversary in good shape. For me this is unsurprising, as our record membership is made up of resilient businesses – large, medium and small – who plan long-term and learn lessons over the years. If only Government did likewise.

To the cost and frustration of our sector, it seems that our National Infrastructure Plan and pipeline of projects is morphing into a wish list rather than a delivery plan. Businesses, including my own, have invested millions of pounds in new and improved production capacity, such as asphalt and concrete plants, preparing for planned and much needed

energy and transport infrastructure, only to see road investment rephased and slowed, power stations scrapped and even HS2 timelines slip. And whilst the third runway at Heathrow is supported, as yet no planning application has been submitted, let alone granted.

At a time when industry is screaming out for more certainty, it is beyond galling that those projects that can be controlled also fall victim to uncertainty, adding insult to the injury of a stalemate on Brexit. Whilst the UK economy may look satisfactory compared to the global and European economies, annual growth of 1.5% this year and next year is at best 'muted' and well below par compared to our historic average of nearer 2.5%.

Our economy is struggling from low confidence, low investment and low

productivity. There is a danger that just because we are not experiencing recession – and it feels like 'we are ok' – complacency is setting in. This has to be challenged head-on. If we are to be able to protect jobs and living standards, and generate the taxes to fund the public sector, the Government needs to give far greater attention to delivering its own plans for infrastructure improvement, which form as much a part of its manifesto as any other policy area it clings to.

Martin Riley, Chairman, MPA



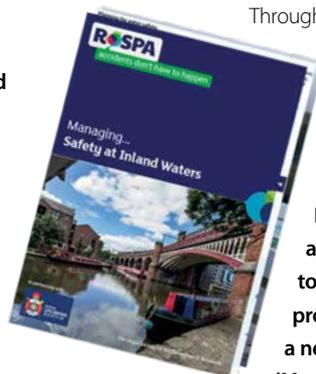
MPA backs new drive to prevent drownings

The MPA is among the key supporters of a new initiative to help manage the risks associated with inland water.

Warm summer weather can make disused quarry lagoons and lakes a tempting destination for many people – especially youngsters – looking to cool off.

The industry goes to great lengths to warn people of the dangers, particularly through its annual Stay Safe campaign. But a lack of awareness of the risks has all too often led to tragedy.

Around 60% of the UK's 1,029 accidental drownings from 2012 to 2017 were at inland water sites. Eight people drowned in quarry lakes in 2018, seven of which were in disused sites not in industry ownership.



Through its involvement with the National Water Safety Forum's (NWSF) Inland Waters Group, the MPA is already a key supporter of the UK's National Drowning Prevention Strategy. **Now, as part of its commitment to water safety, MPA is promoting to its members a new RoSPA publication 'Managing Safety at Inland Waters'.**

Aimed at managers with responsibility for land adjoining inland waters, the publication draws on the expertise and experience of a wide range of organisations, including the MPA and provides guidance on how to manage risks on sites with open water.

Steve Birtles, Chairman of the NWSF Inland Waters Group and Head of Safety Management

at The Broads Authority, said: "The publication has been designed to help landowners and managers learn about best practice and some of the simple measures that they can take to mitigate the risk of drownings, to help them obtain a clearer understanding of the extent of their responsibilities and appreciate the wide range of resources that are available to support them.

"I hope managers will recognise from the various case studies and examples that they will not be alone when working on drowning prevention."

Nigel Jackson said: "MPA and its members support the National Drowning Prevention Strategy. 'Managing Safety at Inland Waters' reflects our belief that drowning prevention will be best achieved by sharing knowledge and expertise, raising public awareness and working with local communities to prevent any further tragic loss of life."

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Aggregates Levy under review

The Government is consulting on the Aggregates Levy as part of the first comprehensive review since its introduction in 2002.

The review will look at whether the Levy's objectives – such as encouraging more recycling – are being met, as well as how well it functions and its suitability in today's context. Reforms will be considered.

In its recent briefing on recycled aggregates, MPA says there's little evidence that the Levy has had any impact on primary aggregates – the growth trend for recycled material began in the mid-1990s and there was no 'jump' in recycled volumes after 2002. At 29%, the UK's percentage of recycled and secondary aggregates is already among the best in Europe and close to the maximum achievable.



And because of the way it was set up, MPA says the Levy fails to support the higher environmental standards it was supposed to encourage, citing that standards have been raised by MPA member companies as part of their 'licence to operate'.

MPA has highlighted the opportunity for the review to recommend the re-establishment of an Aggregates Levy Community Fund which would use around 2.5% of Levy receipts for local community, conservation and biodiversity projects in quarrying areas, generating real benefits for local residents and the environment.

Freight threat flagged

MPA has welcomed an interim report by the National Infrastructure Commission (NIC), highlighting how poor planning can restrict the working of important bulk materials facilities such as river wharves and rail depots.

The NIC's 'Future of Freight' report recognises that the use of rail and water transport could be constrained by inappropriate development next to wharves and depots, such as badly planned and designed housing.

Over 30 million tonnes of aggregates are delivered by rail and river each year – both modes are more sustainable than road freight. Having acknowledged the concern, the NIC is looking at ways to balance the need for housing with the need for wharf and rail capacity.

www.nic.org.uk/publications/3730

Long-term commitment boosts sustainability at sea

A long-standing commitment to improve the sustainability of marine aggregate dredging in British waters has celebrated 20 years of achievements.

The voluntary 'Area Involved' initiative between the British Marine Aggregate Producers Association (BMAPA) and The Crown Estate has vastly reduced dredging areas since 1999, delivering better productivity and creating better conditions for faster, undisturbed recovery of the sea bed.

Over 20 years, the report shows that licenced dredging areas have been reduced by more than 400 sq km. And the annual area of seabed dredged is 60% lower, from well over 200 sq km two decades ago to less than 100 sq km today.

Analysis of dredging activity has been possible by 'black box' electronic monitoring

– developed by both partners – that's a requirement on all vessels in GB licenced areas.

