mpa
essential materials
sustainable solutions

Profile of the UK Mineral Products Industry

2023 Edition

Mineral Products Association

Welcome

I am thrilled to introduce our latest publication, a comprehensive overview of the essential Mineral Products Industry in the UK. Within the pages of this report, you will discover the significant contribution and benefits of the mineral products industry to the UK economy and its vital role in enabling other sectors of activity to thrive.

As the largest element of the construction supply chain, the Mineral Products Industry serves as a crucial supplier of both raw materials and products to a multitude of industries. From improving our housing stock to enhancing transport networks, commercial buildings, energy and water infrastructure, schools, and hospitals, the influence of this industry can be seen far and wide.

Not only does the Mineral Products Industry cater to the construction sector, but it also holds importance in non-construction markets, including iron and steel manufacture, ceramics, paper, glass, agriculture, horticulture, and even food, water and pharmaceuticals. With an impressive production of 419 million tonnes of primary and recycled aggregates, industrial minerals, and other manufactured mineral products in 2021, the industry underpins the UK's growth and development ambitions.

The report explores the individual profile of the materials produced by the industry, and which are part of the MPA family. It sheds light on the national and regional distribution of production, and the key drivers of demand and supply.

Looking forward, mineral products producers face some critical challenges, such as securing the long-term supply of minerals, promoting circularity, and addressing climate change including the industry's commitment to improving sustainability and achieving Net Zero emissions by 2050. But arguably, the best ongoing success story remains the MPA National Nature Park, which showcases the industry's contribution to biodiversity and nature recovery.

It is with immense pride that we present this publication, which not only celebrates the accomplishments of the Mineral Products Industry, but also emphasises its significant contribution to the UK economy. In 2021 alone, this industry directly generated almost £8 billion in gross value added, contributing to a staggering 11% of the total gross value added in the economy. Moreover, with its highly productive workforce, each employee in the industry produced almost £99,000 in gross value added, well above the national average.

I extend my gratitude to all the experts and contributors at MPA and across the industry, who made this publication possible. Their dedication and expertise have enabled us to present a comprehensive and informative resource for all those interested in understanding the contribution made by the Mineral Products Industry.

As we continue to foster growth and innovation in the UK economy, working towards a greener and more sustainable future, we hope that this publication will serve as a valuable resource for policymakers, industry stakeholders, and anyone seeking to gain an understanding of the significance of the sector we represent.

Thank you for your continued support, and I hope you find this publication enlightening and insightful.

Jon Prichard
Chief Executive | Mineral Products Association

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Explanatory notes:

The data presented throughout this publication reflects a mixture of both UK and GB information, based on availability.

Whilst a number of industry datasets were available up to 2022 at the time of publishing, some data sources stopped in 2014, whilst others covered data up to 2021 due to longer lead times. Official statistics underpinning the MPA estimates of the industry's economic contribution were only available up to 2021 at the time the analysis was carried out.

1. The Mineral Products Industry At A Glance (2021)

419 Million Tonnes

Supplying the nation's needs

The vast production of essential minerals and mineral products, surpassing 1 million tonnes of materials daily.

2,300 Active Sites and Plants

Delivering across the nation

Across the UK, an impressive network of 2,300 active sites and plants are working tirelessly to meet the nation's demands.

£22 Billion Turnover

Contributing to economic prosperity

The industry generates a remarkable £22 billion turnover directly, supporting many other industries along the way.

£8 Billion Gross Value Added

Providing a foundation for the UK economy

The £8 billion in gross value added in the industry serves as a pillar supporting 11% of the UK economy.

£99,000 Labour Productivity per Worker

Outperforming the nation

An exceptionally productive workforce, with productivity 1.5 times higher than the UK average.

£178 Billion of Construction Output

Enabling our main customer to deliver

The industry is the largest component of the construction supply chain, building and improving housing and infrastructure.

80,000 People Directly Employed

A thriving workforce

The skilled individuals, who are driving the industry's success through their commitment and expertise.

3.2 Million Jobs Supported in the Supply Chain

The multiplier effect

The industry supports an impressive 3.2 million jobs in its direct supply chain markets.

Did you know?

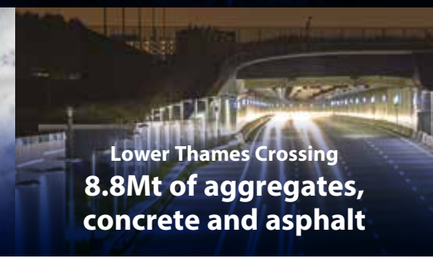


Table 1.1 UK production of minerals and mineral products, 2021 (Million tonnes)

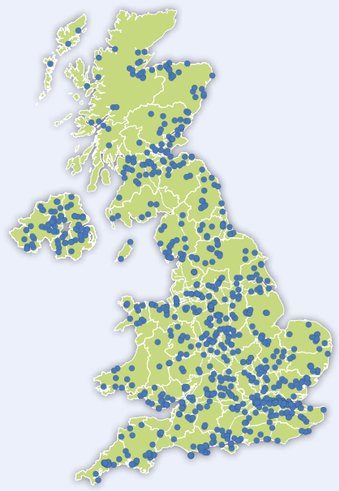
CONSTRUCTION USES		**397.8**
Aggregates		**279.8**
of which:	Crushed rock	148.2
	Sand & gravel – land won	47.7
	Sand & gravel – marine	14.3
	Recycled and secondary aggregates [a]	69.6
Cementitious		**11.2**
of which:	Cement	9.0
	Other cementitious materials (Fly ash, GGBS)	2.1
Ready-mixed concrete [b]		**52.7**
Concrete products		**24.8**
Asphalt		**28.3**
Dimension stone [a, c]		**1.0**
NON-CONSTRUCTION USES		**20.8**
Limestone & dolomite [c]		**14.9**
including:	Industrial lime	1.2
	Agricultural lime [a, c]	1.6
Industrial sand		**4.2**
China clay		**0.7**
Ball clay		**0.9**
ALL CONSTRUCTION AND NON-CONSTRUCTION USES		**418.6**

Table 1.2 Number of MPA member active sites and plant across the UK, 2022

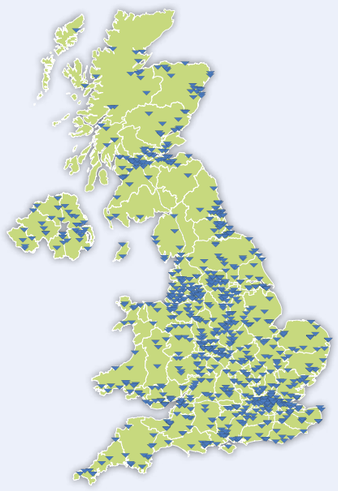
Crushed rock quarries	**259**
Sand and gravel quarries	**261**
Depots and wharves	**161**
Railheads	**36**
Recycling plants	**137**
Cement quarries and plants	**20**
Ready-mixed concrete plants	**817**
Precast concrete plants	**192**
Lime quarries	**7**
Asphalt plants	**273**
Mortar plants	**53**
Dimension stone quarries	**38**
Silica sand quarries	**16**
Slag plants	**4**
Other minerals quarries	**37**
TOTAL	**2,311**

[a] *GB only.* [b] *Converted using 2.38 tonnes per cubic metre of ready-mixed concrete.* [c] *Latest data available is for 2014.* [d] *Totals may not add up due to rounding.*

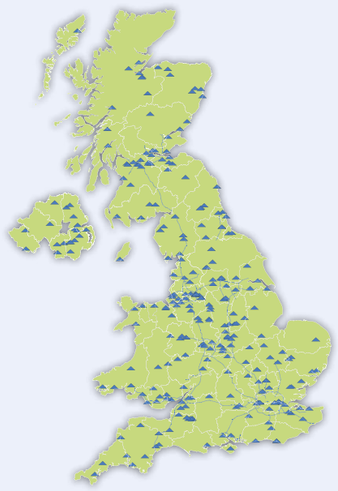
Quarries, depots and wharves:
779



Concrete and mortar plants:
1,062



Asphalt plants:
273



2. An Essential Industry

A. Mineral and mineral products supply

The Mineral Products Industry is an essential enabling sector of the economy, underpinning and contributing towards overall UK economic growth. As the largest component of the construction supply chain, a supplier of key raw materials and products to many other industries, and the largest material flow in the economy, a healthy domestic Mineral Products Industry is fundamental for developing UK infrastructure and improving living standards.

The majority of the industry's output is used in the UK construction Sector, improving our housing stock, transport networks, commercial and industrial buildings, energy and water infrastructure, schools and hospitals.

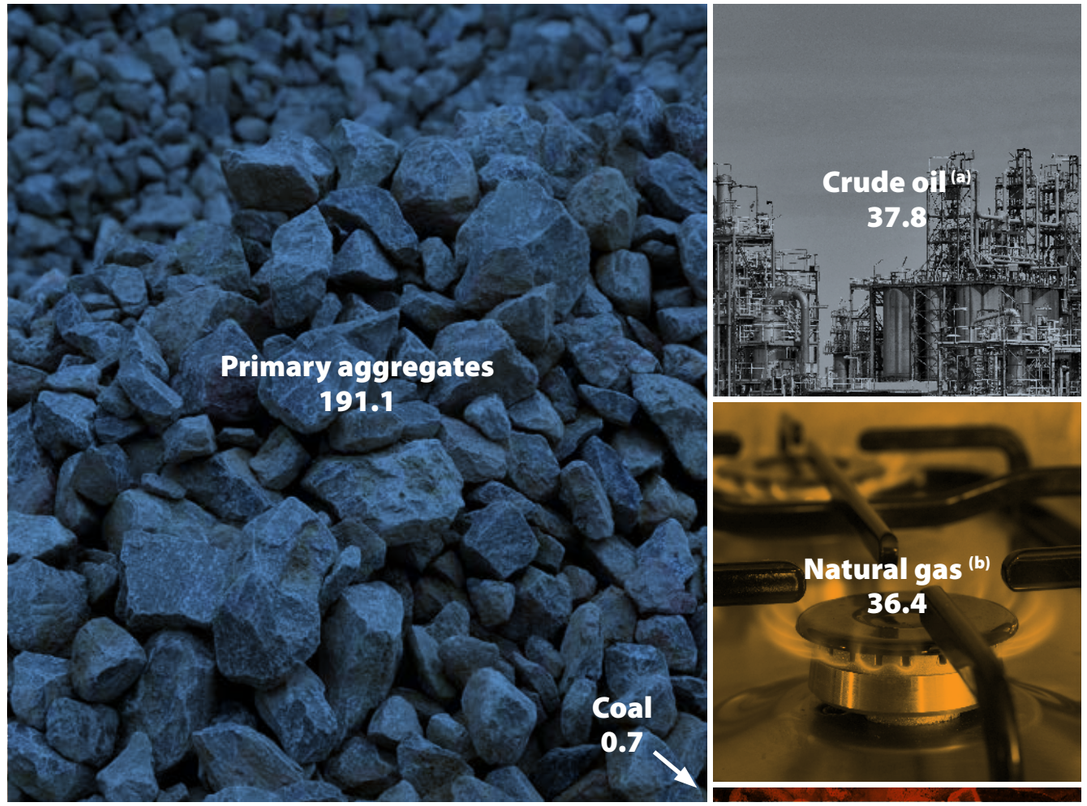
Non-construction markets are also important, such as iron and steel manufacture, ceramics, paper, glass manufacture, agriculture and horticulture, water treatment, cleaning power station emissions and food and pharmaceuticals.

In 2022, some 191.1 million tonnes of primary aggregates (quarried crushed rock and both quarried and marine-dredged sand & gravel) were produced in the UK, down from 210.2 million tonnes in 2021. Primary aggregates represent 2.5 times the total tonnage of energy minerals produced domestically in the same year (Figure 2.1).

Considering the wider supply of construction and non-construction mineral products, a total of 418.6 million tonnes of primary and recycled aggregates, industrial minerals and other manufactured mineral products were produced in the UK in 2021 (Table 1.1), equivalent to over 5-times the total domestic production of energy minerals.

International trade in most minerals and mineral products is limited but there are some exceptions. Imports of cement have been steadily rising and in 2022 made up 30% of the UK market. Industrial lime exported 21% of total UK production in 2022 and there are also some small tonnages of UK crushed rock, marine sand & gravel, dimension stone and industrial clay exported.

Figure 2.1 UK production of primary aggregates and energy minerals, 2022 (Million tonnes)



[a] *Includes condensates and petroleum gases derived at onshore treatment plants.*
[b] *Includes colliery methane. Million tonnes of oil equivalent (Mtoe), 1GWh = 8.6*10^(-5) Mtoe.*
Source: DESNZ, MPA calculations.

PROFILE OF THE UK MINERAL PRODUCTS INDUSTRY, 2023 EDITION

The flow of minerals and mineral products in the economy

Key

RESOURCES → PRODUCTS → END USE

EXTRACTION

- Limestone and dolomite
- Igneous rock
- Sandstone
- Quarried sand and gravel
- Marine-dredged sand and gravel
- Industrial clays
- Industrial sand

RECYCLED & SECONDARIES

- Construction and demolition waste
- Asphalt planings
- **Secondary aggregates** (incl. clay waste, IBA, fly ash, slag)

PRODUCTS

- Construction aggregates
- Asphalt
- Cement
- Precast and concrete products
- Dimension stone
- Mortar
- Lime
- China and ball clay
- Silica and moulding sands

Recycling and reuse

Recycling and reuse

Recycling and reuse

CONSTRUCTION

- **Housing** National target of 300,000 new homes each year by 2025
- **Railways** HS2, Transpennine Route Upgrade, East West Rail
- **Roads** Strategic, major and local roads - RIS3, Lower Thames Crossing, road maintenance
- **Schools** School rebuilding programme
- **Energy generation** (incl low carbon) Nuclear (Hinkley Point C), onshore/offshore wind, tidal lagoons
- **Port infrastructure** Tilbury2, London Gateway
- **Bridges and tunnels** Colne Valley Viaduct, Silvertown Tunnel
- **Airports** Heathrow, Leeds Bradford, Manchester
- **Hospitals** New Hospital Programme
- **Shops** Town and city regeneration
- **Offices** 8 Bishopsgate, Stanza (London)
- **Factories and warehouses** Envision AESC gigafactory, SeAH Wind monopile plant
- **Water and sewage utilities** Thames Tideway, AMP7
- **Climate change mitigation** Flood and coastal protection (Bacton Coast Defence)

NON-CONSTRUCTION

- **Leisure** Sport grounds, golf courses
- **Glass** Windows and screens, food containers, fibreglass, medical tools
- **Iron and steel** Remove impurities and provide heat resistance
- **Agriculture and horticulture** Contaminated land and soil treatment, fertilisers
- **Ceramics** Sanitaryware, tableware, wall and floor tiles
- **Foundries** Ferrous and non-ferrous casting
- **Paper manufacture** Paper fillers and coatings, pulp
- **Pharmaceuticals** Medical goods and cosmetics
- **Emission cleansing** Capture acidic emissions to air
- **Water treatment** Purify water, treat wastewater and sewage sludge
- **Biocides** Surface disinfectant
- **Plastics** Remove water during manufacturing
- **Food manufacture** Sugar, food storage
- **Transport safety** Reflective road markings, rail braking

B. Contribution to the economy

The Mineral Products Industry consists of the extraction of mineral resources, i.e. igneous rock, limestone and dolomite, sandstone, dimension stone, sand & gravel, industrial sand, china clay and ball clay, and their processing and manufacture into asphalt, cement, concrete (both ready-mixed and precast), industrial and agricultural lime, mortar and slag. It also includes a share of road freight activities, as mineral producers deliver most of their materials by road, as well as some road contracting work when asphalt producers lay the asphalt themselves.

