UK Concrete and Cement Industry Roadmap to Beyond Net Zero

Progress report 2025

mpa UK Concrete






Contents

UK concrete, both ready-mixed and precast, is produced from around

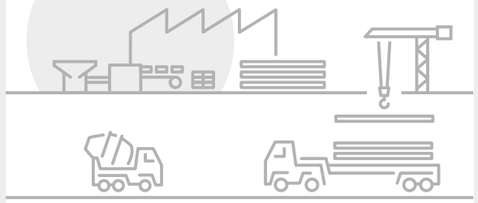
1,000

sites nationwide

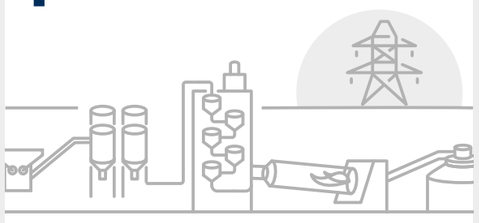
Mineral products industry employs over

89,000

people and supports a further **3.2 million jobs across the UK**



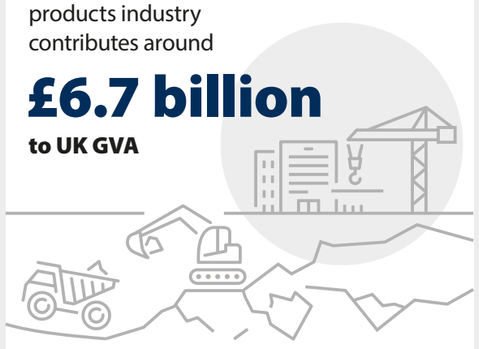
10 UK cement plants



Combined mineral products industry contributes around

£6.7 billion

to UK GVA



Foreword

Concrete and the cement used to make it are essential materials for our economy and way of life.

Over 90 million tonnes of concrete is consumed in a typical year in the UK. The industry is vital to the UK Government's growth missions. Without these materials, the Government's goals – 1.5 million new homes, major transport projects, nuclear expansion, floating offshore wind farms – can't happen.

Concrete and cement are the backbone of resilience and progress, from national security to climate adaptation. Together they build our homes, fortify flood defences, strengthen military infrastructure, and keep our essential transport and utility networks and our buildings standing.

This document provides a progress update against the 2020 UK concrete and cement industry roadmap to beyond net zero. It outlines the sector's trajectory to 2050 and re-iterates the critical cross-industry and Government packages of policy required to support this transition.

Positive progress has been made by the sector achieving an emissions reduction of 63% between 1990 and 2023, and advancing next generation technologies in carbon capture use and storage.

However, the political and economic landscape has changed considerably since our first roadmap was published. In this time, deindustrialisation has continued at pace across the UK economy.

Energy-intensive industries including the cement sector are grappling with the highest industrial electricity prices in the world and uneven carbon costs.

Cement imports from overseas have significantly increased in this period, further jeopardising jobs in our sector and increasing carbon leakage – offshoring carbon dioxide (CO_2) and moving responsibility for emissions abroad.

The transition to net zero must retain jobs, economic value and a secure domestic supply of essential materials in the UK and not be achieved through deindustrialisation.

The UK can have a thriving heavy industry and progress its net zero goal. The opportunity to use carbon capture, usage and storage (CCUS) is therefore critical to this mission but can also safeguard essential manufacturing jobs and boost national Gross Value Added (GVA).

The task of deeper decarbonisation gets harder and more complex as we progress. The scale of investment increases and with it the exposure to international competition. Government intervention and new domestic policies are urgently needed to create and retain green manufacturing jobs in our industry.

Delivering progress: UK concrete and cement emissions

Early action by the UK concrete and cement industry and changing production levels have resulted in emissions being 63% lower in 2023 than 1990.

UK concrete and cement currently account for around 1.5% of UK CO_2 emissions, five times lower than the global average where cement accounts for around 7% of emissions.

UK CO_2 emissions from concrete and cement were 6.6 million tonnes in 2023 – a 21% reduction on the 2018 baseline reported in our last roadmap.

UK cement manufacturers have already invested hundreds of millions of pounds in decarbonisation by:

- adopting the latest available technology;
- achieving greater energy efficiency;
- developing lower carbon cements and concretes, for example, by partially replacing clinker with lower carbon cementitious materials;
- switching from traditional fossil fuels such as coal and petcoke to the use of waste, including waste biomass fuels.

These alternative fuels now account for 54% of the thermal input required to produce clinker, replacing the equivalent of over half a million tonnes of coal every year.

An additional contributory factor has been an 18% reduction in UK cement production between 2018 and 2023 and an increase in imports which now account for 32.4% of the domestic market compared to 22.1% in 2018.

1.55 million tonnes of CO_2 has also been absorbed from the atmosphere through carbonation.