Mark Russell, BMAPA Director, said: "The 'Area Involved' initiative has changed the way that marine aggregate operations are reported, significantly increasing the transparency and accountability of the industry."

Nick Everington, Marine Minerals Portfolio Manager for The Crown Estate, said: "This report demonstrates that The Crown Estate and industry are committed to continual improvement over our management of the seabed and understanding of the marine environment. We look forward to continuing this important partnering initiative to help support the effective and sustainable management of our seabed."

Planning to supply

How can planners help to ensure a reliable supply of minerals? That was the theme of the recent mineral planning conference, hosted by the MPA and the Royal Town Planning Institute (RTPI).

More than 150 delegates from 70 organisations took part in the annual event which explored how effective minerals planning underpins aspirations for housing, jobs and infrastructure.

RTPI Chief Executive Victoria Hills said: "The minerals industry generates £235 billion every year in value added to the UK economy – it underpins much of our national economic activity and is a vital part of a broader industrial strategy."

Nigel Jackson said: "This conference highlights the continuing need for effective, well resourced mineral planning at both strategic and local scales to ensure a steady and adequate supply of essential construction materials can be maintained."

Mental health in mind

MPA was among the supporters of Mental Health Awareness Week 2019, in partnership with construction charity Mates in Mind.

As a 'business champion' for Mates in Mind, MPA helped to launch a new resource pack to its members to enable them to promote positive mental health and help find ways to support those affected. www.matesinmind.org

Less hot air, more action

I am an earth scientist who, in the early seventies, was deeply concerned about the prospect of global warming, has since witnessed the thesis become a reality, and accepts that climate change will get worse unless checked.

I live in the UK, which contributes between 1% and 2% to global greenhouse gas emissions, but can be driven to distraction believing that, provided we play our part, things will get better. At the same time, the top five emission contributors – China, USA, India, Russia and Japan – who account for nearly 60% of the world's greenhouse gases, collectively, get worse faster than we can get better.

Does that mean we give up and don't try? No. It means doing the right thing, leading by example and influencing others. But, if our political leaders can't even unite on something as relatively parochial as Brexit, how on earth are we ever going to deal with climate change?

We shouldn't need any more emotive documentaries, big green speeches, select committee reports, gesturing photo opportunities or celebrity hypocrisy. Showing you know there is a problem is not enough. We have known this has been coming for decades. If it has taken us 30 years just to hear the penny drop, what chance is there that we will meet any of the carbon reduction targets whether 2025, 2030 or even 2050?

We are past the analysis. The priority is mitigation, adaptation and delivering sustainable solutions, just as the UN's Brundtland report 'Our Common Future' concluded as far back as 1987. The imperative is now all the greater, however, as we have wasted too much time on politics and too little responding to sound science.

Our industry has to play its part by delivering sustainable solutions. Mineral resources provide essential materials that are fundamental to our built environment and quality of life. It may sound appealing to stop building homes, schools, hospitals, transport infrastructure and power stations, but it is simply not an option. Adapting to future living

will demand as much – if not more – natural resource, not less. There is an indelible and inevitable environmental footprint that 'being civilised' carries that can't be wished away and should not be exported out of sight and out of mind. The need is real, the demand will occur from the customer and not the industry. Supply cannot be assumed, so how best to meet the demand sustainably?

Our industry has to play its part by delivering sustainable solutions.

Unlike some competing materials, mineral products are locally-sourced with a low-carbon whole-life cost. These must be key factors in assessing the total environmental impact of materials in future. Does it really make any sense to deforest distant countries to ship products across the globe to meet demand for combustible, quick-fix prefab housing whilst seeking to afforest the UK? Are we measuring the true environmental costs on a comparable basis?

In the UK our industry is highly regulated and is known the world over for working to high operational and environmental standards. Through the restoration of quarries we achieve a biodiversity dividend, a 'net gain'. We have planted over 1.5 million trees in the past 10 years, created 9,000 hectares of priority



VIEWPOINT by MPA Chief Executive
Nigel Jackson

habitat with as much again in the pipeline. As subsidised agriculture threatens biodiversity, restored quarries become 'eco-oases' providing sanctuary for wildlife.

We recognise we need to be sustainable, and few industries have a track record as compelling as UK mineral products companies. We also pay a raft of environmental taxes on extraction, emissions and logistics to reflect and reduce our impacts. How many other sectors can say the same? And how many who supply the UK from overseas? From a supply-side economic perspective, one might justifiably ask 'why are we consistently singled out and penalised?'

The fact is that without our products we become less civil, less secure, less likely to lead and influence others for all our benefit. In the UK we carefully plan, we monitor, we measure, and we manage. This is an environmental and behavioural strength – let's recognise it and use it for the competitive advantage of UK plc. One of our greatest assets is our knowledge and expertise.

There is a need to share better evidence, create a more honest reflection, and accelerate meaningful mitigation and adaptation to future living. Government must create the right environment to incentivise transformation and innovation – it is more likely that an enterprise economy will discover and deliver the game-changers than regulation and taxation alone.

Whilst the era of action is 30 years overdue, with an informed sense of urgency we can still move in a positive direction. The mineral products sector continues to rise to the challenge but it is getting harder to do so when other more environmentally damaging and competing sectors – that are neither taxed nor regulated to the same extent – are favoured by shallow analysis and policy bias. If we are all to contribute to 'our common future', there needs to be parity of regulatory and policy treatment across the entire economy.

“Natural capital is one of our most valuable assets...the material resources we use in our daily lives are at the heart of our economy, our society and our way of life. We must not take these for granted.”

HM Government – Our Waste, Our Resources

Circle of life

The conservation of natural resources in a circular economy is an issue rising rapidly up the political and social agenda. Following the launch of the Government’s resources & waste strategy, a study shows the UK is already a world leader when it comes to recycling construction waste.

Britain’s construction industry produces around 120 million tonnes of waste every year, according to the Government’s Construction Sector Deal. That suggests the waste from construction, demolition, road works and excavation is discarded.