Based on this definition, MPA estimates that the Mineral Products Industry directly contributed over **£7.9bn in nominal gross value added** to the UK economy in 2021, with a **turnover of £21.6bn** (Figure 2.2). It also supported a further £222.8bn in gross value added in industries downstream of its supply chain. This means that the industry underpinned directly and indirectly a total of **£230.7bn in total gross value added in 2021, equivalent to 11% of the UK economy.**

Figure 2.2 Gross Value Added (GVA) and turnover generated by the Mineral Products Industry and its supply chain in the UK, 2021 (£ million) [a]

Total GVA **7,948**
Total turnover **21,646**

Resource Extraction	**2,116**
Rock (igneous rock, limestone & dolomite, sandstone)	1,105
Gravel and sand pits, mining of clays	992
Support activities	19
Product Manufacture	**4,336**
Cement, lime and plaster	340
Concrete products for construction	2,317
Ready-mixed concrete & mortar	816
Concrete, plaster and cement products	131
Dimension stone	405
Asphalt	327
Contracting and Road Freight	**1,496**
Asphalt contracting by Mineral Producers	206
Road freight by Mineral Producers	1,289

Total GVA **222,766**
Total turnover **611,266**

Direct Supply Chain Markets	
Food products	22,986
Leather and related products	379
Paper and paper products	4,218
Chemicals and chemical products	12,476
Basic pharmaceutical products	15,850
Rubber and plastic products	8,851
Other non-metallic mineral products [b]	2,907
Basic metals	5,217
Water	8,194
Sewerage	9,466
Waste	8,559
Construction [c]	123,664

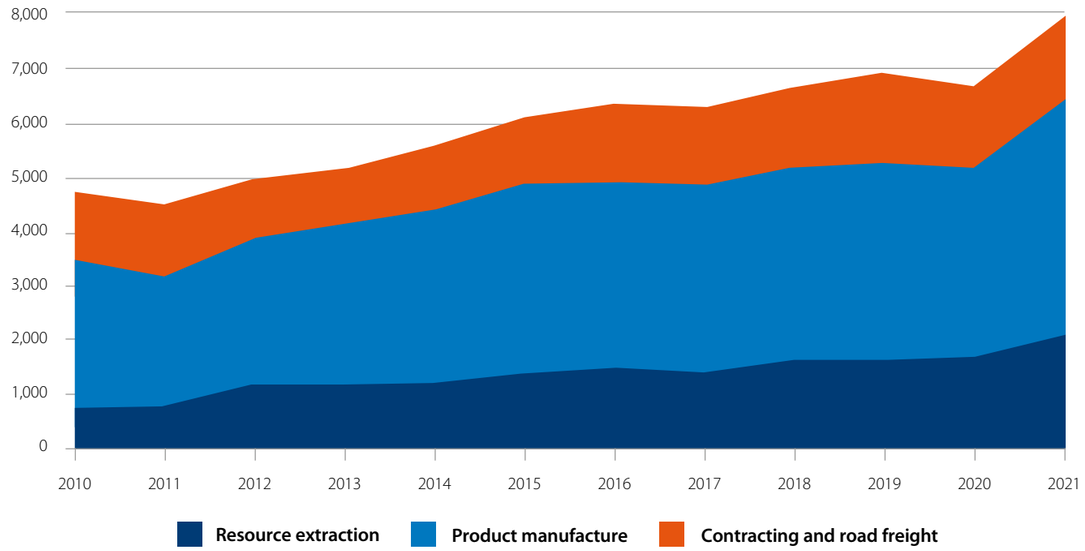
[a] *Estimated using a combination of turnover and gross value added data from the ONS Annual Business Survey and the ONS low level aggregates.*

[b] *Excludes cement, lime and plaster, concrete and cement products, ready-mixed concrete, mortar, dimension stone and asphalt, which are included in the manufacturing stage of the supply chain.*

[c] *Excludes the contracting work carried out by asphalt producers.*

Source: ONS, Bide et al., MPA calculations.

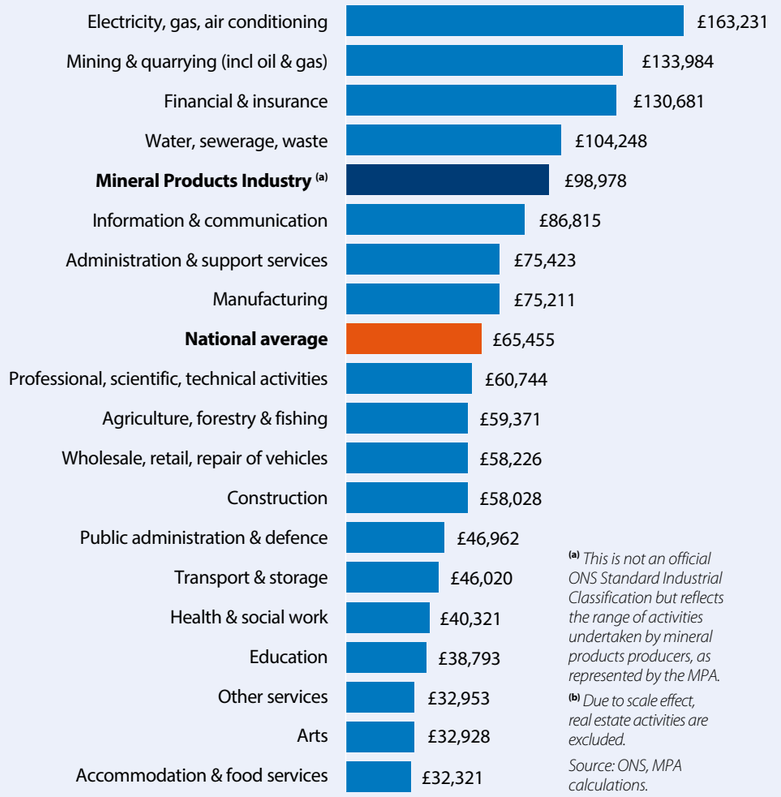
Figure 2.3 Gross value added generated by the Mineral Products Industry in the UK (£ million)



C. Employment and productivity

Whilst directly employing **80,000 people and supporting 3.2 million jobs through its direct supply chain markets** in 2021, the Mineral Products Industry is also a highly productive industry: Each worker produced almost £99,000 in gross value added, equivalent to 1.5 times the national average of £65,000 (Figure 2.4).

Figure 2.4 UK productivity by industry, 2021 (£ per worker) [b]



[a] *This is not an official ONS Standard Industrial Classification but reflects the range of activities undertaken by mineral products producers, as represented by the MPA.*

[b] *Due to scale effect, real estate activities are excluded.*

Source: ONS, MPA calculations.

3. Mineral Products Profiles

A. Construction aggregates

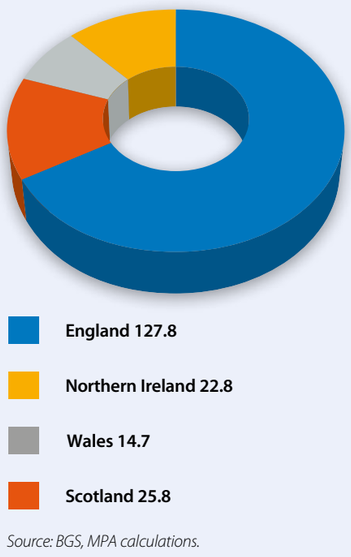
The biggest element in the supply of aggregates are primary aggregates, meaning quarried crushed rock and sand & gravel, in addition to significant contributions from marine-dredged sand & gravel. A total of 191 million tonnes of primary aggregates were supplied in the UK in 2022 (Figure 3.1). Production is spread across all parts of the UK, although the East Midlands, the South West and Scotland collectively supply nearly half of the total market (Figure 3.2).

The supply of primary aggregates is supplemented by the availability of recycled materials obtained from construction and demolition waste, as well as sources of secondary materials derived from other extractive and industrial activities and processes. Whilst there has been some variations in the relative importance of the different sources of aggregates over the past 60 years, the contribution of recycled and secondary materials to total aggregates supply increased substantially since the early 1990s (Figure 3.3). For the past decade, recycled and secondary sources of aggregates have contributed on average 29% of total aggregates supply in Great Britain, reaching an estimated 74 million tonnes in 2022.

Market developments for aggregates in recent years have been particularly volatile. Following a pandemic-induced downturn in 2020, construction demand for aggregates and other mineral products such as asphalt and ready-mixed concrete saw a rapid rebound in 2021. Demand started to slow again in 2022, due to the knock-on effects of a wider economic and construction slowdown caused by global supply chain bottlenecks post-pandemic and the war in Ukraine (Figure 3.4).

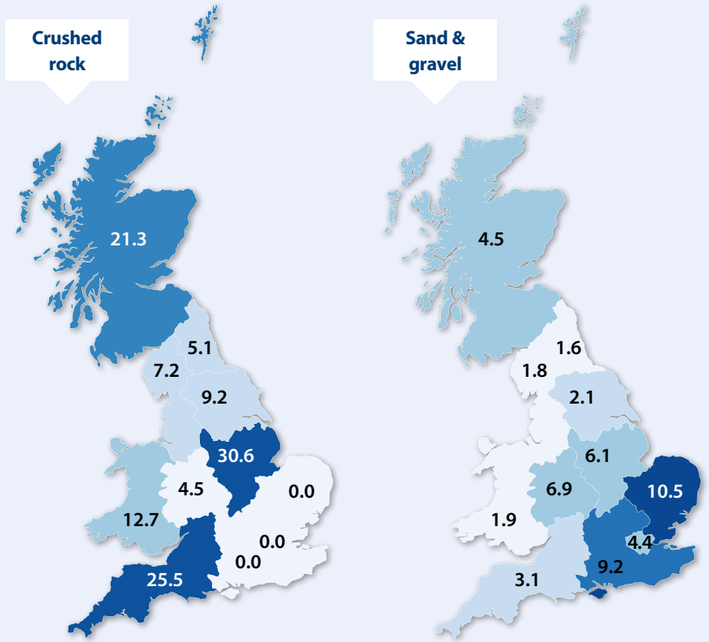
Rising inflation, higher interest rates and sub-inflation wages increases are leading to the largest drop in living standards in decades, impacting household spending, business investment and confidence in the economy. For construction, two years of strong growth in 2021 and 2022 have given way to increasing reports of construction projects delays, descoping and outright cancellations caused by cost pressures and wider economic uncertainties. Construction output is expected to contract in 2023 (CPA, 2023), albeit from an elevated level, led by a sharp slowdown in activity in sectors most exposed to households spending and confidence, particularly new housing and private housing repair, maintenance and improvement. Mineral products producers are therefore navigating a challenging environment of high costs, subdued construction demand and persistent economic uncertainties. Having already seen declines in 2022, sales volumes for aggregates and other mineral products are expected to see another year of decline in 2023. Contrasting with short-term weaknesses in the outlook, the long-term prospects for the aggregates markets remain positive, with substantial construction demand expected over the next 15 years to deliver the green growth agenda, including the energy transition and Net Zero (MPA, 2022).

Figure 3.1 Estimated total UK primary aggregates production, 2022 (Million tonnes)



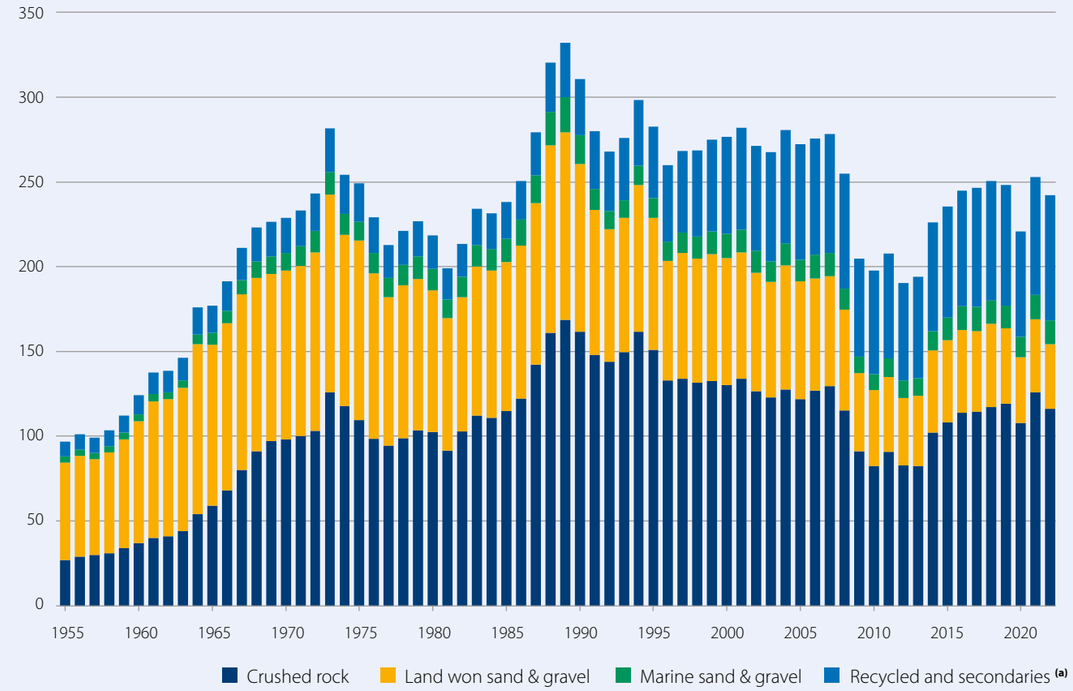
Source: BGS, MPA calculations.