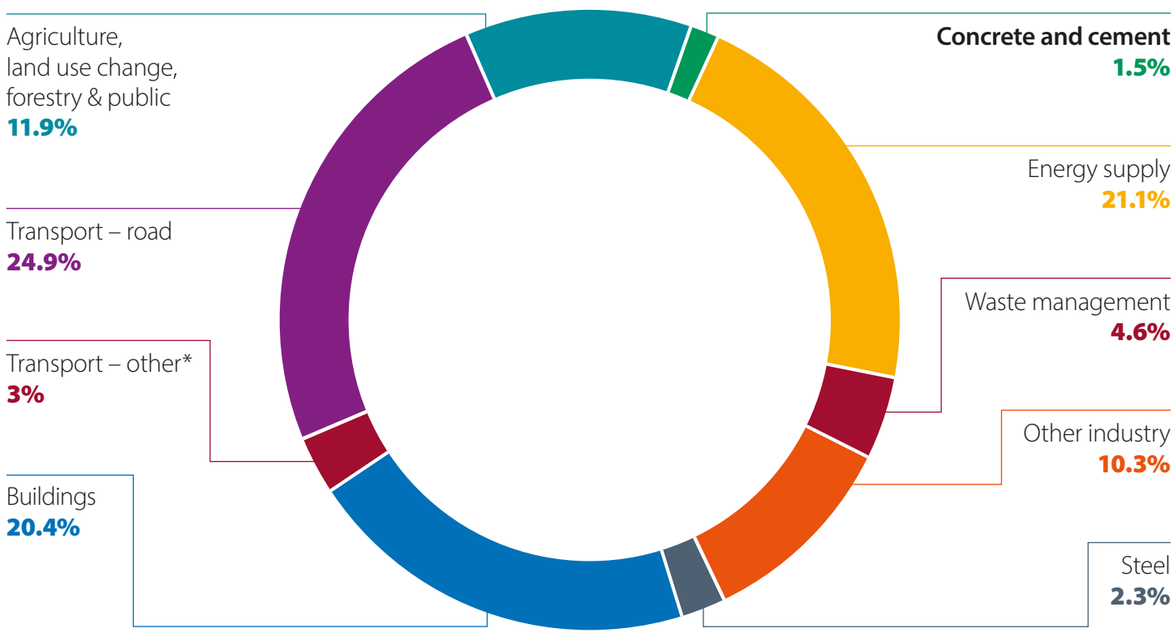
Net zero concrete is achievable with some technological, structural and behavioural changes by Government, our industry, clients and specifiers of construction materials across buildings and infrastructure.

What is concrete?

Concrete is a mix of aggregates, cement and water. The principal ingredient in cement is clinker.

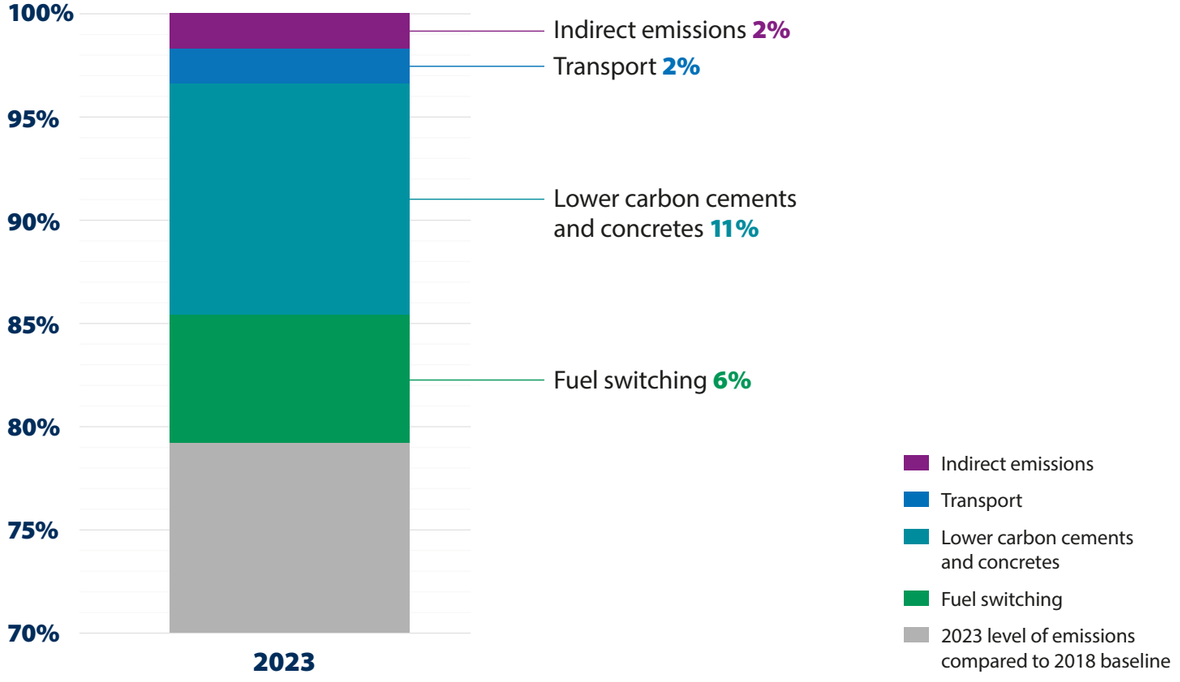
Clinker production is the main source of CO_2 emissions in concrete and cement. These arise from the combustion of fuels in the kiln and from 'process emissions' which are a by-product of the chemical reaction that makes clinker. This makes decarbonisation more challenging than simply switching fuel sources, which is the only option needed for many other industries.