But a report by the MPA reveals that far from being ‘waste’, the vast majority is processed for reuse by mineral products and waste management companies. Data from Defra analysed by MPA shows that 76% of that 120 million tonnes is actively recycled or recovered back into the ‘chain of utility’.

The report shows that an impressive 90% of all ‘hard’ construction and demolition (C&D) waste, such as concrete, brick and asphalt, is processed and reused in aggregates

markets – a textbook example of the ‘circular economy’ model that’s at the heart of the Government’s resources and waste strategy, published at the end of 2018.

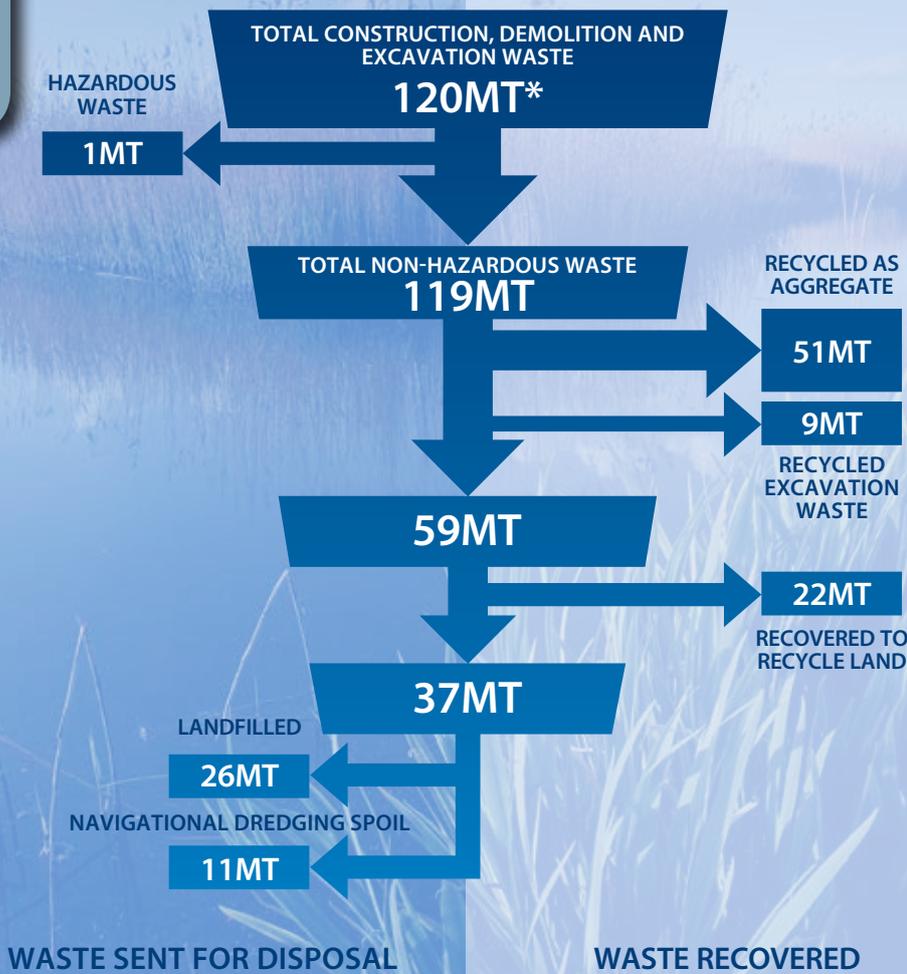


Source: HM Government – Our Waste, Our Resources

“Recent months have seen a new global conversation open up about the environment,” said Mark Russell, MPA’s Executive Director for Planning & Mineral Resources. “Political and societal attitudes are becoming more attuned to concerns about the climate and natural resources.

“The Government’s resources and waste strategy is significant for many reasons, one of which is recognising the need to ensure the security of certain nationally strategic resources, minerals being among them.”

“There’s a growing realisation that the demands we place on natural resources like minerals come at a cost – they cannot be taken for granted. So it is vital to treat both primary and secondary resources with respect, carefully manage how they are sourced and used, and recognise the true value they bring to our economic prosperity – not just their first use value, but also through the wide range of activities in the economy that are enabled by their use.”



access to Britain's ports - plus a million tonnes of hazardous waste which needs specialist treatment - the true volume of construction waste that is sent for disposal annually is closer to 26 million tonnes rather than the 120 million tonnes headline. It's a success story which the industry has barely stopped to reflect on.

Nicola Owen, the MPA's Director of Environment, Water & Waste who carried out the analysis of the Defra data said: "The mineral products industry is proud of its self-sufficiency. The ability to create value by producing useable products from waste is in its DNA. Over many years MPA member companies have invested in product development, processing technologies and infrastructure to ensure recycled and secondary materials can be processed and blended to meet national standards."

If there are feasible ways to extract more value from the remaining 26 million tonnes then MPA members will find them.

"Regulation around the treatment and usage of materials defined as 'waste' remains a complex issue, but if there are feasible ways to extract more value from the remaining 26 million tonnes then MPA members will find them. There's no single answer but there are many examples where companies are devising solutions which are ever more sustainable – environmentally and economically."

And given the potential to increase the amount of excavation waste that's recycled, MPA is calling for more robust data recording and consistent reporting to improve understanding of the current material flows through the national economy.

MPA Chief Executive, Nigel Jackson said: "The need for resources and waste materials to be used more efficiently and effectively has never been so strong. The mineral products sector plays an important role in contributing towards the circular economy – whether recycling concrete and brick to be reused in construction, or making use of soft excavation waste to restore old mineral sites and in turn recycle land."

And it's not just about reusing waste from construction. The UK's mineral products industry is already a net consumer of waste thanks to other materials it sources and re-uses as secondary aggregate where possible. Making up three per cent of the total aggregates market, these include slag from iron and steel making, ash from coal-fired power stations and incinerators, spoil from china clay and slate extraction and even crushed glass from Britain's bottle banks.

The mineral products industry is proud of its self-sufficiency.