Figure 3.2 Estimated primary aggregates production [a] by region in Great Britain, 2022 (Million tonnes)



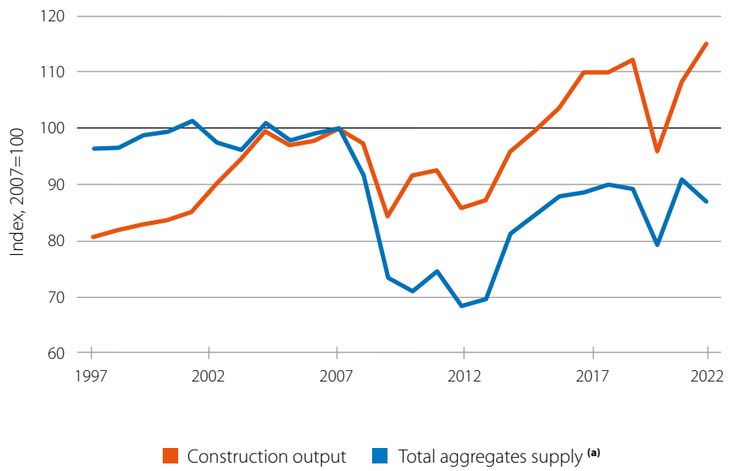
[a] Includes land-won and marine-dredged sand & gravel. Source: BGS, MPA calculations.

Figure 3.3 Total supply of construction aggregates by source in Great Britain (Million tonnes)



[a] Published estimates from MPA up to 2021. 2022 based on growth in construction output.
Source: ONS, Bide et al., The Crown Estate, MPA.

Figure 3.4 Construction output and aggregates supply in Great Britain



[a] Includes primary, recycled and secondaries.
Source: ONS, MPA calculations.

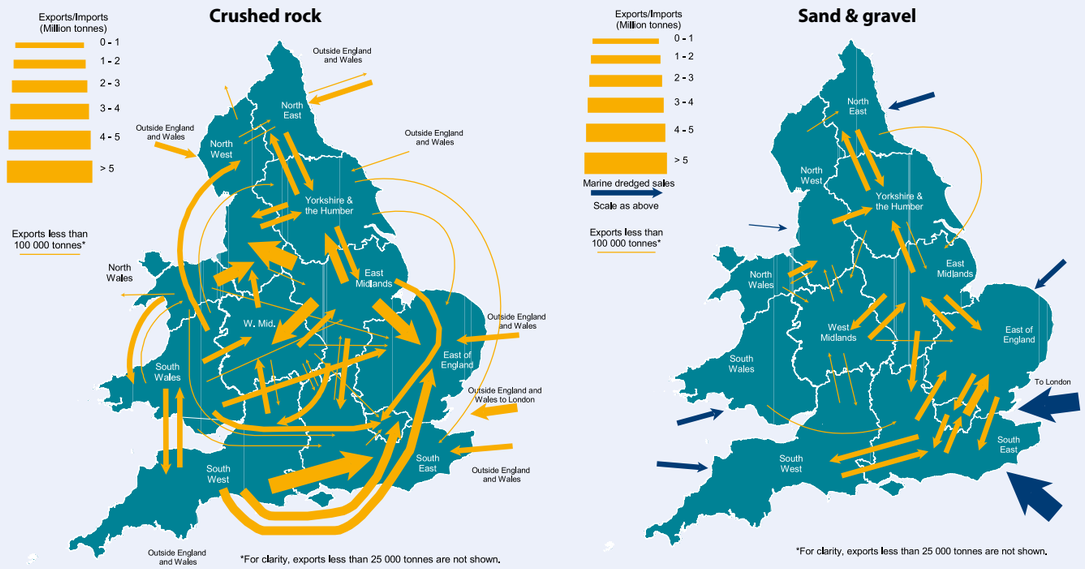
Aggregates can only be extracted where they occur and the underlying geology of the UK will determine local availability. As such, resources are not always distributed evenly and some inter-regional movement is therefore necessary (Figure 3.5). The South East, for example, has its own supplies of sand & gravel and recycled aggregates, but relies heavily on crushed rock brought in by rail from the East Midlands and South West, and by sea from Scotland. It also requires marine-dredged sand & gravel from licensed areas in coastal waters. Almost all of the primary aggregates consumed in London are imported by rail from the East Midlands and South West England, or marine dredged aggregates landed at Thames wharves (MPA, 2017).

In 2022, marine aggregates satisfied 27% (14 million tonnes) of the total construction needs for sand & gravel in Great Britain (Figure 3.3). Marine aggregates also support beach nourishment and contract fill projects in the UK and are also exported overseas for use in construction. Total production of marine sand & gravel for UK construction, exports, beach nourishment and contract fill, shows that total marine aggregates production levels have been consistently lower than the total tonnage permitted across all operators' production licences (Figure 3.7). The difference reflects the fact that individual dredging areas can offer a variety of materials, from fine sand to coarse gravel, so multiple licence areas in each dredging region ensure that there are enough materials for each operator to supply both current and future market needs, and also provide the industry with the flexibility to respond to future changes in market demand that may occur. Multiple licences also ensure dredging areas are near to wharves that supply potential markets.

The biggest use for marine dredged aggregates is the construction market, predominantly for use in ready mixed concrete and concrete products. Aggregates are a high bulk, low cost commodity and consequently are highly sensitive to transport distances. Where local sources of aggregates are constrained, either because resources are not geologically present or because existing permitted sources have become depleted, alternative sources of supply have to be found. Through economies of scale, marine aggregates supplies can play an important role in the overall portfolio of construction aggregate supply by transporting large volumes (2,000 -10,000 tonnes per load) over considerable distances and delivering them to coastal towns and cities close to where they are needed. As an example of this, in London and the South East of England in 2019, 28% of all the primary aggregates consumed in construction activity were supplied from marine sources (BGS).

For aggregates to access construction markets, adequate infrastructure facilities are required. Without the presence of suitable, unconstrained wharf and railhead facilities for instance, the balance of supply cannot be maintained. This is why such sites should be subject to safeguarding policies to protect their use, in accordance with the requirements set out in the National Planning Policy Framework.

Figure 3.5 Interregional flows of primary aggregates in England and Wales, 2019



MPA does not hold data on regional flows. These maps are reproduced from the original source. © Crown Copyright – Collation of the results of the 2019 Aggregate Minerals survey for England and Wales.

Source: BGS.

Figure 3.6 Transporting construction aggregates

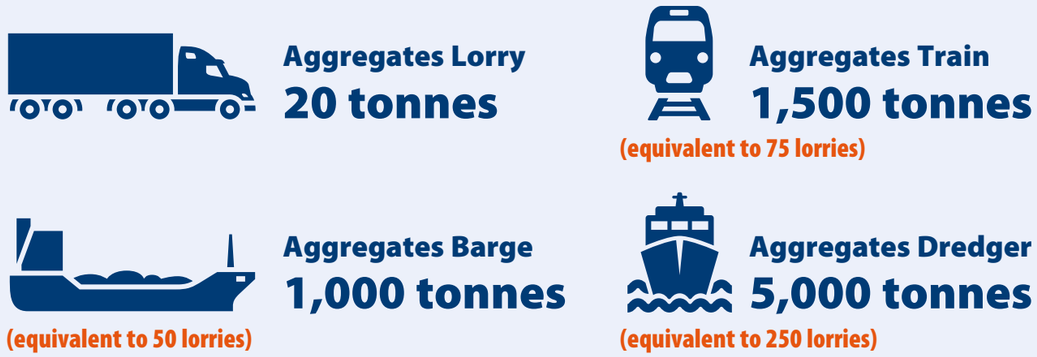
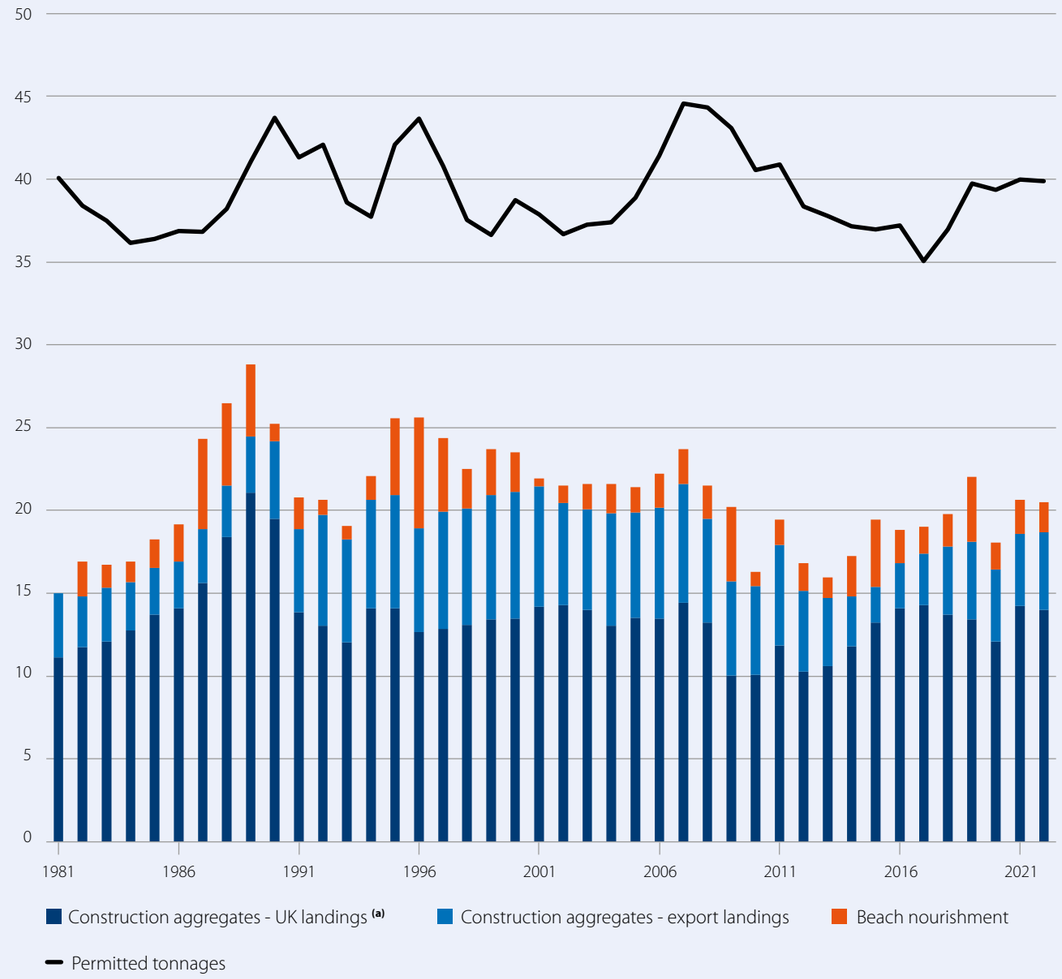


Figure 3.7 Marine sand & gravel supply in the UK (Million tonnes)



(a) *Dredging does not currently occur off Scotland or Northern Ireland.*

Source: The Crown Estate.

B. Cementitious

Cementitious materials include cement, ground granulated blastfurnace slag (GGBS) and fly ash. Some 15.3 million tonnes of cementitious materials were sold in the UK in 2022 (Figure 3.8). These are key components in producing ready-mixed concrete, precast concrete and mortar (Figure 3.9).

Demand for ready-mixed concrete and mortar were particularly impacted by the pandemic in 2020, with sales volumes down 18.2% and 23.5% year on year respectively (Figure 3.13, Figure 3.19).

As a result, total UK cementitious sales fell 13% in 2020, followed by a sharp recovery in 2021, in line with general construction and manufacturing activity. This momentum has ground to a halt in 2022 in line with the wider economic and construction slowdown, with energy-intensive cement producers at the forefront of cost pressures for everything from energy, to materials and labour.

Figure 3.8 UK cementitious sales [a] [b] (Million tonnes)

[a] *GB to 2014, UK from 2015.*

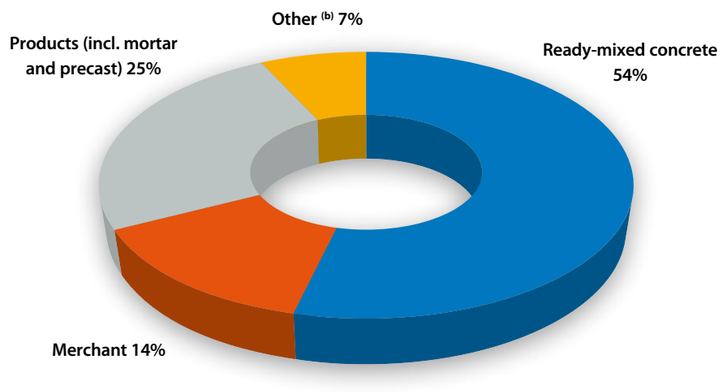
[b] *Includes imports, fly ash and granulated blast furnace slag.*

Source: MPA.

1. Cement

Cement is produced by crushing, blending and firing limestone or chalk with small amounts of other natural materials, such as clay or shale, to a temperature of 1450ºC. This reduces calcium carbonate ($CaCO_3$) from the limestone or chalk, to calcium oxide (CaO) and drives off carbon dioxide (known as process emissions). The process produces clinker, hard nodules composed of calcium silicates, calcium aluminates and calcium aluminoferrites. The clinker is ground to a fine powder with about 4%-5% gypsum, which is added to control the setting time of the end-product, known as CEM I. Other Portland based cement types are produced by blending the clinker with a range of other additions, including GGBS (a by-product of steel production), fly ash (from coal fired power generation) and limestone fines.

Figure 3.9 UK domestic cement sales by end use, 2022 [a]



[a] *Includes cement imports.*

[b] *Includes cement that goes into soil stabilisation, special grout formulation, diaphragm wall grouts & other applications that do not fall into either RMC products or merchant sales.*

Source: MPA.

2. Slag

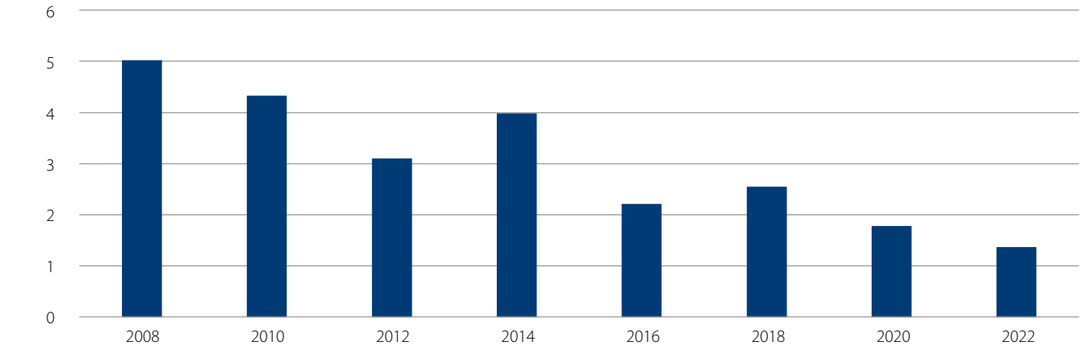
Slag is produced during the manufacture of iron and steel, and is processed into a variety of products, which can be used in many applications ranging from aggregates for construction products, to water treatment, soil conditioners and cementitious materials.