Sector contributions to 2022 UK greenhouse gas emissions



* Transport - other: ship, aviation, NRMM and military

Transition progress: 2023 emissions reductions achieved by decarbonisation lever



Our roadmap explained

While the UK Government is aiming for net zero by 2050, the concrete and cement sector is aiming to go beyond net zero and become net negative, removing more CO_2 from the atmosphere than it emits each year.

Our roadmap draws on input from all major UK concrete and cement manufacturers.

The roadmap is based on a comprehensive review of the opportunities to decarbonise and a robust net zero model developed by the Mineral Products Association (MPA) using reliable references and industry expertise.

Importantly, this model does not rely upon carbon offsetting but demonstrates a pathway to beyond net zero through the application of a range of deployable technologies.

In our roadmap, we optimise the application of existing and emerging manufacturing technologies focusing first on energy efficiency, fuel switching, lower carbon cements and concretes, before applying carbon capture, use or storage (CCUS) to deliver net zero.

This roadmap is not intended as a lifecycle assessment, but it does include some of the unique whole-life performance credentials of concrete, in use and at end of life. This notably includes carbonation (the ability for concrete to absorb CO_2), and the benefit of using the thermal properties of concrete in buildings to reduce operational emissions.

Accounting for the carbon reduction of natural carbonation enables concrete and cement to deliver beyond net zero and become net negative.

Concrete's sustainability credentials

In addition to the significant efforts to reduce carbon emissions, the concrete and cement industry has made significant progress in other areas to enhance its sustainability credentials:

- Concrete is a locally produced material with an established, national supply chain – the average delivery distance for ready-mixed concrete is only 12km.
- Over 90% of the materials used to produce UK concrete are sourced in the UK. By comparison, only 20% of timber and 32% of steel are produced in the UK.
- Over 90% of UK concrete is certified as 'very good' or 'excellent' by the 'BES 6001 Responsible Sourcing of Construction Products' framework.
- Concrete is 100 per cent recyclable, contributing to the circular economy. Almost none goes to landfill and 90% of hard construction and demolition waste is recycled as aggregates. Furthermore, the concrete industry is a net consumer of waste, using over 200 times more waste and by-products from other industries than the waste it sends to landfill.
- The industry is a responsible landowner, working closely with bodies including Natural England, the Wildlife Trusts and the RSPB to enhance biodiversity. Between 2009 and 2019 MPA members planted 1.5 million trees and 100km of hedgerows and have created 8,000 hectares of priority habitats.

Assumptions

As with all roadmaps for complex and specific industries, we have made a number of considered assumptions in our model for 2050.

The 2023 progress shown is based on production of 7.5 million tonnes cementitious materials and 88 million tonnes concrete production.

- The electricity grid will be almost decarbonised by 2050.
- Transport will be almost decarbonised by 2050.
- There will be sufficient zero carbon fuels including biomass waste and hydrogen for cement production and these will be fully maximised by 2040.
- Carbon capture for cement production is technologically deployable. The UK has appropriate infrastructure for CO_2 transport, storage and utilisation for the first cement site by the end of this decade, for the Peak Cluster in the 2030s and for the majority of dispersed sites by 2040 and the remainder by 2050.
- Product and design standards allow for lower carbon cement formulations and these are fully adopted by 2030 by the UK market.
- Concrete naturally absorbs CO_2 throughout its lifetime, effectively acting as a carbon sink, due to a process known as carbonation. Since the publication of our first roadmap in 2020, the rate of carbonation in the UK has been calculated and equates in 2023 to 1.55 million tonnes. This CO_2 sink has been included for the first time in the UK Greenhouse Gas Inventory report that the UK submits under the United Nations Framework Convention on Climate Change
- The use of concrete's thermal mass properties can reduce the energy required for heating and cooling buildings. This energy reduction provides an indirect CO_2 saving until energy supply is fully decarbonised.
- MPA calculations show that in 2018 thermal mass had the potential to result in a 0.26% year on year saving of UK electricity consumption. The building stock expected to be in use without the need for air conditioning will have increased by 2050. Therefore, by 2050 the cumulative estimated saving will have grown to 14% of 2050 electricity consumption.