Combined, recycled material used as aggregate accounts for almost 30% of the country's total annual demand of 250 million

tonnes. That puts the UK streets ahead of the European average of around 15%, and a global average estimated to be lower still. The Defra data also indicates that virtually all C&D waste suitable for reuse as aggregate is already being processed, so there's little scope for more recycling.

Turning to other construction wastes, the MPA analysis shows that 57% of 'soft' excavation waste (EW) such as soils and clays from groundworks and tunnelling is used in the restoration of land after the mineral has been extracted. That in itself is a part of the circular economy of land use, either returning the land to agriculture or creating new wildlife habitats that can contribute towards national biodiversity targets.

And by excluding the spoil arising from the navigation dredging necessary to maintain safe

Sands of time

Growing media attention culminating in a new United Nations report on the global impact of sand extraction has prompted the MPA to produce its own briefing from the UK's perspective.

There has been increasing attention on the world's demand for sand and gravel, the potential for shortages and the consequences of unregulated extraction, as the link is made between the desire for homes and infrastructure and the pressures this can place on mineral resources.

So the MPA has produced a briefing designed to complement a new UN report in which Joyce Msuya, of the UN Environment Programme writes: "We now find ourselves in the position where the needs and expectations of our societies cannot be met without improved governance of global sand resources."



Recognising sand and gravel as a 'critical resource', the UN report says that global demand has grown three-fold in the past two decades and now stands at 40 to 50 billion tonnes per year. It says that lack of regulation in aggregates extraction – especially from rivers – in some parts of the world has led to dire consequences, citing examples of irresponsible and illegal practices which are having a devastating impact on local people, habitats and biodiversity.

The UK has robust regulatory systems and high industry operating standards.

Acknowledging these global issues, the MPA's report explains that the UK has robust regulatory systems and high industry operating standards, which enable the responsible delivery of aggregates from both primary and secondary sources. It clarifies that the UK is not running out of sand and construction aggregates.

Key points in the MPA briefing include:

- Demand remains high for aggregates and other mineral products such as concrete and asphalt which rely on aggregates, because these materials are essential to provide safe, resilient and sustainable housing and infrastructure.
- Sand is also extracted and used for a range of high-quality other uses such as glass manufacturing.
- Population growth, greater affluence and more urbanisation are driving increases in global demand for mineral resources including sand and other aggregates.
- In some parts of the world, regulation of natural resources is inadequate and can be associated with illegal extraction and environmental damage.
- There's a global need for resource-efficient development, together with the implementation of effective regulations for sustainable construction and supply of minerals/natural resources.

- Greater transparency is needed around natural resource industries along with the revenue flows from their activities. The Extractive Industries Transparency Initiative (EITI) is designed to do just that and create a platform for debate about the governance.

Mark Russell, MPA's Executive Director for Planning & Mineral Resources said: "The UN report makes the link between the demand for construction materials alongside the implications of global sand supply if society's needs are not supported by sustainable, well-managed supply chains.

The challenge is how to translate the UK's learning to other parts of the world.

"In the UK, industry and regulatory standards have evolved to provide a sustainable supply of aggregates but we must not be complacent about the need to maintain these standards in the future. Mineral extraction in the UK has some excellent examples of global good practice. The challenge is how to translate the learning and benefits from these to other parts of the world."

40bn

Global demand for sand is more than 40bn tonnes and is expected to grow



Where there's a will...



The mineral products industry has a long history of innovation. And with climate change climbing the global agenda, research into reducing the carbon impact of cement is showing ever-more promising signs.

From the sourcing of alternative raw materials and harnessing renewable energies, to optimising the manufacturing process and transforming the way products perform, there is no shortage of creative solutions in the mineral products sector. Even small refinements can be significant, and collectively they have a huge positive impact.

Yet despite the best efforts of the industry, innovations often appear to be marginal, reserved for one-off landmark projects celebrated for their novelty. So why is it so hard to push innovation into the mainstream?

The barriers are complex, yet they rarely come from within the industry, but from our customer – UK construction – and its regulators. Most developers understandably depend on tried and tested materials with a long history of good

performance. This is, of course, important for maintaining high standards and producing structures that are safe and fit for purpose, as well as controlling costs and reducing exposure to potential risk.

To increase confidence in the use of new materials, rigorous testing and field evidence is needed to influence the relevant standards and guidance that underpin decision-making. That takes time, money and persistence on the part of the industry, with no guarantee of success.

The industry is pushing innovations in carbon reduction to the next level.

Undeterred, mineral products companies are steadily breaking new ground – in some cases over many years – to encourage customers to adapt their thinking and adopt innovations.

Take concrete, for example. No other product on earth can match it for performance, versatility and availability. And The Concrete Centre's 'This is Concrete - Ten Years, Ten Insights' publication 2018 highlights that countless innovations have collectively achieved a 28% reduction in the embodied carbon of concrete since 1990.

Now the industry is pushing innovations in carbon reduction to the next level to drive another step change in the carbon impact of concrete. Here are just two examples of innovations designed to reduce the embodied carbon in concrete which could be coming to the market soon.



MULTI-COMPONENT CEMENT

The CO₂ in primary cement is commonly reduced by substituting a percentage of a secondary component, such as fly ash (a waste from coal-fired power stations) or blast furnace slag (a by-product from iron and steel manufacture). But companies are always looking for ways to optimise the use of such replacements to extend the performance and availability of low-carbon concretes.

MPA Cement and its research partners have identified that the cementitious properties of ground limestone could also be harnessed to make new lower carbon 'multi-component' cements, i.e. cements with more than one additional component.

The unique chemical and physical synergy that occurs in certain multi-component combinations can be seen to lead to better material efficiency and therefore higher rates of substitution. Early indications suggest there could be CO₂ emissions savings of around eight per cent across

the UK cement industry, with some multi-component products having emissions profiles up to 40% lower than conventional cement.

Some multicomponent products have emissions profiles up to 40% lower than conventional cement.