The cementitious properties of blast furnace slag were discovered in the late 19th century and it has been widely used in cement manufacture for over 100 years. In the UK, GGBS generally replaces between 20% and 80% of the normal Portland cement in concrete.

Air cooled blast furnace and steel slags are used as aggregates in construction products, with the latter playing an important role as a high skid resistant surfacing aggregate used to maintain the safety of our road network. They are also used in the treatment of waste water and for soil remediation in agricultural markets.

UK slag production declined steadily in the past 15 years, down from 5 million tonnes in 2008 to just under 1.4 million tonnes in 2022 (Figure 3.10). There are currently only two steel works in the UK, which have the limited production capacity of indigenous slag, complemented by imports from other parts of the world, including Europe, China, Japan, and India.

Figure 3.10 UK production of blast furnace and steel slags (Million tonnes)



Source: Euroslag, MPA estimates.

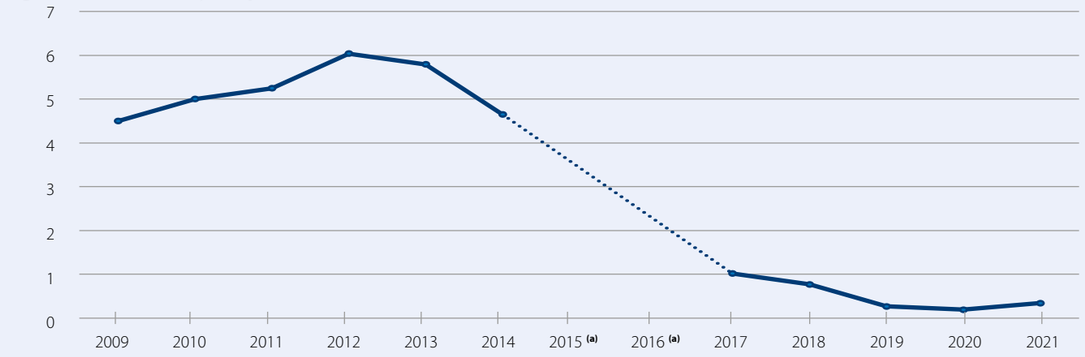
3. Coal derived fly ash

Coal derived fly ash (CDFA, or fly ash) is the output from the combustion process at coal-fired power stations. Its production is therefore linked to the UK's energy mix and the percentage allocated to coal fired generation. As a fine, pozzolanic material, fly ash can be used in the manufacture of cement and concrete, as well as an unbound secondary fill material, such as for the construction of embankments.

Prior to the introduction of the Large Combustion Plant Directive, which came into effect in 2008, the UK was producing well over 7 million tonnes per year of fly ash. The main markets were as a secondary aggregate for use in autoclaved aerated concrete blocks, concrete products, grouting, waste stabilisation and engineered fill. These markets could take in the region of 1 to 2 million tonnes per year.

Whilst fly ash makes an excellent secondary material for direct use in concrete or in blended cements, its use has been hampered by lack of availability. Latest figures for 2021 shows UK fly ash production of 388,000 tonnes (Figure 3.11). This was bolstered by imports and extraction from stockpiles for use as a secondary aggregate. The UK Quality Ash Association estimates that there are 100 million tonnes of fly ash in stockpiles and lagoons in the UK, which could be recovered and processed for use in cement and as secondary aggregates.

Figure 3.11 Total UK fly ash production (Million tonnes)



[a] *Not available.*

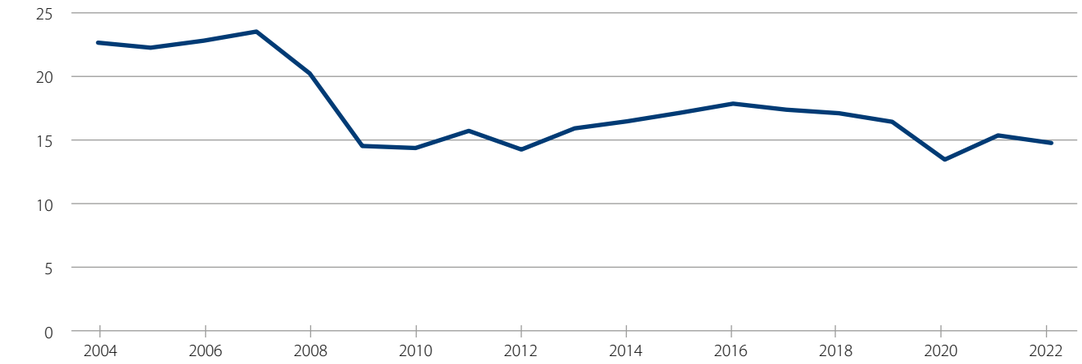
Source: UKQAA.

C. Ready-mixed concrete

Concrete is essential for our economy and our way of life, both now and in the future. New homes, schools, hospitals, workplaces, roads and railways, as well as the infrastructure that provides us with clean water, sanitation and low carbon energy, all depend on concrete and creates the demand for it. Its unique characteristics, versatility, strength, fire resistance, durability and energy efficiency provides us with safe, secure and comfortable homes as well as resilient infrastructure that can last for generations. Concrete is a sustainably produced material, primarily sourced locally with an average delivery distance of just 8 miles, and with an established domestic supply chain that creates jobs and supports communities throughout the UK.

Demand for ready-mixed concrete is closely linked to construction activity and the general health of the economy. Whilst there are no official statistics available for this market, industry survey data produced by MPA indicates that the total tonnage sold of ready-mixed concrete has been on a downward trend since 2016 (Figure 3.12). This can be mainly traced back to the changes in the commercial segment of construction, such as new retail and office tower projects, where investment has been hampered by weak business confidence post-EU referendum and uncertainty over new post-pandemic patterns of consumption and working. The rise in online shopping has lowered footfall on the high street, for example, while the hybrid working model has altered businesses' office space requirements.

Figure 3.12 MPA Industry Surveys [a]: Ready-mixed concrete sales in Great Britain (Million cubic metres)

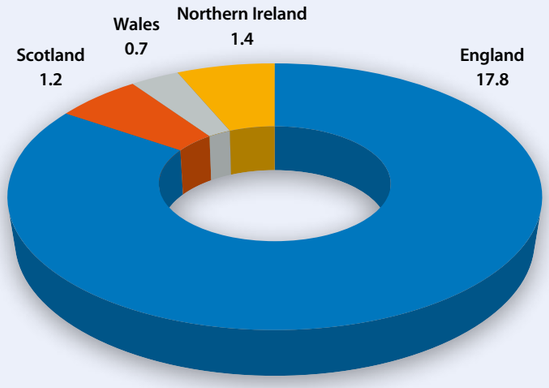


[a] *Estimated to represent 75% of total ready-mixed concrete sales in Great Britain. Includes production from fixed and site plants.*

Source: MPA.

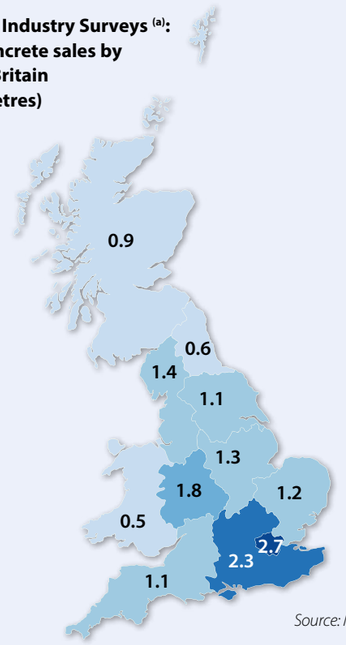
Based on industry data, MPA estimates that a total of 21 million cubic metres of ready-mixed concrete was produced in the UK in 2022, 17.8 million cubic metres of which were produced in England (Figure 3 13). Regionally, there continue to be two to three times more ready-mixed concrete supplied in London and the South East than in most other regions in Great Britain, reflecting the distribution of economic activity across the country (Figure 3 14).

Figure 3.13 Estimated total UK ready-mixed concrete production from fixed and mobile plants (Million cubic metres)



Source: MPA calculations.

Figure 3.14 MPA Industry Surveys [a]: Ready-mixed concrete sales by region in Great Britain (Million cubic metres)



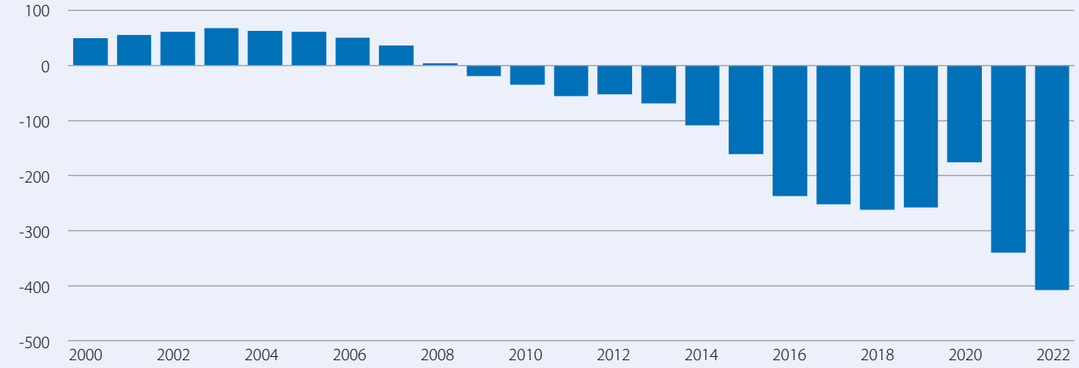
Source: MPA.

[a] *Estimated to represent 75% of total ready-mixed concrete sales in Great Britain. Includes production from fixed and site plants.*

D. Precast concrete

Precast concrete includes concrete products of any size that are cast in a factory – from blocks to bridge beams. Precast elements are fundamental to many buildings and civil engineering projects. For instance, 80% of all new roofs are made from concrete tiles, whilst concrete and masonry provide strength, thermal mass and fire protection to 85% of new homes built over the last 30 years. The market is mainly supplied from domestic sources but it is vulnerable to international competition, as shown on Figure 3.15. The UK has moved from a trade surplus to a deepening trade deficit over the past 15 years, becoming a net importer of concrete products in 2009.

Figure 3.15 UK concrete products trade balance (£ million, current prices)



Source: DBT.

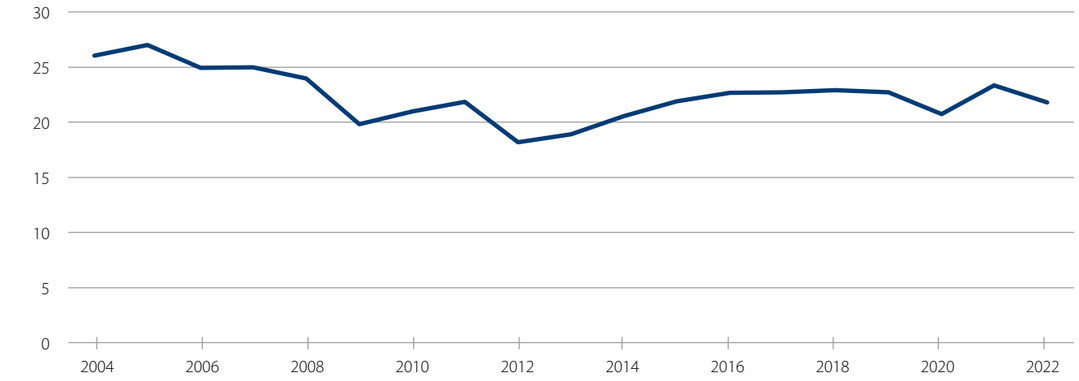
E. Asphalt

Roads are the economic and social arteries of the nation, ensuring door to door routes for delivery of goods and services. They are the primary means of access to all parts of integrated transport networks, with asphalt used for both road construction and for maintenance. This was recognised during the Covid-19 pandemic, when roadworkers were acknowledged by Government as key workers, along with workers from the material supply chain.

Asphalt provides sustainable solutions, as it is technically 100% reusable or recyclable back into new asphalt and utilises other recycling streams, whilst delivering cost-effective, safe, comfortable and quiet road surfaces. Ongoing research and innovation is further enhancing the durability and sustainable credentials of asphalt materials through decarbonisation, while continuing to support increasing road owner and user demands and expectations.

Whilst there are no official statistics available for this market, industry survey data produced by MPA indicates that, following a rapid pandemic-related rebound in asphalt production in 2021, sales volumes contracted by 6.5% in 2022, hit by the impact of surging energy, material and labour costs on the wider construction sector, particularly in roads and housing (Figure 3.16).

Figure 3.16 MPA Industry Surveys [a]: Asphalt sales in Great Britain (Million tonnes)

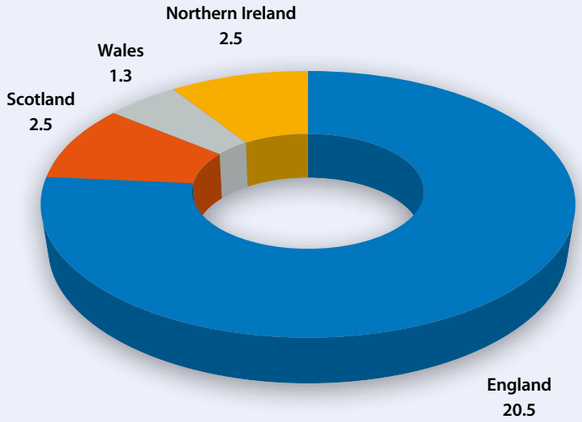


[a] *Estimated to represent about 90% of total asphalt sales in Great Britain.*

Source: MPA.

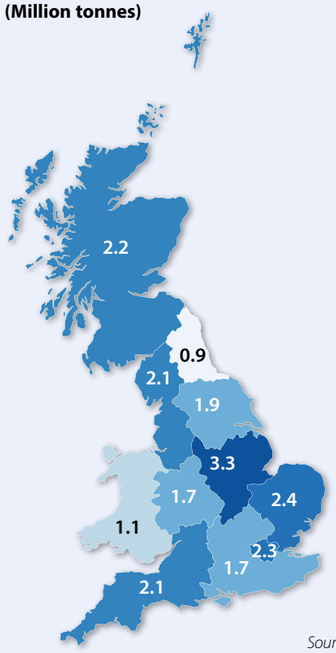
Asphalt is produced in a network of local plants, which serve both the local and national road networks. Figure 3.17 depicts the regional distribution of production, based on the MPA industry surveys, which are estimated to represent around 90% of the total sales in Great Britain. Overall, total UK sales of asphalt is estimated at 26.7 million tonnes in 2022 (Figure 3.18), down from 28.3 million tonnes in 2021.