Not included in the model

- The model illustrates a potential pathway for the decarbonisation of UK manufactured cement and concrete. Consequently, we have excluded emissions from overseas imports of cement and concrete consumed in the UK.
- The model does not include offsetting using international credits or local action such as tree planting. The tree planting and habitat creation undertaken by MPA members is therefore an additional environmental benefit.
- The model does not include an allocation for the embodied carbon of the construction materials used to build concrete and cement production plants.
- The model does not include an allocation for the potential carbon savings associated with adopting more efficient and lean design using concrete structures. For example, the use of visual concrete (where the concrete is exposed to view rather than hidden away) avoids the need for other materials, and concrete structures can be designed to offer significant material efficiency.
- As the model is not a lifecycle assessment, the emissions of the non-cementitious constituents of concrete, such as aggregates, reinforcing steel and admixtures, are not included. CO_2 curing, which can be used to accelerate the natural carbonation process of concrete, is not included in the model.

One possible route to net zero

The roadmap shows only one of the possible routes to net zero for the sector. It does not reflect the opinion of individual member companies of the MPA. The forward-looking trajectories and statements in this publication are subject to change and do not reflect any individual company's results or forecasts, which may differ significantly.

Levers for change

Decarbonising UK cementitious materials and concrete will require a portfolio of seven technology levers. Most of these will need to be enabled by Government and local public policy over the long term and all will require concerted action and investment.

The following presents the emissions reduction potential of deploying these technology levers, with savings expressed as per tonne of cementitious material. This is based on our 2018 baseline.

Contribution to net zero from each technology lever by 2050

Indirect emissions from decarbonised electricity

Saving

27.05

$kgCO_2/t$

-4%

CO_2 reduction

Decarbonising the electricity grid encourages the electrification of the industry. Decarbonising technologies that require electricity include plasma energy and CCUS. Using technologies such as these could increase electricity use by 80% to 130%.

Advanced manufacturing techniques, such as artificial intelligence (AI) and automation, will deliver efficiencies in the operation of concrete and cement plants.

Transport

Saving

44.45

$kgCO_2/t$

-7%

CO_2 reduction

Decarbonising delivery transport is realised through a move away from petrol and diesel. Investment in new fleet and reducing road transport miles reduces carbon emissions.

Through investment in infrastructure, the industry has increased its use of rail freight, supporting a modal shift from road to rail and a reduction in transport emissions.

Lower carbon cements and concretes

Saving

76.28

$kgCO_2/t$

-12%

CO_2 reduction

Innovations in concrete mix design, to utilise lower emission constituents, are enabled by revisions to product and building standards. These lower carbon products are adopted and used increasingly in our built environment.

Research and development in clinker content, alternative binders and cement formulations reduce carbon emissions.

Fuel switching

Saving

99.45

$kgCO_2/t$

-16%

CO_2 reduction

The availability of biomass wastes is sufficient to generate over 70% of the heat used for cement production.

UK investment in hydrogen production, delivery networks and successful industry research enables the use of hydrogen, plasma or other new heating technologies.

Carbon capture, usage and storage (CCUS)

Saving

390.97

$kgCO_2/t$

-61%

CO_2 reduction

UK investment in infrastructure and successful industry research enables the use of CCUS technologies. This transformative technology represents the most significant and technically disruptive investment in the roadmap.

The CO_2 reduction of 61% enables the industry to achieve net zero manufacture by 2050. The use of CCUS and biomass have the potential to make a greater contribution to the roadmap and achieve net negative emissions.

Contribution to beyond net zero

Carbonation

-12%

Further CO_2 reduction

Carbonation, the process where concrete absorbs CO_2 from the atmosphere throughout its lifetime, is recognised in UK accounting of greenhouse gases.

A carbonation model produced for UK Government assessed the potential carbonation across the UK built environment. This has shown that the annual sink provided by carbonation of concrete in use is around 20% of process emissions and carbonation at end of life can absorb the equivalent of up to 16% of calcination emissions. This means that carbonation can contribute at least a further 12% CO_2 reduction.

By 2050, techniques to optimise and accelerate carbonation could be used to further increase its contribution.

Thermal mass

-44%

Further indirect CO_2 reduction

Thermal mass is a property of heavyweight materials like concrete and masonry where heat can be absorbed, stored and released, reducing the energy needed to heat and cool buildings. The use of lifecycle assessment and post-occupancy evaluations demonstrate the carbon and energy savings from smart thermal mass contributing to the demand side response to climate change.

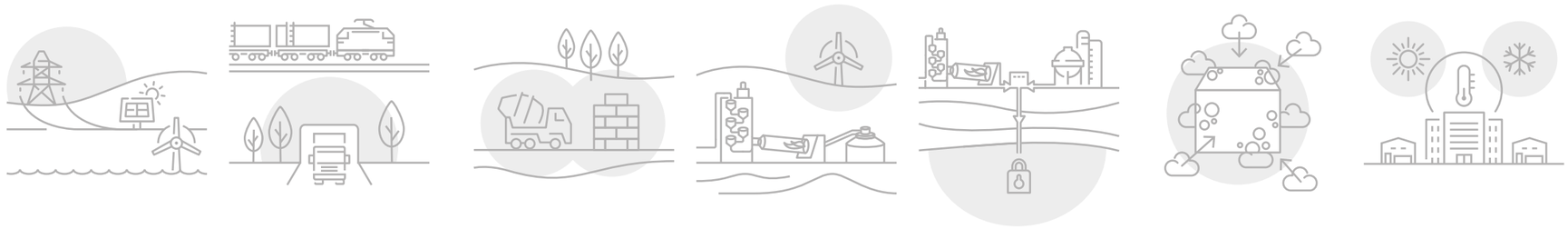
The cumulative deployment of concrete's thermal mass produces a building stock which has an estimated 14% saving of 2050 UK electricity consumption from avoided heating and cooling. This equates to 44% of 2018 concrete and cement emissions levels.