So with funding from the Department for Business Energy & Industrial Strategy's Industrial Energy Efficiency Accelerator (IEEA) the MPA is spearheading a project with Hanson Cement, Forterra Building Products and the Building Research Establishment to develop new lower-carbon multi-component cements by demonstrating that they are fit for purpose in a wide range of UK concrete applications.

Steps in the development process include (1) optimising the design of

multi-component cements; (2) validation testing in a range of concrete applications; (3) engaging with BSI so revisions to UK concrete standards are considered; (4) demonstrating that the cements are suitable for full-scale production through the successful design and manufacture of precast retaining wall structures.

Director of MPA Cement Dr Richard Leese said: "The IEEA is doing exactly what is intended in this project. It has led to early engagement with industry and BSI and will accelerate the route to market of low-carbon multi-component cements that are new to the UK.

"The research, testing and demonstration will provide crucial evidence and assurance for architects, specifiers and engineers to confidently use these new low carbon cements to deliver the Government's plans for low carbon schools, housing and infrastructure."

CARBON-STORING CONCRETE

After investing heavily in research, a US-based company has launched a radically reformulated cement and concrete process which has the potential to reduce CO₂ by up to 70%. Made by Solidia Technologies, the product has already been tested and produced in the UK at a plant operated by their European partner Lafarge Holcim.

"We have reformulated cement so that it contains less calcium," said Solidia's Chief Technical Officer, Nicholas DeCristofaro. "This reduces CO₂ emissions at the cement kiln – both because less CO₂ is released from the decomposition of calcium carbonate during clinkering and the cement can be produced at lower temperatures, so less energy is required."

Solidia's cement is non-hydraulic, meaning it does not react with water. "Portland cement-based concrete reacts with water to produce calcium silicon hydrate – the glue that binds it together," says Nicholas. "But concrete that uses our low-calcium

cement is bound together by calcium silicon carbonate after being activated by the addition of warm CO₂ gas."



By activating the mix with CO₂ recovered from industrial processes (potentially including cement manufacture itself) it is incorporated permanently into the concrete. This means the carbon footprint of the end product is reduced to around 30% of traditional concrete.

If CO₂-cured concrete succeeds in gaining commercial traction, it could be used to bind up large quantities of CO₂. Initially,

though, Solidia is likely to be confined to relatively simple, non-structural precast products.

"Existing plants can handle most of the new process. The concrete is still mixed with water in order to provide the flow properties it requires. The only difference is that after being mixed, the concrete is arranged in blocks and placed into airtight tanks a little like transport containers. The CO₂ is then pumped in, causing the concrete to set."

The concrete has other advantages too – it reaches full strength within 24 hours – unlike traditional precast which can take longer. And there's less need for mixers to be cleaned out as no concrete hardens within them. It is not yet clear whether these benefits could deliver financial savings that compensate for the additional cost of adding CO₂ but that will become clearer following the roll-out of the product, planned for later this year.

"It is encouraging that those in control of the purse strings have acknowledged that long-term underinvestment has taken its toll on the network, leading to a rising bill to put it right."

AIA Chairman, Rick Green

A I CAUSE FOR alarm

After more than two decades of declining investment in road maintenance, are we actually seeing a turnaround? The latest ALARM survey suggests there are some signs of improvement, but the case for long-term investment remains as strong as ever.

2019's Annual Local Authority Road Maintenance (ALARM) survey reports an overall increase in local authority highway maintenance budgets for the second year in succession, and points to some small signs that the investment is helping to stem the decline in local road conditions.

Now in its 24th year, the independent survey is carried out by the Asphalt Industry Alliance (AIA) – a partnership between the MPA and Eurobitume UK – and is a leading source of evidence in the campaign for greater investment in road maintenance.

ALARM aims to take a snapshot of the general condition of the local road network in England and Wales, based on information provided directly by those responsible for its maintenance. The data received from local authorities provides a means of tracking any improvement or deterioration while qualitative feedback provides detailed context.

Organisations including the AA, RAC, Cycling UK and Local Government Authority have all shown a keen interest in the survey.

Commenting on this year's findings, Edmund King OBE, President of the AA, said: "The ALARM survey suggests that the country is beginning to find its way out of the rut. Increased funding and a milder winter presents an opportunity to begin to catch up on the backlog – but any slackening off will simply pitch our roads back into a deep hole."

The ALARM survey suggests that the country is beginning to find its way out of the rut.

AIA Chairman Rick Green said: "It is encouraging that those in control of the purse strings have acknowledged that long-term underinvestment has taken its toll on the network, leading to a rising bill to put it right. More importantly, they have recognised the value that additional expenditure on roads can deliver.

"It is, of course, a long journey from slowing decline to improving the overall condition and resilience of the network and this

additional investment could go to waste if it is not continued. So, our message is: don't stop now!"

For councils across England and in London, this included a share of £420 million additional funding allocated in the Government's Autumn 2018 Budget.

Long-term underinvestment has taken its toll on the network, leading to a rising bill to put it right.

However, this masks a big discrepancy between the haves and the have-nots, with some authorities receiving highway maintenance pots equivalent to more than £90,000 per mile of their individual networks, while many continue to struggle with reduced budgets, with several having less than £9,000 per mile to maintain their local roads.