Figure 3.18 Estimated total UK asphalt production (Million tonnes)



Source: MPA calculations.

Figure 3.17 MPA Industry Surveys: Asphalt sales by region in Great Britain (Million tonnes)



Source: MPA.

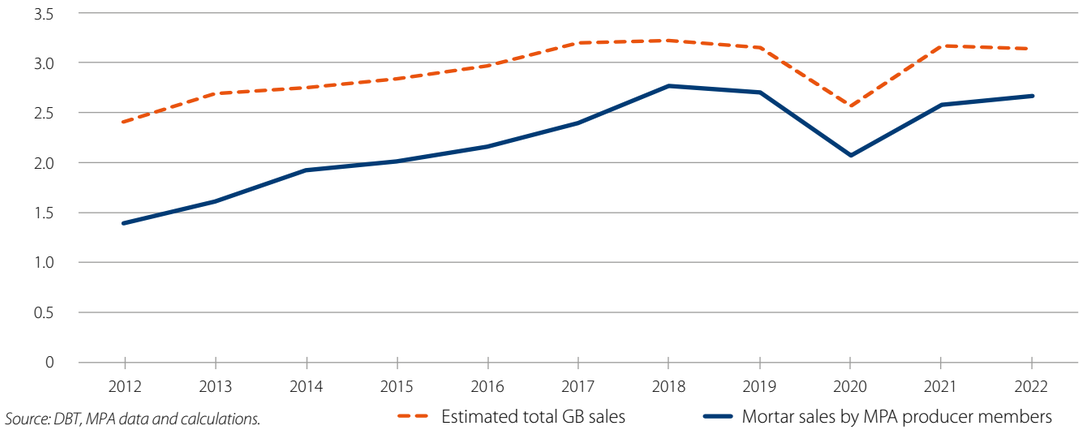
F. Mortar

Mortar plays an essential role in the building and construction industries, providing the glue that bonds bricks, blocks and stones into masonry. Continuous innovation ensures that factory-produced mortar can meet the stringent demands of the building and construction industries. This includes new developments, such as cement-free mortar and 3-D printing, which addresses the needs of modern building techniques, while improving its environmental credentials.

Demand for mortar is closely linked to new housing construction.

Whilst there are no official statistics available for this market, MPA survey data indicates that mortar annual sales from the trade association producer members reached 2.7 million tonnes in 2022, a 3.5% annual increase, after a 24.4% pandemic-related rebound in 2021 (Figure 3.19). Based on official statistics from the Department for Business and Trade (DBT, 2023) for brick and concrete block deliveries, MPA estimates that total mortar sales in Great Britain reached 3.1 million tonnes in 2022.

Figure 3.19 MPA Industry Surveys: Mortar sales in Great Britain (Million tonnes)



Source: DBT, MPA data and calculations.

G. Lime

1. Industrial lime

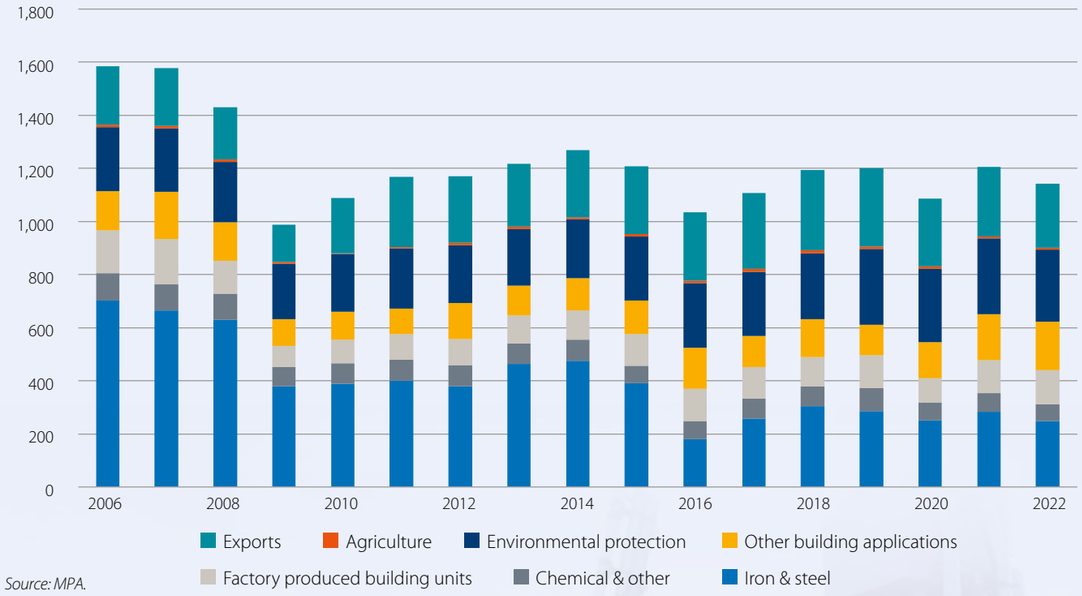
A diverse range of industries, such as steel, chemicals, glass, paper and construction rely heavily on industrial lime. This unique and versatile mineral is also used in the production of sugar, the treatment of contaminated land, the production of food, the cleaning of flue gases from energy from waste power stations and the purification of water for human consumption.

Lime additions in civil engineering applications of soil stabilisation and asphalt modification can provide significant environmental benefits, by utilising onsite resources and extending the durability of roads respectively. A variant of lime known as dolime, is used in refractories and refractory repair products that are an essential part of extending the life of furnaces, kilns and incinerators.

During 2022, in a significant step towards decarbonisation, the industry successfully completed the world's first trials of producing industrial lime with hydrogen as a replacement fuel for natural gas.

The high purity and specialist characteristics of industrial lime and dolime products also enables the sector to make a positive contribution to the UK trade balance, with 21% of domestic industrial lime sales exported in 2022 (figure 3.20).

Figure 3.20 UK industrial lime sales by end-usage (Thousand tonnes)



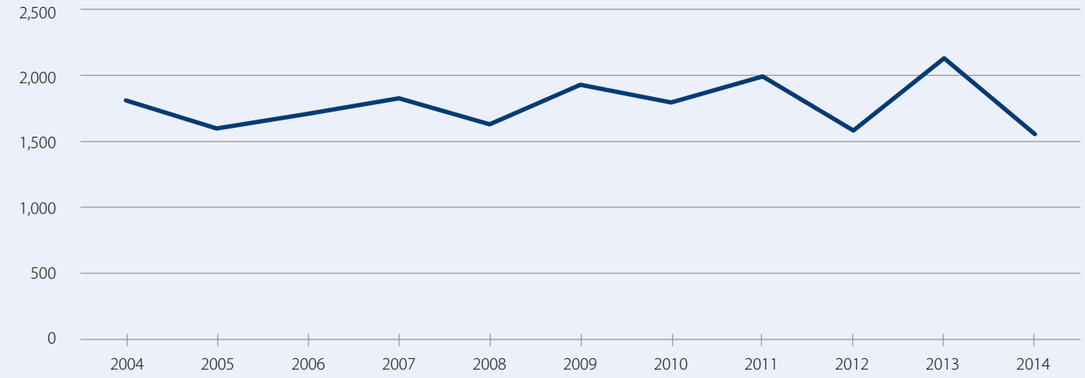
Source: MPA.

2. Agricultural lime

Quarried agricultural lime remains UK agriculture's principal tool in moderating the effects of climate change, excess soil acidity, and supplying essential calcium and calcium magnesium plant nutrients. Agricultural lime plays a key role in protecting nature's greatest asset, the soil, maintaining a healthy, sustainable and productive environment essential to meeting the challenges of future food security. National survey data indicates soil pH levels are declining, and that twice as much agricultural lime needs to be applied to UK farmland to reverse the rate of increasing soil acidity.

There are no official statistics available for the production of agricultural lime since the cessation of the Annual Raised Mineral Inquiry survey in 2015, which used to be carried out by the Office for National Statistics (ONS, Multiple years). The latest information available indicates total sales of agricultural lime reached 1.6 million tonnes in 2014 (Figure 3.21).

Figure 3.21 Sales of agricultural lime [a] in Great Britain (Thousand tonnes)



[a] *Sum of limestone, dolomite and chalk.*

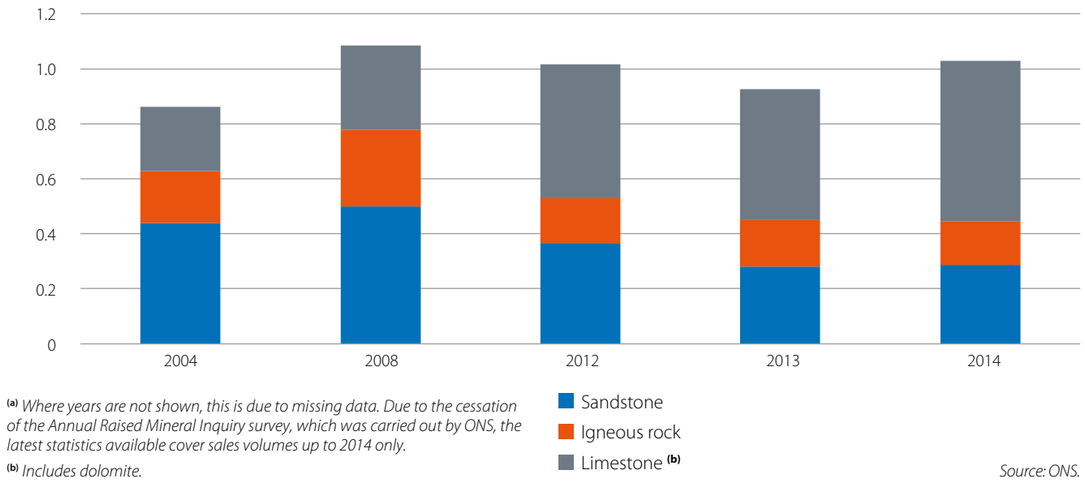
Source: ONS.

H. Dimension stone

The UK dimension stone industry plays an important role in ensuring that the unique local characteristics of natural stone-built areas of the country are maintained. In addition, there is demand from the heritage sector and from the prestige development market, both at home and overseas.

There are no official statistics available for the production of dimension stone since the cessation of the Annual Raised Mineral Inquiry survey in 2015, which used to be carried out by the Office for National Statistics (ONS, Multiple years). Annual production from quarries in Great Britain is estimated at about 1 million tonnes based on historical data (Figure 3.22), but imports from China and India continue to impact on the overall market.

Figure 3.22 Sales of dimension stone in Great Britain [a] (Million tonnes, selected years)



[a] *Where years are not shown, this is due to missing data. Due to the cessation of the Annual Raised Mineral Inquiry survey, which was carried out by ONS, the latest statistics available cover sales volumes up to 2014 only.*

[b] *Includes dolomite.*

Source: ONS.

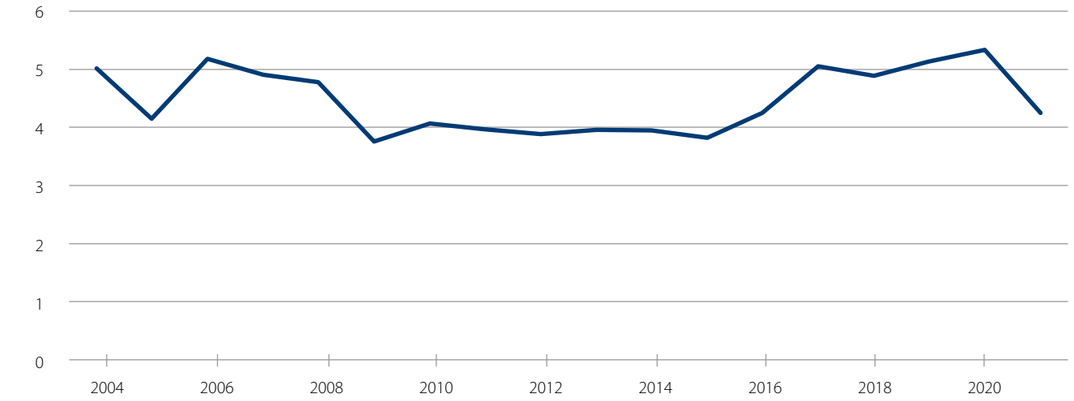
I. Industrial sand

As well as being used for glass manufacture, paints, plastics and foundry moulds, high purity industrial (silica) sands are also used in a wide range of essential industrial applications.

After declining significantly between 2007 and 2009, in light of changes in the UK heavy industry and manufacturing sectors, the production of industrial sand in Great Britain stabilised at about 4 million tonnes per year until 2015, rising gradually to 5.3 million tonnes in 2020, then falling back to just over 4.2 million tonnes in 2021 (Figure 3.23).

Historical applications such as heavy industry have been replaced by more diverse applications in markets such as food manufacture, water purification, rail braking, horticulture and sports and leisure.

Figure 3.23 UK production of industrial (silica) sand (Million tonnes)



Source: Bide, et al.

J. Industrial clays

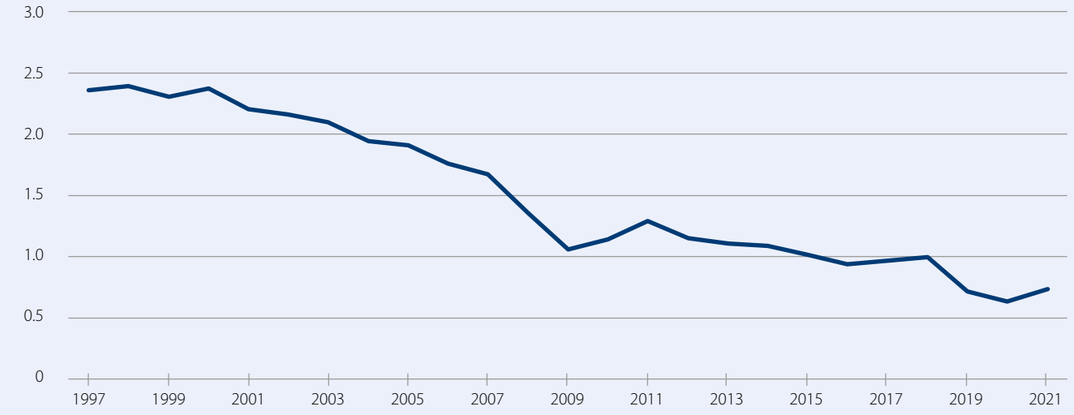
1. China clay

China clay or Kaolin has a wide range of industrial markets including ceramics, paper and specialist applications such as fillers for pharmaceuticals, paints, adhesives and animal feeds. Critical properties are whiteness and grain size and shape, with the latter affecting other factors such as strength, plasticity and fluidity, which are critical to meet a wide range of customer specifications.