Beyond net zero: our roadmap in numbers

Absolute 2050 CO_2 emissions reductions compared to 2018

Delivering beyond net zero is not a linear process but we forecast that seven technology levers will play an important and active part in delivering beyond net zero for concrete and cement.

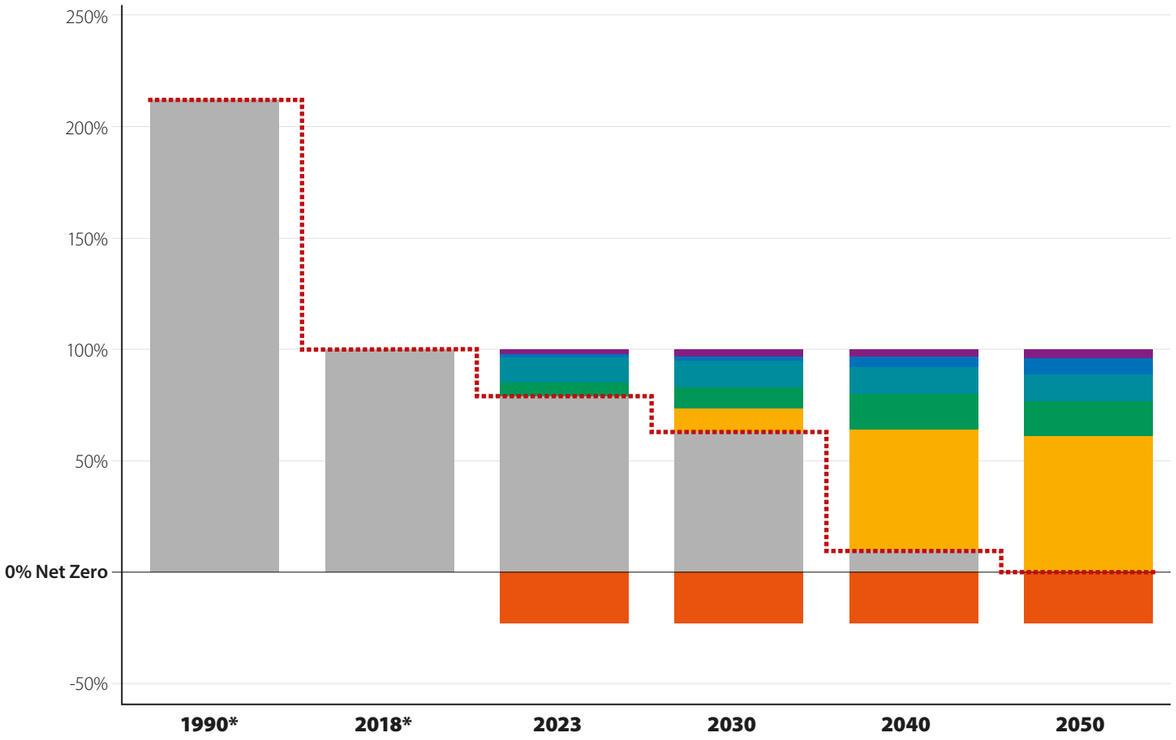
Contribution to beyond net zero from each technology lever



Our trajectory and progress to date

The concrete and cement industry is committed to providing a trajectory to 2050 and reporting progress against the carbon reduction contribution of each technology lever within the roadmap.

Decarbonisation trajectory to 2050



With significant development of lower carbon cements and concretes, continued fuel switching and project proposals being progressed to deploy CCUS in UK cement plants, we have updated the trajectory of direct CO_2 reduction to 2050. This excludes any benefit from thermal mass which brings an additional indirect CO_2 saving.

Our assumptions

Lower carbon cements and concretes: Our roadmap is based on lower carbon cements and concretes being maximised in construction by 2030.

Fuel switching: Our roadmap is predicated on zero carbon fuels making up 70% of thermal input by 2040.

CCUS: Our modelling assumes that almost all cement plants have CCUS technology by 2040.

* carbonation occurred in 1990 and 2018 but had not been accurately measured and therefore is not shown in the diagram.

Progress since the 2018 baseline includes

Reducing indirect emissions

- 94% of sector electricity is now purchased on a green tariff.
- Major investment in a new cement grinding mill at Padeswood cement plant in Flintshire, Wales has reduced electricity consumption for part of the production process by 30%.
- Major investment in a new cement mill at Dunbar cement plant in Scotland has replaced two older mills on site to reduce electricity consumption by 50% for part of the production process.