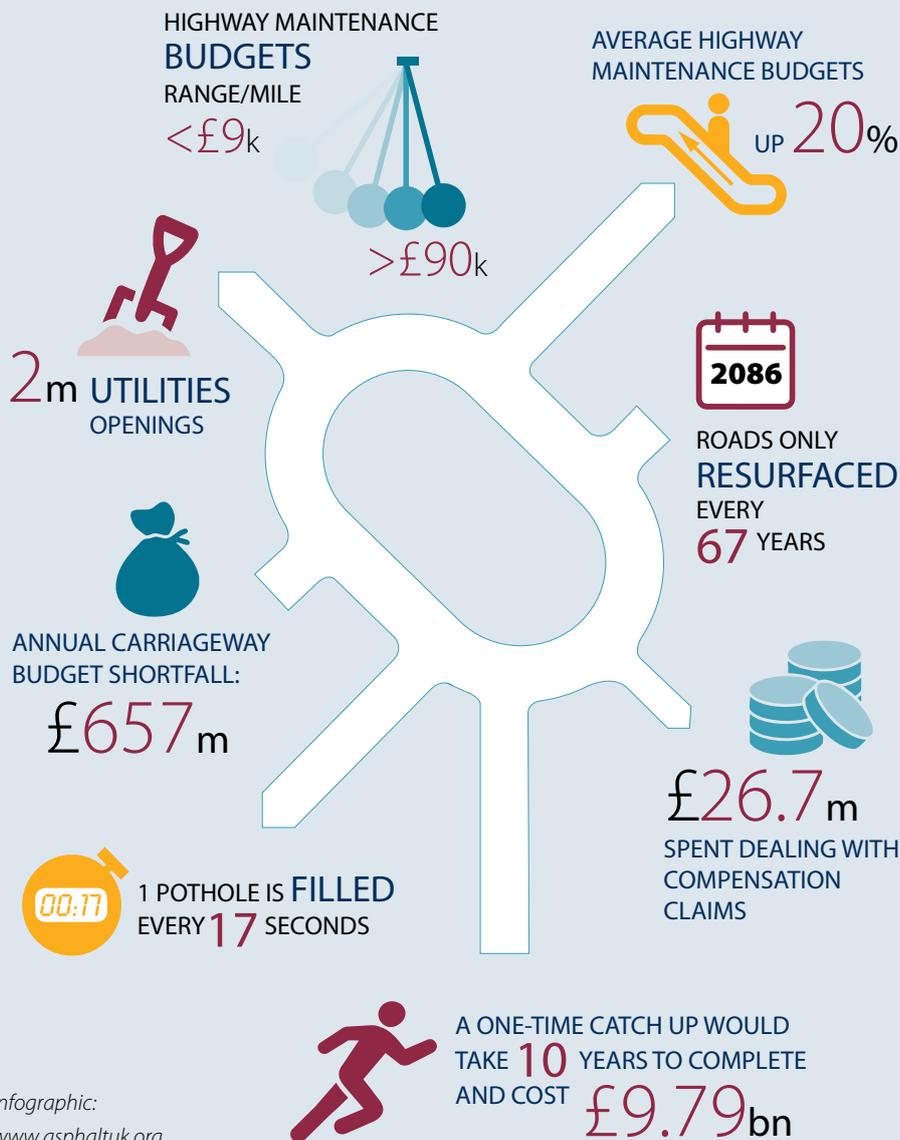
ALARM also shows that the shortfall in the total highway maintenance budget has grown and the gap between what local authority highway teams report they receive and the amount they need to halt further decline of the carriageway is £657 million (£556 million in ALARM 2018): an average of £3.9 million per authority. In addition, the survey findings indicate it would take 10 years and cost £9.8 billion – or more than £58 million per authority – to address this shortfall and carry out a one-time catch-up to bring the network up to a steady state.

Rick explained that while more money was going into local road maintenance, the 29% increase in the number of potholes filled showed the cash has been used for 'patch and mend', which does not provide value for money and does nothing to improve the underlying structure and resilience of our roads.

"Last year we called for an additional £1.5 billion of funding (directed from funds raised via fuel duty and vehicle excise duty) to be made available for local roads each year for the next 10 years and we stand by this," he continued. "That would provide enough funding to address the reported shortfall, which is the amount needed as an absolute minimum just to meet current target

conditions and halt further deterioration, with the rest allowing local authorities to tackle the backlog.

"The findings from this year's ALARM survey support the need for this long-term approach to allow local authorities to maximise the effectiveness of their asset management plans and deliver enhanced mobility, connectivity and productivity."



Infographic:
www.asphaltuk.org



Learning the HARD WAY

Two years since the Grenfell Tower fire, do the latest changes to building regulations go far enough to prevent another tragedy?

The devastating fire which started in Grenfell Tower on 14th June 2017 spread rapidly via the now-infamous external cladding, exacerbated by the failure of fire safety features. One of the first studies was an Independent Review into Building Regulations, led by Dame Judith Hackitt.

Hackitt made over 50 recommendations, prompting the Government to update the UK building regs. Now that the changes are published, many are asking how they address the recommendations in the Hackitt report. Among those questioning the new regulations is The Concrete Centre,

example of government's decision to ban combustible materials in the external walls of residential buildings above 18 metres, which had a mixed response from participants, not least because it is highly prescriptive, contrary to Dame Judith's call to reduce regulatory prescription.

The ban on combustible materials in external walls does have a list of exceptions, but this is proving hard to interpret. Whilst the use of cross-laminated timber structure in these walls is clearly banned, some interpretations imply that above 18m glass balustrades are no longer permitted.

while not adopting the same approach for its structural integrity," said Claire. "If the Government is truly committed to reducing fire risk then the regulations need to go further."

With the growth of modular, off-site construction methods, several participants at the roundtable event expressed concern about the increasing difficulty in making sure new buildings are safe from fire. There are fears about factory-made modules because of the potential for fire within the voids between them – a situation made worse if combustibles are present.

The non-combustible nature of concrete will mean it continues to be the low-risk, safe solution.

Attendees noted the disconnect between the drive for prefabricated construction, and the desire for greater safety. An issue compounded by Government targets to create more homes, pushing developers towards high-rise construction, particularly in London, where more than 500 towers of 20 storeys or higher are in the pipeline.

One area where participants were in full agreement was the need to ensure fire safety and material choice is a design consideration from the outset.

To help achieve this, Hackitt outlines process changes for residential projects of 10 storeys and above, including the setting up of 'Joint Competent Authority' (JCA). Drawing on the combined expertise of building control, fire & rescue service, and the HSE, the JCA would oversee regulatory approvals. The government is due to consult on the JCA imminently.

The issue of accountability is a key theme of the Hackitt report, which recommends clearer responsibility for meeting the regulations. Tough sanctions for those that flout the rules are also suggested.