Concentrated in the South West of England, china clay quarries are also an important source of secondary aggregates as by-products derived from extraction and processing, with each tonne of china clay typically producing up to 9 tonnes of waste arisings.

UK production has steadily declined in the past 25 years, with total production of china clay averaging around 700,000 tonnes in recent years (Figure 3.24).

Figure 3.24 UK production of china clay (Million tonnes)



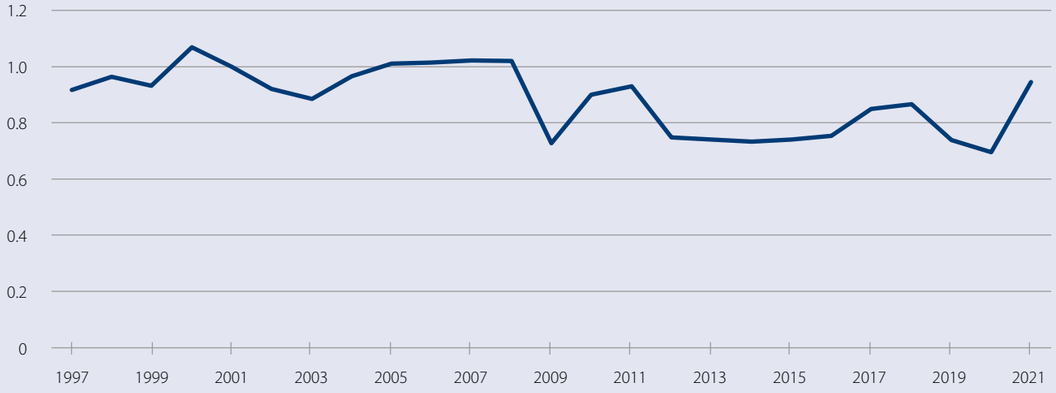
Source: Bide, et al.

2. Ball clay

Also known as plastic clays, ball clays are used principally in the ceramics industry for industrial applications, including sanitaryware, tile manufacture and tableware. Routinely blended from different clay horizons and sources, their ability to flow into moulds, their firing properties and inherent strength ensures UK ball clays are a much sought after global commodity in the manufacture of items such as sinks, toilets, wall and floor tiles.

Over the past 10 years, 800,000 tonnes of ball clay have been produced on average each year, primarily from Devon and Dorset (Figure 3.25). In addition to supplying the UK market, ball clay is also exported to markets across Europe, the Middle and Far East and the Americas.

Figure 3.25 UK production of ball clay (Million tonnes)



Source: Bide, et al.

4. Long Term Aggregates Supply

Aggregates are the foundation for construction, manufacturing and the infrastructure needed for a growing and greener economy. However, despite being recognised as essential resources in national policy, availability and supply are too often assumed.

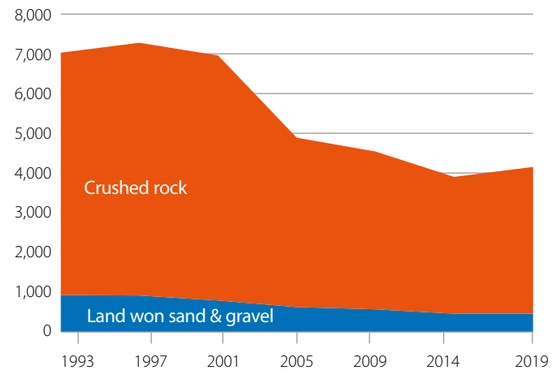
One of the main strengths of the sector is that aggregates resources of different types are widely available in Great Britain, and imports are relatively low. This means that it is able to support highly-productive local employment, often in rural areas of the country where permanent, well paid opportunities may be more limited, whilst also supplying materials in a sustainable way.

However, a key factor influencing the future, long term supply of aggregates, and therefore other mineral products manufactured using aggregates, is the operation of the mineral planning system. Figure 4.1 indicates changes in land-won permitted reserves of aggregates in England and Wales since the mid-1980s: in 2019, there were 4.2 billion tonnes of land-won permitted aggregates reserves, and a further 307 million tonnes of permitted reserves of marine aggregates in 2021 (The Crown Estate, 2021).

A complementary indicator, the replenishment rate of permitted reserves, provides a useful insight into the long-term availability of supply. In any one year, if sales of primary aggregates are equal to the tonnage of new permitted reserves, the replenishment rate would be 100%. Figure 4.2 indicates that long term replenishment rates for both land-won sand & gravel and crushed rock are well below 100%, with sales continuously exceeding the tonnage of new permitted reserves granted each year. Between 2012 and 2021, for every 100 tonnes of land-won sand & gravel sold, only 63 tonnes have been replaced through new planning permissions. For crushed rock, the replenishment rate falls to 52% (Figure 4.2). In other words, this means that aggregates are being consumed almost twice as fast as they are being replaced with new permitted reserves.

The continuing decline in permitted reserves for primary aggregates over the past 15 years is unsustainable. The implication of long-term replenishment rates well below 100% raises the prospect of future local supply shortages, with some regions responsible for national supplies facing challenges in maintaining their reserve base. With the additional demand created by green growth ambitions, including for major infrastructure projects and house building, the pressure on reserve availability and supply will only intensify over the next decade. Sources of aggregates derived from the recycling of hard construction and demolition waste, as well as from other industrial processes, already play a key role in meeting our aggregates needs and will continue to do so, but their potential to increase much further is limited. Primary aggregates are expected to continue to meet over two thirds of overall demand for the next 15 years (MPA, 2022).

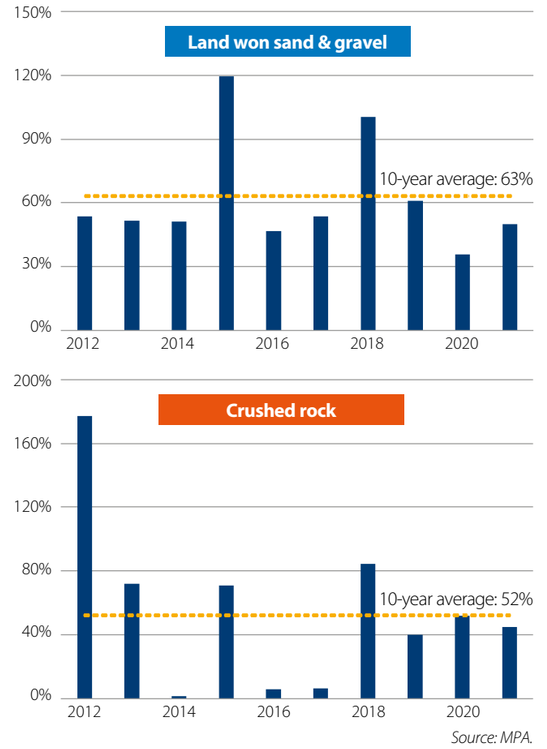
Figure 4.1 Permitted reserves of land-won primary aggregates in England and Wales [a] (Million tonnes)



[a] *The step change reduction in 2005 was influenced by a more robust and consistent reserve assessment methodology than previously used.*

Source: BGS.

Figure 4.2 Replenishment rates for sand & gravel and crushed rock in Great Britain



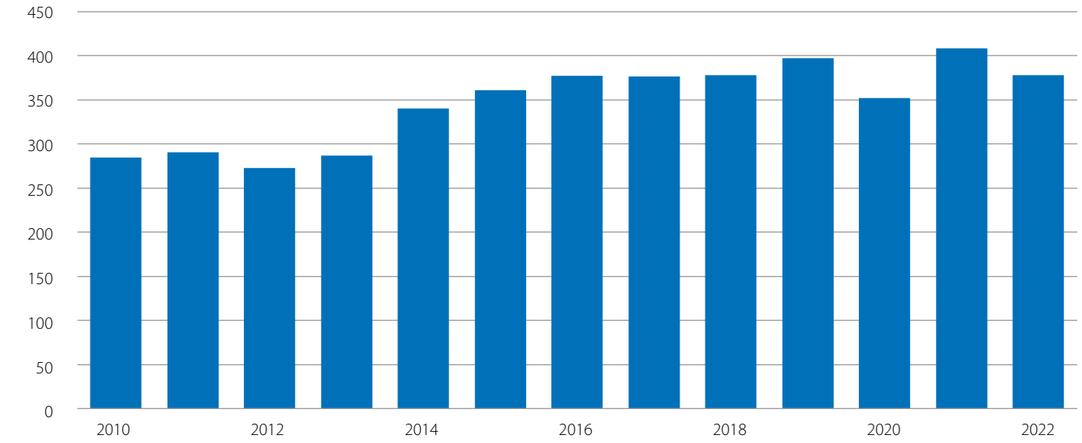
Source: MPA.

5. Industry Taxation

In addition to the standard set of business taxes including Corporation Tax, capital gains and employment related taxation, primary aggregates producers also pay the Aggregates Levy. The Levy was introduced in 2002 as an ostensibly environmental tax with the aim to encourage recycling and use of by-products from other industrial processes. The rate was initially set at £1.60 per tonne, increased to £1.95 per tonne in 2008 and £2.00 per tonne in 2009, and has since remained frozen until April 2024 when it is planned to begin to rise with RPI. Over this period, it has raised between. In 2022, the amount of Aggregates Levy paid by the industry reached £378 million (Figure 5.1).

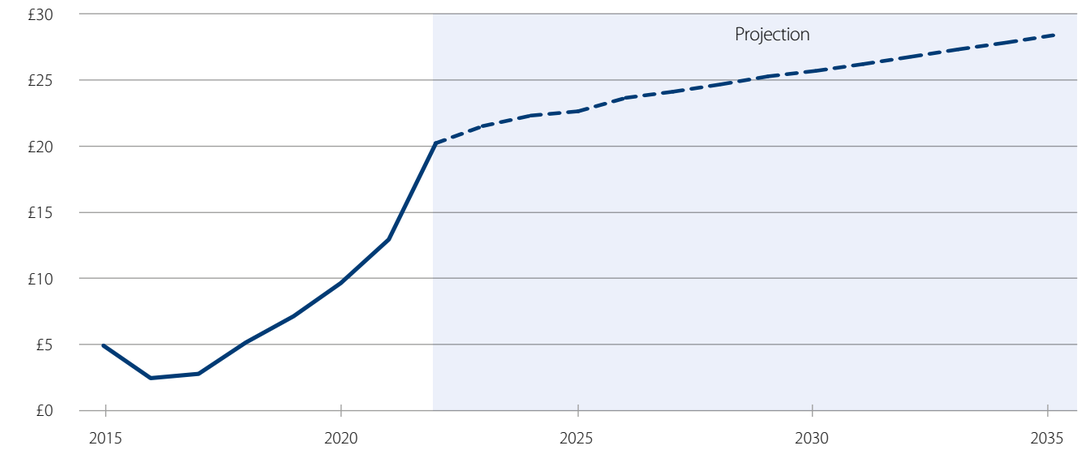
Other elements of the Mineral Products Industry fall within the scope of the UK Emissions Trading System, Climate Change Agreements (which offer a rebate of the UK Climate Change Levy in return for meeting energy reduction targets), Streamlined Energy and Carbon Reporting and Energy Saving Opportunity Scheme, all of which are focused on carbon reduction or energy efficiency. The industry also faces the indirect cost of policy measures designed to accelerate the deployment of renewable energy generation which is passed on in electricity bills. Climate change and energy policy measures in 2022 were estimated to cost the sector around £20 per tonne of cement produced, or a total of £170 million (Figure 5.2). The indirect cost of carbon pricing and renewable policies passed on in energy bills are expected to increase further over the coming years, so that the cost to cement producers could exceed £25 per tonne of cement by 2030.

Figure 5.1 Aggregates Levy payments to Government (£ million)



Source: HMRC.

Figure 5.2 Estimated cost of energy and climate change measures for the cement industry



Source: MPA.

6. Environment And Sustainability

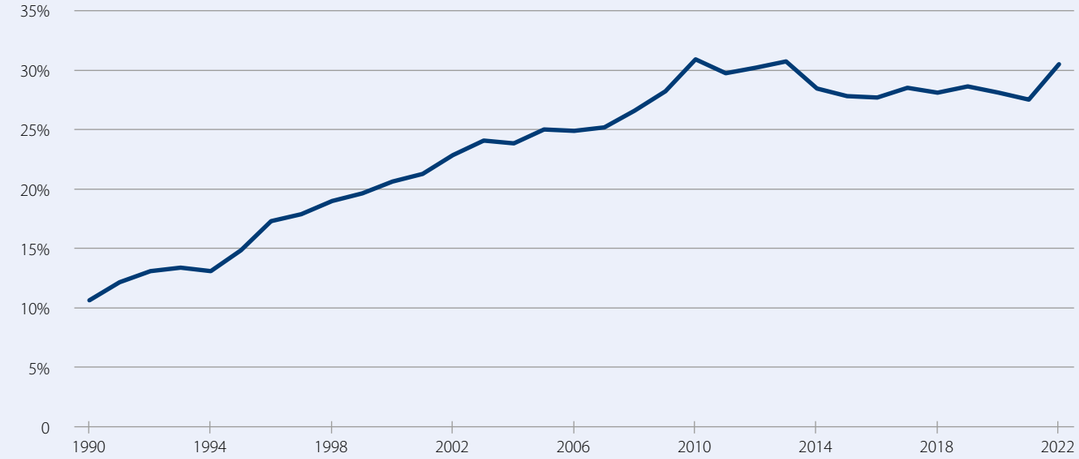
A. Recycling and the use of secondary aggregates

In addition to the extraction of quarried and marine-dredged primary aggregates, materials can also be produced from the recycling of inert Construction, Demolition and Excavation Wastes (CDEW), or derived from other industrial, production or extractive processes, referred to as secondary aggregates.

This can include mineral extraction operations, such as sand and crushed rock material from ball clay and china clay production, or waste from slate production. Other sources of secondary materials include blast furnace and steel slags, incinerator bottom ash, furnace bottom ash, coal-derived fly ash and crushed glass sand.

Collectively, these sources also contribute significantly to total aggregates supply. Over the past 10 years, recycled and secondary sources of aggregates have supplied on average 29% of total aggregates supply in Great Britain, reaching an estimated 74 million tonnes in 2022 (Figure 6.1). This places Britain as a leader internationally in the use of recycled and secondary aggregates (Figure 6.2).