Fuel switching

- The cement sector has increased its use of waste derived fuel, now contributing 54% of thermal input to the cement kiln. 25% of overall thermal input is now carbon neutral through the use of waste biomass.
- An MPA led consortium trialled a net zero fuel mix composed of waste biomass, hydrogen and plasma (electrical) energy.
- A cement plant in Rugby has invested in a first-of-a-kind low-carbon hydrogen project using thermal plasma electrolysis in cement production.

Transport

- Electric ready-mix concrete mixer trucks are being introduced to commercial fleets across the concrete industry. Each vehicle can save around 42 tonnes of CO_2 annually, with zero emissions per mile compared to 1.55 kg of CO_2 per mile for a fossil fuel equivalent vehicle.

Lower carbon cements and concretes

- Changes introduced to BS8500, the UK standard for concrete, have enabled supplementary materials such as limestone powder to now be added with Ground Granulated Blastfurnace Slag (GGBS) or fly ash to concrete mixes to reduce the amount of traditional cement (CEM I) needed, thereby producing a lower carbon concrete. The changes could save around 1 million tonnes of CO_2 emissions each year if the mixes are adopted across all UK construction sites.
- An MPA-led trial to assess the potential of using reclaimed calcined clays in cement and concrete formulations has demonstrated the potential of new cements with a CO_2 profile some 40-60% lower than CEM I. If fully deployed this could result in a reduction in direct emissions from cement production of over 4 million tonnes of CO_2 every year.
- A trial is underway on Recycled Concrete Fines (RCF) to test both untreated and treated (carbonated and calcined) RCF in cement and concrete to enable updates to national standards. Using RCF as a Supplementary Cementitious Material lowers the clinker content of cement, reducing embodied carbon and contributing to the circular economy.

Carbon capture, usage and storage (CCUS)

- Plans are progressing for the UK cement industry's first carbon capture facility at the Padeswood cement works in north Wales. The project will capture up to 800,000 tonnes of CO_2 a year starting in 2029 and be an integral part of the HyNet industrial cluster.
- Peak Cluster is an innovative collaboration to capture, transport and permanently store CO_2 emissions from four cement and lime plants across Derbyshire and Staffordshire. With 40% of all UK cement and lime manufactured in the Peak District and local area, the project which has secured £28.6m investment from the National Wealth Fund, has the potential to significantly reduce the sector's emissions.

Carbonation

- A project led by the MPA on behalf of Government has calculated and measured the CO_2 emissions that are naturally absorbed by concrete in UK buildings and infrastructure. It is the first national Greenhouse Gas (GHG) Inventory in the world to include a robust scientific model (Tier 2*) to calculate the emissions sink benefit provided by the carbonation of concrete over its lifecycle.

*IPPC uses a tiering system to estimate emissions and sinks. Each tier represents a greater level of detail and accuracy. Tier 1 is the most basic level and often relies on default values and simplified models. Tier 2 uses more specific data, considering local conditions. In this case it required specific UK information on concrete use.

Collaboration and partnership

UK produced cement and concrete is essential for supporting the UK's growth ambitions. Without domestic manufacturing, 1.5 million new homes, major transport projects, nuclear expansion, floating offshore wind farm construction cannot be delivered.

The UK Government's growth, development and environmental missions require a strong, decarbonising domestic concrete and cement industry to underpin UK economic and energy security.

Implementing the technological changes to decarbonise concrete and cement manufacturing will require significant long term action and investment by the sector.

Yet, this comes at a time when cement imports are steadily increasing and now account for 32% of the UK market. Often made with natural gas and sometimes even coal, these imported products are able to enter the UK market competitively, despite the addition of transport costs because they do not face the same energy, carbon and other costs that domestic producers have to pay.

Against this backdrop, cement has been identified as the most vulnerable sector to carbon leakage in the UK Emissions Trading Scheme Authority 'UK Emissions Trading Scheme Free Allocation Review: Carbon Leakage.'

Importing cement means exporting jobs. It sends investment, skills and economic value overseas and makes the UK a less attractive location for further investment in decarbonisation, reducing resilience of essential construction material supply.

In parallel, the UK industry is grappling with the highest industrial electricity costs in the world and uneven carbon taxation. 2023 prices in the UK were four times those in the US and about 50% higher than in France and Germany.

Consistent regulation and long term visibility of key policies that implement the carbon price, are important to provide an incentive to invest in decarbonisation in the UK. Constant changes to policies including the UK Emissions Trading Scheme are acting as a major barrier to investment.

The UK must become a more attractive place for investment to secure the long term future of UK cement production. Rather than putting UK jobs and manufacturing at risk, the UK Government has an opportunity to support domestic production and ensure all the economic benefits of growth are realised in the UK and not offshored through importing critical raw materials.

The task of deeper decarbonisation gets harder and more complex as hard to abate industries progress and the scale of investment increases, and with it the exposure to international competition.

Against this backdrop, there is an urgent need for a package of policy and financial support to drive the sector's continued decarbonisation, safeguard UK jobs and retain economic value.

As a major consumer of mineral products, Government has an opportunity to use its procurement powers to drive adoption of new lower-carbon British produced cement and concrete technologies.