Whatever the form of regulation change in fire safety, the non-combustible nature of concrete, combined with its well-researched fire performance, means that it will continue to be the low risk, safe solution.

which hosted a gathering of senior figures from the built environment to explore the issues and implications.

"While there was broad support among delegates for the principles outlined in Hackitt's report, it was clear that delivering the proposals will be both difficult and divisive," said Claire Ackerman, Director of The Concrete Centre. She cites the

Controversially, the same materials ban does not extend to a building's structure. Contrast this with Scotland where regulations already require fire-separating elements and structures, in high-rise domestic buildings, to be of non-combustible materials.

"It seems paradoxical to ban combustible materials from a building's outer walls



The Concrete Centre – part of the MPA – provides material, design and construction guidance. Its aim is to enable all those involved in the design, use and performance of concrete to realise the potential of the material. For further information visit www.concretecentre.com.

Common perception may be that Britain's mineral products are destined for local markets. But industrial lime continues to buck the trend – with exports more than doubling since 2009 – making UK lime important as both a local and global commodity.



Lime travellers

Exports from members of the British Lime Association (BLA) – part of the MPA – reached new heights in 2018, exceeding 300,000 tonnes.

This is more than double the exports during the recession (around 140,000 tonnes in 2009) and accounts for over a quarter of the UK's total lime output. But this massive increase represents more than just bounce-back – it's a real increase in export market share, exceeding pre-recession levels by around 40%. And BLA estimates that the 2018 exports added more than £3 million to the UK economy.

Lime will continue to make an important contribution to the national economy.

UK lime exports are both high-calcium lime, mainly destined for chemical markets, and dolomitic lime, used in steel making and manufacturing refractory products. Andy Jackson, Industrial Director North for Lhoist, a significant exporter of UK lime products, said: "These figures prove that it's a fallacy that 'lime doesn't travel'! We ship lime and dolomitic lime worldwide, maintaining quality and safe handling. The international opportunities are out there for the high quality, consistent products that we manufacture in the UK."

Markets for the 300,000 tonnes of lime products exported in 2018 were as far-flung as South East Asia and Africa, as well as within the EU. Since 2009, lime exports have grown by 113%, indicating UK lime's increasing global importance. Furthermore, many materials that use lime in manufacturing, such as steel, are also internationally traded and therefore lime has both direct and indirect value to the UK.

"Lime is a fundamental but often unseen ingredient for many key industries," said Rebecca Hooper, Manager of the BLA. "Not only does it help the construction and manufacturing industries optimise their products, but it also supports the drinking water, food and farming sectors with its versatile and unique characteristics. It is the only mineral product that can be used to produce steel and sugar on the same day!"

"Lime is a strategically important product for the UK. There is a secure and long-term supply of its raw material readily available, which can ensure UK supply and demand is self-sufficient. But as a result of its export performance and potential, it will continue to make an important contribution to the national economy."

Industries supported by Lime

-  Construction
-  Iron & Steel
-  Aluminium
-  Paper products
-  Glass making
-  Plastics
-  Pharmaceuticals
-  Water treatment
-  Emissions control
-  Agriculture
-  Food production

For more information visit:
www.britishlime.org

300,000

tonnes of lime are exported
by the UK every year

WILDLIFE

Wetland wildlife haven from gravel extraction

What was once a working quarry in North Yorkshire has been transformed into a stunning new wildlife haven that has just opened its doors to the public.

Aggregate Industries worked with Yorkshire Wildlife Trust and Middlemarch Environmental to create a diverse mosaic of wetland habitats at their Ripon City Quarry.

The canal reedbeds were specifically designed with the maximum amount of reedbed edge for feeding bitterns, and the fen meadow

that runs alongside was made by spreading green hay and hand-collected seeds from the nearby Staveley Nature Reserve. A wide variety of wildflowers and plants are expected to flourish and create the perfect environment for a variety of insects.

Guy Edwards, Chief Executive Officer at Aggregate Industries, said: "We are delighted that our quarry has been turned into such a significant place for wildlife. Sustainability and biodiversity are of the utmost importance, and

within that comes the beneficial restoration of sites to benefit the local community and the environment."



ECONOMY

Cement works' huge economic benefit

An independent report on the economic impact of one of the UK's largest cement works has shown it contributes £53 million to its local economy.

The economic impact assessment was commissioned by Breedon for its cement works at Hope in the Peak District National Park (pictured). The works employs over 200 people directly – half of whom live within the park – and creates jobs for a further 60 people. The £53 million contribution to the local economy is nearly 7% of the Park's total economic output.

In a region with a long-established mineral and aggregates industry, Hope cement works

accounts for around 15% of UK cement production, which is currently running at almost 10 million tonnes per annum.

Ed Cavanagh, works manager at the Hope site, said: "We're very proud of the part we play in the lives and employment of people in the Peak District National Park."

More than half the cement made at Hope is transported in bulk by rail to depots in the South East (Dagenham and Reading), West Midlands (Walsall) and North of England (Dewsbury), ensuring the product is delivered as sustainably as possible.



COMMUNITY

Outdoor learning success story

Shropshire primary school children have been making the most of a unique learning opportunity with a local quarry company.

Tudor Griffiths Group has joined forces with Shropshire Wildlife Trust to offer a range of outdoor lessons for local youngsters at their Ellesmere quarry.

The company's Managing Director Tudor Griffiths, said: "It's always wonderful to see the children in their hard hats and hi-vis jackets on site. As well as a guided trailer tour of our quarry, they visit the purpose-built geology station to learn about the formation of rocks and fossils. They also get to see where sand and gravel is removed and how it is processed, and we offer a visit to our landfill and recycling facility too."

Ellie Larkham of Shropshire Wildlife Trust said: "Our aim is to deliver inspiring, practical, outdoor sessions that will inspire the children, and the visits to Tudor Griffiths Group are particularly successful. It's generous of them to allow our groups onto the site to help make rocks fun, and give children the chance to follow the journey our rubbish takes after we put it out for the recycling lorry."