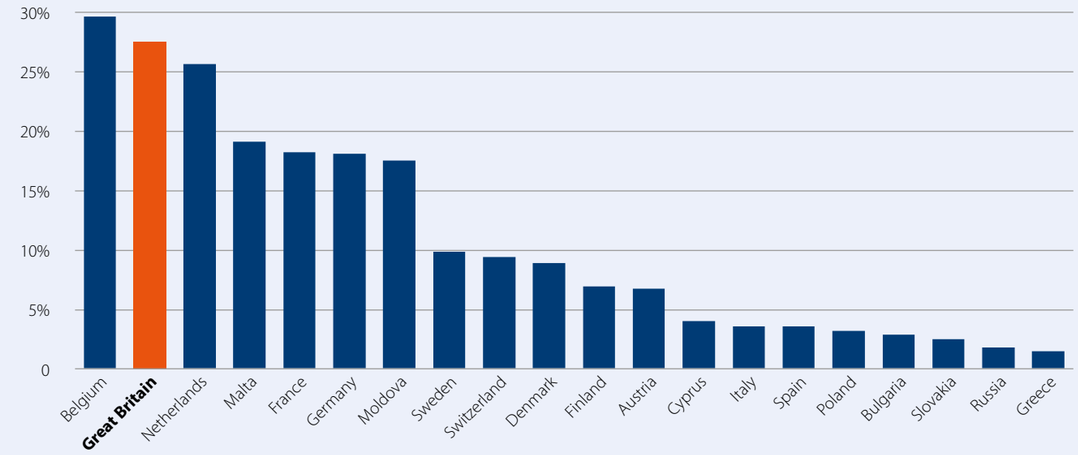
Figure 6.1 Share of recycled and secondary materials in total aggregates supply in Great Britain [a]



[a] *Published estimates from MPA up to 2021 (MPA, 2023f). 2022 approximated using trends in construction activity as an indicator of demolition waste materials availability.*

Source: ONS, MPA calculations.

Figure 6.2 Contribution of recycled and secondary materials [a] in total aggregates supply in Europe in 2021



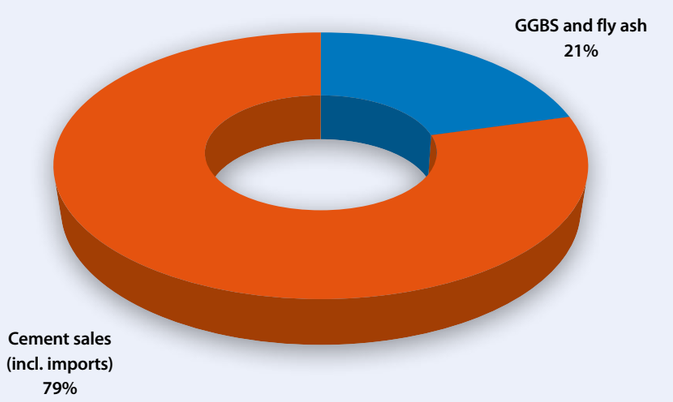
[a] *Includes manufactured, recycled (fixed and mobile) and aggregates re-used on site.*

Source: UEPG, MPA calculations.

Recycled and secondary aggregates are used in the lower layers of road pavements constructions as well as higher value road applications, and in some concrete manufacture and a range of other construction applications, such as fills and landscaping. Figure 6.3 shows that sales of Portland cement for instance are supplemented by the use of other cementitious materials including ground granulated blast furnace slag (see also Section 3.B.2) and fly ash (Section 3.B.3). These cementitious materials are supplied either as a component of blended cements or directly to concrete manufacturing facilities for blending during production.

Outside of industry data collected by MPA from its producer members, there is currently no regularly collected and consistent national statistics available on the availability and use of recycled and secondary aggregate in the UK[1] to support the wider policy objectives with regards to circularity, sustainability and decarbonisation and set out more compelling evidence based policy instruments.

Figure 6.3 GGBS and fly ash in the UK cementitious market, 2021



Source: MPA.

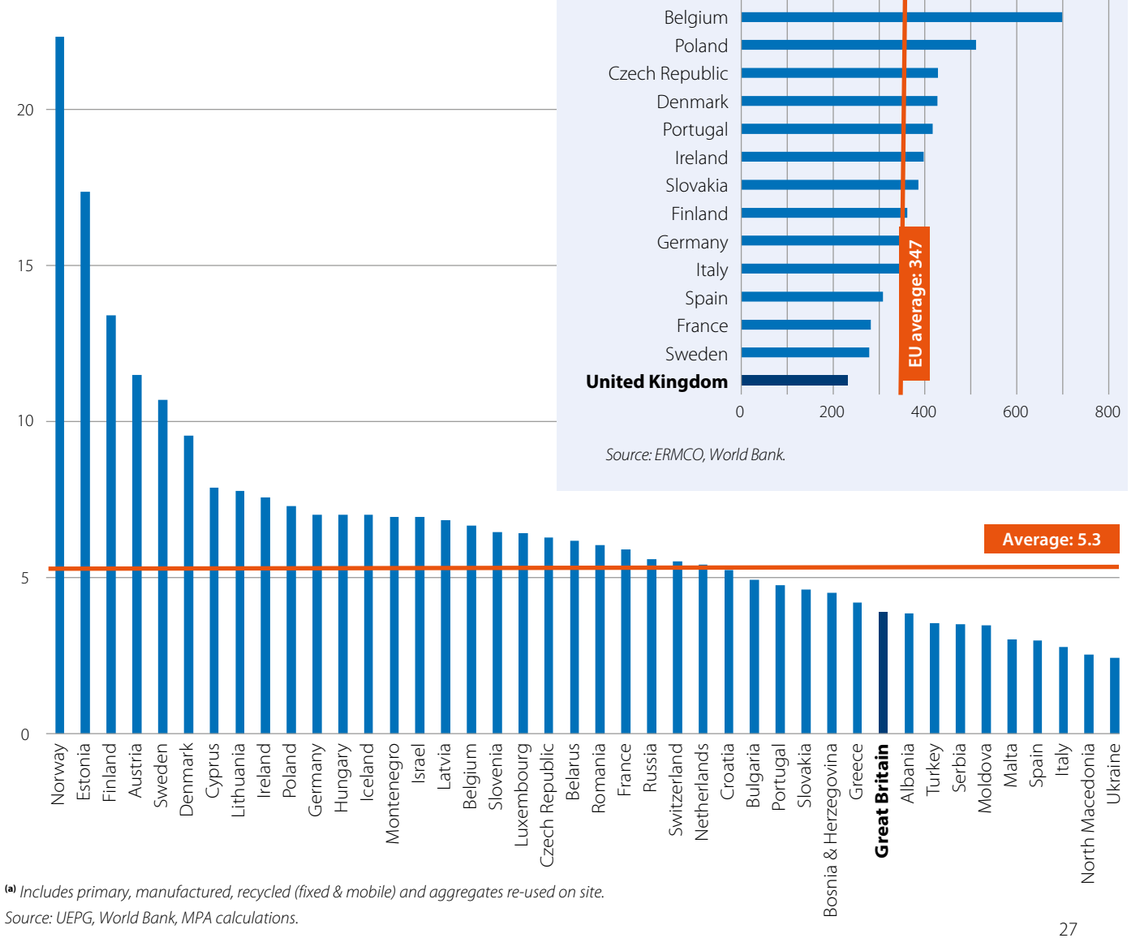
[1] *In 2022, Natural Resources Wales published a survey on construction and demolition waste in Wales, based on 2019 data (M.Garrett, et al., 2022).*

B. Resource efficiency

In economics, almost everything is about supply and demand. The Mineral Products Industry does not create the demand; it only supplies it. Demand for aggregates and other mineral products is driven by construction and manufacturing activity, themselves dependent on the general health of the economy. Other factors can also play a role, including the status of national and local urban regeneration programmes and population density. In the UK, production and consumption of aggregates and cement per capita remain relatively low and amongst the lowest in comparison with the rest of Europe, at around 3.9 tonnes per capita for aggregates (Figure 6.4), and 233 kilogrammes per capita for cement (Figure 6.5).

A complementary indicator of resource efficiency is the aggregates intensity of construction, that is the tonnage of aggregates used per thousand pounds spent in construction in Great Britain. It is derived using aggregates consumption (sales) from all primary, recycled and secondary aggregates, relative to total construction activity, as measured by the Office for National Statistics (ONS, 2023a). Figure 6.6 (on the next page) shows that the aggregates intensity in construction use has reduced in the past 25 years, from 2.1 tonnes of aggregates used per thousand pounds spent in construction in 1997, to just over 1.3 tonnes in 2022, a 1.8% decline per annum on average over the period. The historical trend depicts a couple of step-changes in 2002-03 and again in 2008-10, which are likely to reflect efficiency gains in the manufacture of mineral products, such as concrete or asphalt. More broadly, changes in aggregates intensity can also reflect the type of construction work taking place and the share of aggregates demand used unbound, for instance as lower-value fill materials, rather than feeding into the manufacture of added-value products. Such demand has more limited opportunities for substitution with other materials, and offers less opportunity for improved efficiencies, therefore limiting the potential for greater reduction in aggregates intensity.

Figure 6.4 Total aggregates [(a)] production, tonnes per capita, 2021



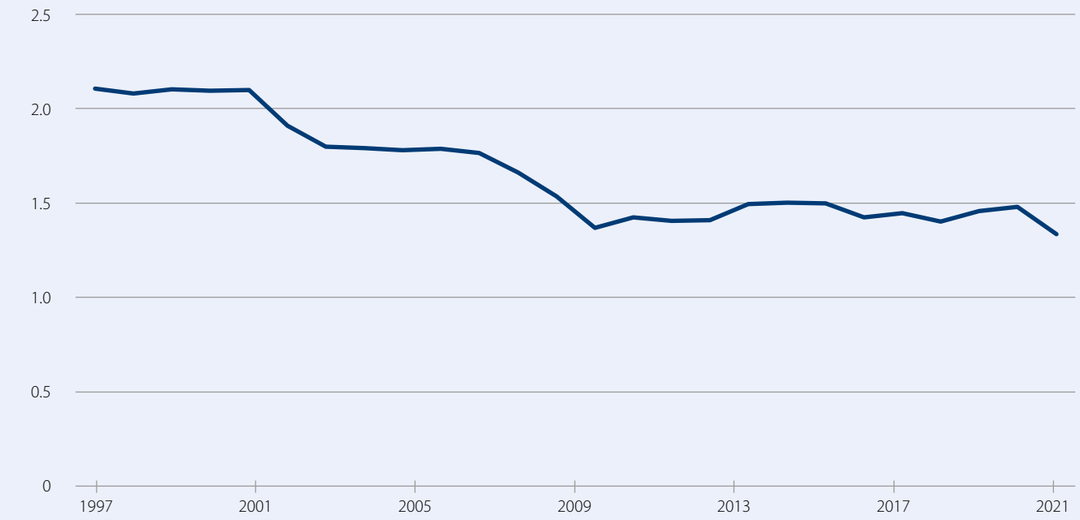
[(a)] *Includes primary, manufactured, recycled (fixed & mobile) and aggregates re-used on site.*

Source: UEPG, World Bank, MPA calculations.

Figure 6.5 Total cement consumption, kilogrammes per capita, 2021

Source: ERMCO, World Bank.

Figure 6.6 Aggregates intensity of construction in Great Britain



Source: ONS, MPA calculations.

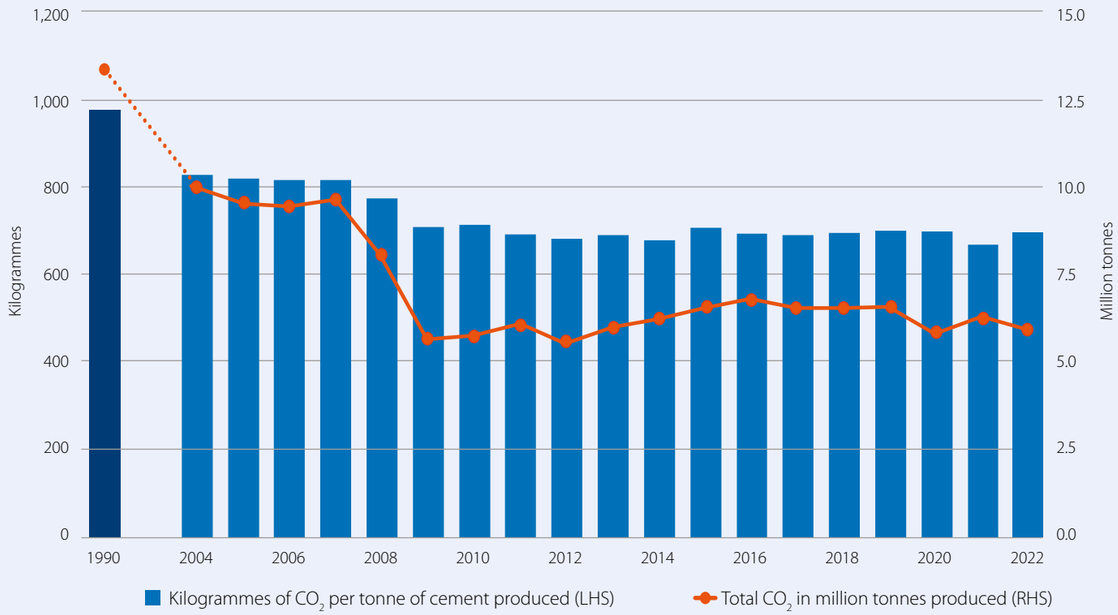
C. Net Zero and climate adaptation

Across the Mineral Product Industry, cement and lime are the most carbon intensive operations, due to the high temperatures required to produce them, and the release of carbon dioxide from calcium carbonate raw materials at high temperatures (known as process emissions).

Cement manufacture is energy and carbon dioxide intensive, but because of its unique properties, only a relatively small amount is needed in concrete. Carbon emissions from cement manufacture represented 1.5% of total UK production emissions in 2021, and declined by 53% between 1990 and 2021, decarbonising faster than the UK economy as a whole (Figure 6.7). UK manufacturers achieved this substantial decarbonisation through heavy investment and a progressive move toward using alternative waste-derived fuels and increasing the use of by-products and waste from other industries to substitute for clinker.

The Government has committed to deliver Net Zero emissions by 2050. The actions we all take today and over the next decades will determine whether we succeed. Whilst the UK concrete and cement industry already has a strong track record in reducing carbon emissions, the industry also published in 2020 a 'Roadmap to Beyond Net Zero' that sets out measures necessary to achieve carbon reduction and Net Zero and how the sector could become net negative when the downstream benefits of concrete in use are taken into account (MPA, 2020). The Roadmap sets out a credible pathway to delivering Net Zero concrete and cement by 2050, together with recommendations about the framework, policy and cross-industry collaboration that are required to achieve this (Figure 6.8).