There are urgent human resources challenges that need to be overcome to deliver this roadmap. These include skills gaps in CCUS, alternative fuels, digitalisation, and the loss of expertise from an ageing workforce, while boosting recruitment, retention, and training capacity.

The UK needs a dedicated Workforce & Skills for Net Zero plan to align skills development with decarbonisation milestones through targeted upskilling, apprenticeships, knowledge transfer, and coordinated industry–education partnerships.

Government and industry will need to continue to work in close collaboration, to build a shared understanding and pathway to net zero where policy, financial and infrastructure enablers are coordinated to support the sector's decarbonisation and to manage a just transition.

Government action – decarbonisation enablers

Regulation

- Provide a comprehensive package of carbon leakage mitigation measures including a watertight Carbon Border Adjustment Mechanism (CBAM) and provide clarity on a free allocation methodology from 2027. Ensure the UK CBAM is not undermined by the use of generous default values which could lead to underreporting of emissions by importers and would not level the carbon cost with UK producers.
- Abolish the Carbon Price Support. Coal fired power generation is no longer part of the UK grid and this now just adds cost to electricity bills for Energy Intensive Industries (EIIs).
- Provide support to mitigate the UK's high industrial electricity costs by allowing the cement sector access to EII compensation for the indirect costs of the Emissions Trading Scheme and Carbon Price Support that is passed through in electricity bills.
- Ensure linking of UK emissions trading scheme with that of the EU enables the UK to deliver a robust and less volatile carbon price and supports the UK cement sector to decarbonise rather than deindustrialise.
- Replace the previous Industrial Energy Transformation Fund (IETF) which ceased in 2024. The IETF supported the concrete and cement sector and was the only funding available to UK industry to support project development costs relating to energy efficiency and decarbonisation.

Infrastructure

- Support both the Peak Cluster and Padeswood CCUS projects and feasibility studies for other CCUS projects at dispersed cement plants.
- Provide long term visibility of policies such as CCUS business model support and level of free allocation to enable businesses to plan their decarbonisation investments.
- Set out a clear UK CO_2 transport and storage infrastructure plan to enable decarbonisation of dispersed sites.

Procurement

- Use Government's procurement powers to drive adoption of new lower-carbon British produced cement and concrete products.

Industry action – technology and infrastructure accelerators

Standards

- Work with stakeholders and the supply chain to accelerate the development and use of the BS8500 standard to promote lower carbon cements and concretes. Recent changes could save 1 million tonnes of CO_2 emissions each year if the mixes are adopted across all UK construction sites.
- Support the development of a zero carbon gas (hydrogen/ biomethane) network and market at cost competitive prices.

Product development

- Source and invest in new lower carbon raw materials such as pre-calcined raw materials to accelerate lower carbon product development.
- Develop lower clinker cements and concretes, alternative binders and cement formulations. Promote and facilitate use of these innovative materials.

Process development

- Investigate modifications to the manufacturing process to optimise the application of decarbonised electricity, incorporate capture technology and switch to low carbon fuels.
- Optimise the use of waste biomass as a replacement for fossil fuels to ensure that the maximum value is gained from waste biomass and investigate innovative energy sources such as hydrogen and electrification of heat.

The importance of CCUS

The Climate Change Committee, the independent adviser to UK Government has been clear that for industrial sectors such as cement with process emissions for which alternatives are unavailable, CCUS technology is key to delivering net zero.

Government support is therefore needed to ensure that the UK maintains a strong domestic supply of cement to deliver its economic growth mission and commitment to net zero.

With capacity to store over 70 billion tonnes of CO_2 in saline aquifers and depleted gas reservoirs offshore, and as a relatively small island which reduces distances for transporting CO_2 to storage, the UK is uniquely placed to be at the forefront of CCUS.

Realising both the Padeswood CCUS and Peak Cluster projects by using UK limestone reserves and offshore storage capacity would decarbonise around half of UK cement production. These transformative projects will not only safeguard jobs but will also create new job opportunities at these sites and make a significant contribution to boosting GVA.

An independent economic analysis of the Peak Cluster and its storage facility has shown that it will deliver a £1.8 billion Gross Value Added boost to the country and would provide around £4 of benefits for every £1 of potential cost to the Government.

This helped secure investment by the National Wealth Fund to progress design, and the sector continues to seek further Government support to make this important project a reality.

Dispersed sites

In December 2023 the UK Government published a CCUS vision to establish a competitive market. This set out three stages where Government gradually reduces its financial support as early as 2035- a bold ambition given that the first projects are not even up and running yet, and offering no comfort to dispersed sites.

The five dispersed cement plants are located in isolated, rural locations or close to town centres. Non-pipeline transport may be required for transport of captured CO_2, especially where the cement plant is already rail connected.

A clear plan for a UK CO_2 transport and storage network that takes account of these important locations would help these sites to develop more detailed plans about where and how they can connect.

Making CCUS a reality

A UK first

Padeswood cement plant in north Wales will be the UK cement industry's first carbon capture facility.