HERITAGE

Air-raising renovation!

Stone from Hanson's Ingleton quarry in North Yorkshire has been airlifted by helicopter as part of the renovation of a key footpath on Whernside – the highest of Yorkshire's three peaks.

Rangers from the Yorkshire Dales National Park Authority selected 130 tonnes of greywacke gritstone for the three-day airlift to the Bruntscar path which is used by 60,000 walkers a year.



TRANSPORT

River freight removes road miles

Investment in two River Thames aggregates wharves by the Port of London Authority (PLA) and MPA member companies will help to eliminate thousands of lorry miles.

In Silvertown near London City Airport, a partnership between the PLA and the Brett Group has brought a commercial wharf back into use to import sand and gravel from Kent to where it is needed for construction in London.

To further reduce vehicle movements to and from the site, Brett has opened a ready-mixed concrete plant at the same location as part of its Capital Concrete business. The first shipment of sand was delivered to the new wharf in May 2019 (pictured).

Further down the Thames at Northfleet, the PLA's investment plan has enabled a major upgrade to a marine aggregates wharf in partnership with CEMEX.

The new wharf will allow sea-dredged marine aggregates to be unloaded and processed

more efficiently before it is then transported into the London construction market.

Marine Director for CEMEX, Kurt Cowdrey comments "The capital needs approximately 10 million tonnes of sand, gravel and crushed rock every year to build, maintain and improve housing, buildings and infrastructure. The use of water to transport building materials to the heart of the city reduces the need for long distance lorry movements, with every dredger reducing the need for 250 lorries on our busy roads."

The PLA's investment plan is designed to sustain or increase port trade and river use, generate commercial returns and improve the environment.



RESTORATION

BBC showcases former quarry

A Hertfordshire quarry was recently featured on BBC One's Countryfile thanks to the abundance of wildlife resulting from quarry restoration and good husbandry.

Easter Sunday's episode of Countryfile came from Tarmac's Panshanger Park, which has been quarried then progressively restored since the 1990s, with mineral extraction recently completed. The park is managed in partnership with Herts & Middlesex Wildlife Trust and landscape company Maydencroft.

Countryfile presenter Matt Baker discussed the restoration work with Tarmac Estates Manager, Michael Charlton, who explained how the habitats had been created and enhanced through careful management of the park, which includes five lakes and a new stretch of rare chalk river.

CAREERS

Quarry industry apprenticeship first

A Wiltshire quarry operative has become the first in the country to complete the Level 2 Mineral Processing Mobile and Static Plant Operator Apprenticeship.

Aidan Jeffreys of Hills Quarry Products' Shorncote Quarry near Cirencester began his apprenticeship programme in September 2017 and received the good news of successful completion earlier this year.

The programme was designed and delivered by Mentor Training Solutions to meet

the requirements of the apprenticeship standard and assessment plan developed by the industry and the Mineral Products Qualifications Council's standard-setting organisation MP Futures. It is just one of a wide range of apprenticeships and qualifications available to those working in the industry.



QUALIFIED: Mike Hill, Chief Executive of the Hills Group congratulates Aidan Jeffreys on the successful completion of his apprenticeship, joined by Peter Andrew, Group Director of Hills Quarry Products.



• ANOTHER Dimension

Is the 'small scale' perception of dimension stone stifling the sector?

The UK has a long and proud tradition of building with dimension stone. Historic city centres and heritage landmarks are made of indigenous rock hewn from quarries, usually local but often further afield.

The diversity of the UK's geology means the country is blessed with a variety of stone for building which has been used in a multitude of ways over the centuries and continues to be used to this day.

Indeed, the dimension stone market remains buoyant as architects, designers and developers seek to reflect a classic look and feel in the modern structures and landscapes, not to mention interiors. But in too many cases specifiers overlook the stone manufactured at more than 300 quarries around the UK and look to distant sources like India and China.

The diversity of the UK's geology means the country is blessed with a variety of stone for building.

"Transporting stone from elsewhere in the world raises questions around sustainability and workforce safety," said Mark North, MPA's Director of Planning – Aggregates and Production and Dimension Stone. "Using indigenous resources minimises the

distance they have to be transported, has a lower carbon footprint, and ensures they are produced to the highest standards."

While dimension stone represents a fraction of the total mineral products market, more than one million tonnes is produced in the UK each year. Yet for too long there's been a perception that this is a 'small scale' cottage industry – an image that's stifling the development and competitiveness of British dimension stone. One of the reasons for this derives from the National Planning Policy Framework (NPPF).

"The NPPF says that dimension stone quarries are often small scale and basically implies they only exist to supply material for repairs to local heritage assets," continued Mark. "Because 'small scale' hasn't been clearly defined, we believe that many mineral planning authorities are misinterpreting it in a way which restricts growth and threatens the viability of the sector."

In a push to qualify the 'small scale' tag, the MPA submitted suggested changes to the Minerals Planning Practice Guidance that supports the NPPF, reinforcing the point that dimension stone quarries can also be larger-scale, and can supply more distant markets nationally and even internationally. "Essentially, planning policies should not restrict the ability of dimension stone companies to grow their quarry operations, production outputs or the markets they supply, and it is perverse

to do so especially in a climate where British stone is receiving international recognition, with exports increasing as discerning clients worldwide want British stone. They cannot survive commercially waiting for work from the heritage market alone."

The MPA is waiting to see if the Ministry of Housing, Communities and Local Government – which is responsible for NPPF – reacts favourably to the suggested change in approach for dimension stone. So in the meantime, it is calling on individual mineral planning authorities to adopt a more flexible approach.

"Building stone is specialised but it's not only reserved for local 'historic' purposes like repairs and conservation work," added Mark. "Operators should be able – indeed encouraged – to invest in their businesses and develop into new-build markets and contribute to place making. The UK's dimension stone market struggles to compete with proverbial 'cheap imports'. This change would be a long-overdue step towards levelling the playing field."

>1Mt

**of building stone produced
in the UK each year**