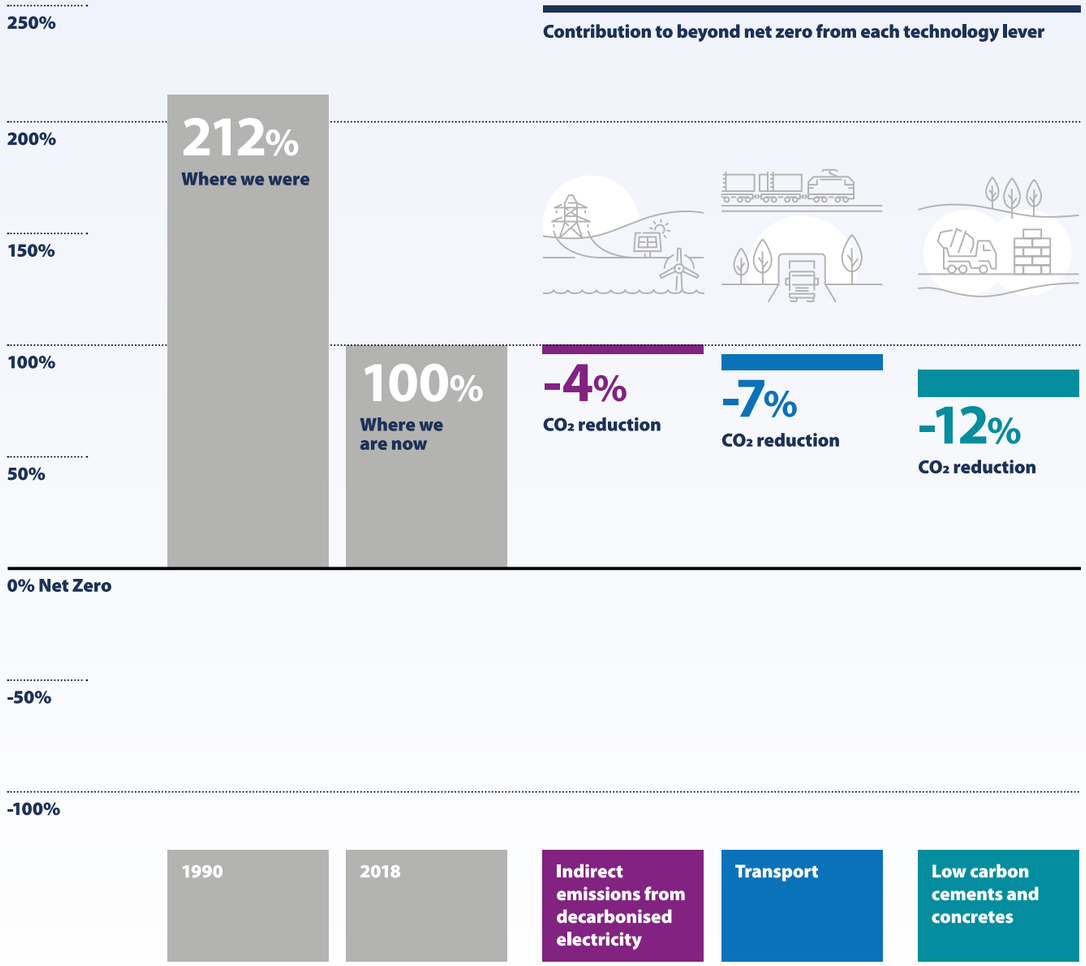
Figure 6.7 Direct carbon dioxide emissions from UK cement production plants



Source: MPA.

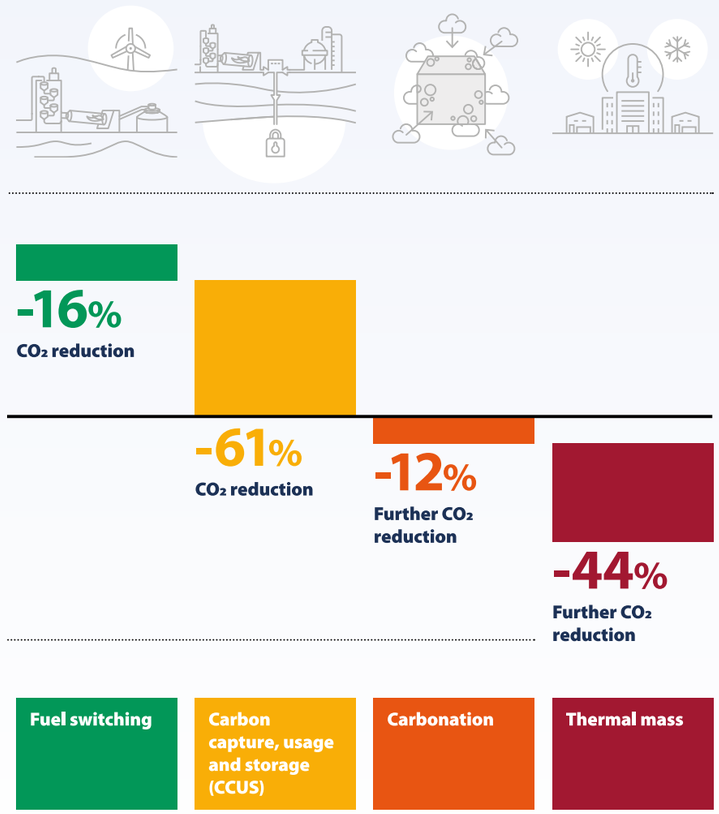
Figure 6.8 Beyond Net Zero: the UK concrete and cement industry roadmap in numbers

Absolute 2050 CO_2 emissions reductions compared to 2018



The chart shows absolute 2050 CO_2 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.

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.



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

A roadmap to net negative by 2040 was also published in 2023 for the lime sector (MPA, 2023g). Since 2005, action and investment in the best available technology by British lime producers has already resulted in a reduction in absolute carbon emissions of around 25%. Now, the industry's net negative roadmap identifies further technologies and infrastructure to fully decarbonise lime production, as well as outlining the enabling actions required by Government and other industries in the supply chain.

Other mineral products are also progressing on decarbonisation. For example, warm mix asphalt technologies can reduce CO_2 emissions associated with asphalt production by around 15%, depending on the technology implemented (AIA, 2019). The full benefits rely on other influences in the specification and procurement chain. Further reductions on embodied carbon can be achieved by increasing the addition rates of recycled asphalt back in to asphalt. Carbon reduced products can also provide delivery efficiencies, ensuring networks are returned to service sooner, thereby reducing delays and emissions generated by traffic in congestion. High quality road construction and maintenance can further reduce emissions from vehicles through improving fuel efficiency, and also benefit electric vehicles by extending range. It has been calculated that an upgrade of one third of the entire road network of Europe by 2030 could lead to yearly savings of 14 million tonnes of vehicle-generated CO_2 (EAPA, EUPAVE and FEHRL, 2016). Creating more durable and resilient material solutions also reduces the number of maintenance interventions and, hence, carbon demand required in a road's whole life cycle.

Meanwhile, the extraction of minerals, their processing and transport to market also generate carbon emissions, the quantum of which will depend on the material considered, the method of extraction used and the transport required. Based on 2016 data, a WWF report (WWF, 2020) identified that carbon emissions from "Other mining and quarrying product"' (i.e. non-energy and metals extraction) activities represented just 0.2% of total UK production emissions, and stood 46% below levels of emissions in 1990. The inclusion of 'mining' in the definition will include more minerals than just aggregates, such as gypsum, chalk, slate, as well as the mining of clays, kaolin, chemical and fertiliser minerals, peat and salt.

Focusing on aggregates, the increasing contribution of low carbon energy in the mix have resulted in lower carbon emissions per tonne of crushed rock and sand & gravel on-site production in recent years, which stood at 3.0 kg/tonne and 2.7 kg/tonne respectively in 2020 (MPA, 2021). Applying these carbon intensities to the total production of crushed rock and sand & gravel aggregates for the year 2020 leads to an estimated total carbon emissions of 460,448 tonnes in 2020, which represents just 0.1% of the total UK territorial greenhouse gas emissions at 406 million tonnes CO_2 equivalent (DESNZ, 2023b). It should be noted that these figures exclude the carbon cost of transporting products to their point of use.

Site management and restoration can also play an important role. Habitats commonly established as part of site restoration, such as woodland and scrub, heathland and meadows, as well as reedbeds are particularly effective at capturing and storing carbon (Natural England, 2021). Site restoration, especially to wetland, can make an important contribution to adaptation to the effects of climate change, particularly with wetter winters and more extreme rain events. It provides for water storage and flood risk mitigation, as well as a range of other ecosystem benefits. Adding rock dust or waste cement to croplands also have the potential to achieve large-scale additional carbon sequestration (Beerling, 2020).

D. Nature recovery

The Mineral Products Industry is uniquely placed to contribute to the delivery of national and local biodiversity targets and objectives, including net gain and nature recovery.

At least 8,300 hectares of UK priority habitats have been created through the restoration of old quarries and management of land, the equivalent of eight times the area of Richmond Park. A further 11,000 hectares of UK priority habitats are currently planned through the restoration of sites. Thus the industry has a long and proud history of delivering biodiversity and wider environmental net gains at scale.

Figure 6.9 shows the location of some of the best restored sites that the public can visit, a nationwide network of quarries that have been restored for wildlife and which are accessible to the public. This map includes 80 sites covering over 5,000 hectares, with a range of facilities including nature trails, viewing hides and visitor centres. Collectively they form the MPA National Nature Park. Further information is available on the MPA website: **www.mineralproducts.org/Campaigns/Quarries-and-Nature/MPAs-National-Nature-Park.aspx**

Figure 6.9 MPA National Nature Park

E. Sustainable development across the Mineral Products Industry

Given the diversity of the Mineral Products Industry, MPA produces a range of industry and product-specific sustainability reports, with the latest available to download from the MPA website: **www.mineralproducts.org/Sustainability/Reporting.aspx**

Annex 1.
About the Mineral Products Association (MPA)

Who we are

MPA is the trade association for the aggregates, asphalt, cement, concrete, dimension stone, lime, mortar and industrial sand industries. The Association has become established and recognised as the sectoral organisation for the mineral products industry.

Five key aims underpin the work of the MPA, creating the high-level agenda it uses to influence Government and other key stakeholders. We seek:

1. Economic conditions that support investment
2. Better Government support for an essential industry
3. A reasonable licence to operate
4. Proportionate legislation and regulation
5. Recognition of progress

What we do

MPA represents the interests of MPA members and the industry with all levels of Government, regulators, other organisations and external audiences. Key activities include:

- Improving health & safety
- Representing the sector
- Raising awareness of the sector and its contribution to the economy
- Gathering and presenting evidence and information
- Influencing policy, regulation and legislation in the UK and EU
- Protecting the industry's licence to operate
- Safeguarding and developing markets
- Improving perceptions
- Informing on markets and economic contribution
- Influencing technical and design standards
- Influencing supply chains
- Encouraging innovation
- Promoting the use of mineral products
- Educating stakeholders to 'Make the Link' between mineral products and their use

The list of MPA members is available on the MPA website: https://www.mineralproducts.org/Members-MPA-Producer.aspx

Annex 2.
List of tables and figures

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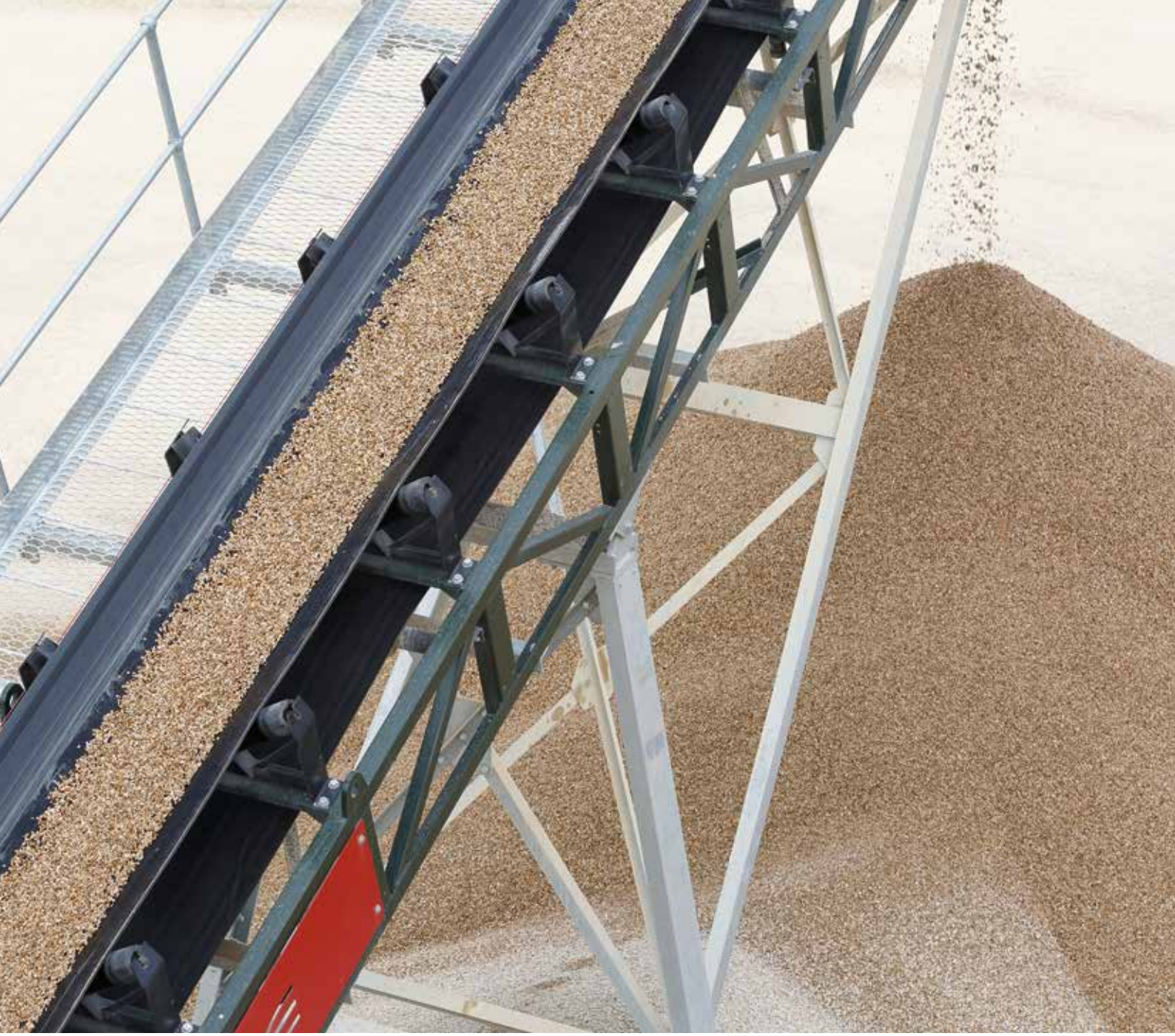

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The Mineral Products Association is the trade association for the aggregates, asphalt, cement, concrete, dimension stone, lime, mortar and industrial sand industries.

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