Opening in 2029, the project will capture up to 800,000 tonnes of CO_2 a year and will form part of the HyNet industrial cluster.

CO_2 will be extracted from captured waste gases then compressed and sent via a pipeline to the Liverpool Bay carbon store which is located 32km offshore and 1km below the seabed. A combined heat and power plant will also be built to power the carbon capture plant.

The project will protect 222 direct and indirect jobs and create a further 50 new full-time jobs at the site. It will also generate up to 500 additional jobs during construction of the capture plant.

In April 2025 the project was granted planning permission and, subject to consenting and agreement of the Industrial Carbon Capture contract with the Government, construction is scheduled to commence in 2025.

A transformative project

Peak Cluster is a transformative project to capture, transport and permanently store CO_2 emissions from four cement and lime plants across Derbyshire and Staffordshire.

With 40% of all UK cement and lime manufactured in the Peak District and local area, the project has the potential to significantly reduce the sector's emissions.

As the world's largest cement decarbonisation project, Peak Cluster will prevent over 3 million tonnes of CO_2 from entering the atmosphere each year. Captured CO_2 will be transported via pipeline to Morecambe Net Zero (MNZ), a planned storage facility off the west coast of England. This will be the UK's largest storage facility with a capacity of approximately 1 billion tonnes of carbon.

The transformative project will safeguard and create around 13,000 jobs throughout its construction and lifetime.

The commitment of cement and lime producers to the project has meant that it has reached engineering design stage, and the industry welcomed the recent investment from the National Wealth Fund. Over the long term, the sector will continue to seek further Government support for the project given the wide economic benefits it brings as well as its decarbonisation potential.

Measuring success and delivering against commitments

The UK concrete and cement industry's journey to beyond net zero will be underpinned by transparent reporting and proactive engagement with Government and stakeholders.

Robust UK greenhouse gas accounting

The MPA believes that for the UK to provide a robust account of its progress to net zero it needs to take responsibility for emissions from both materials and goods produced in the UK as well as those that the UK imports and consumes. As part of this, a significant shortcoming in UK net zero legislation is that emissions targets can be met or partially met by simply offshoring production.

There remains a significant divergent trend between the UK's consumption-based and territorial emissions including the net import of goods. This trend highlights that the UK is increasingly offshoring its environmental responsibility.

Since publishing our 2020 roadmap, consumption of imported cement has significantly increased and now represents 32% of the UK market. For cement and concrete this currently equates to 3.6 million tonnes of foreign manufactured cement and around 3.5 million tonnes of CO_2 for which the UK is avoiding taking environmental responsibility.

UK carbon budgets continue to be set on territorial emissions with no targets on consumption emissions. We therefore believe that the UK should implement additional carbon accounting measures to include consumption emissions.

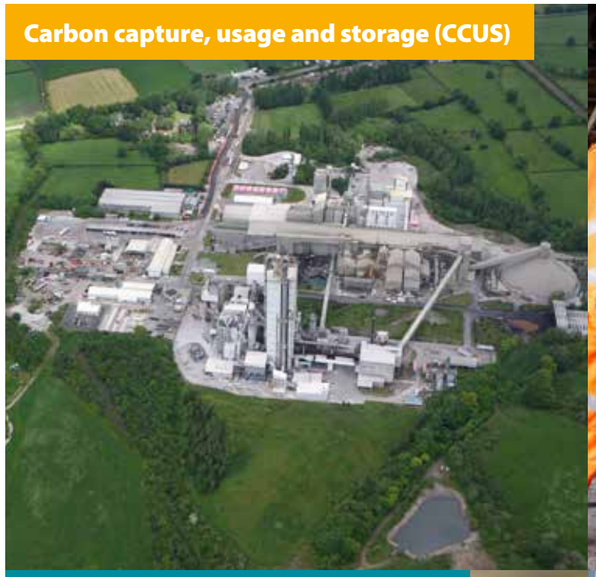
The journey to beyond net zero concrete and cement

The UK concrete and cement industry remains committed to transparency and publishes reports detailing its environmental performance, including CO_2 emissions, every year.

The changes needed to enable the industry to meet our beyond net zero emissions target will require a collaborative approach, working proactively with all levels of Government as well as the wider construction, energy and transportation sectors.

The MPA has worked collaboratively to develop, test and demonstrate new lower carbon cements. Additionally, in partnership with the Department for Energy Security and Net Zero (DESNZ), it has trialled innovative fuel mixes involving biomass, hydrogen and plasma technology to demonstrate that a 'net zero' fuel mix, with no reliance on fossil fuels, is possible.

Moving forward, the industry will continue to report progress against the projects and innovations that will enable the carbon reduction contribution of the technology levers detailed in our roadmap to be realised.



UK concrete is essential, sustainable, protecting people, innovating, helping to tackle climate change and enabling great design

mpa UK Concrete

UK Concrete is part of the Mineral Products Association, the trade association for the aggregates, asphalt, cement, concrete, dimension stone, lime, mortar and industrial sand industries.

www.mineralproducts.org

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