

Construction Aggregates Supply in Great Britain:

Primary, Recycled and Secondary Aggregates in 2022

Overview of the Aggregates Market

Construction aggregates are essential for housing, infrastructure including transport and energy networks, commercial and industrial buildings, utilities, schools, and hospitals, and are the largest material flow in the economy.

The main components of aggregates supply are primary aggregates, meaning quarried crushed rock and both land-won and marine dredged sand and gravel. A total of 168.3 million tonnes of primary aggregates were produced in Great Britain in 2022 (Figure 1), of which crushed rock provided 116.2 million tonnes and sand and gravel 52.1 million tonnes (Figure 2). Additionally, an estimated 25 million tonnes were produced in Northern Ireland. Primary aggregates are largely recovered from indigenous sources and imports remain limited.

In addition to the extraction of primary aggregates, building materials can also be obtained 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 includes waste materials derived from china clay, ball clay and slate extraction. It also includes furnace ash and slag from iron and steel production, which are referenced as 'manufactured aggregates' in line with the BS EN aggregate product standards. Collectively, recycled and secondary aggregates contribute significantly to the total aggregates supply.

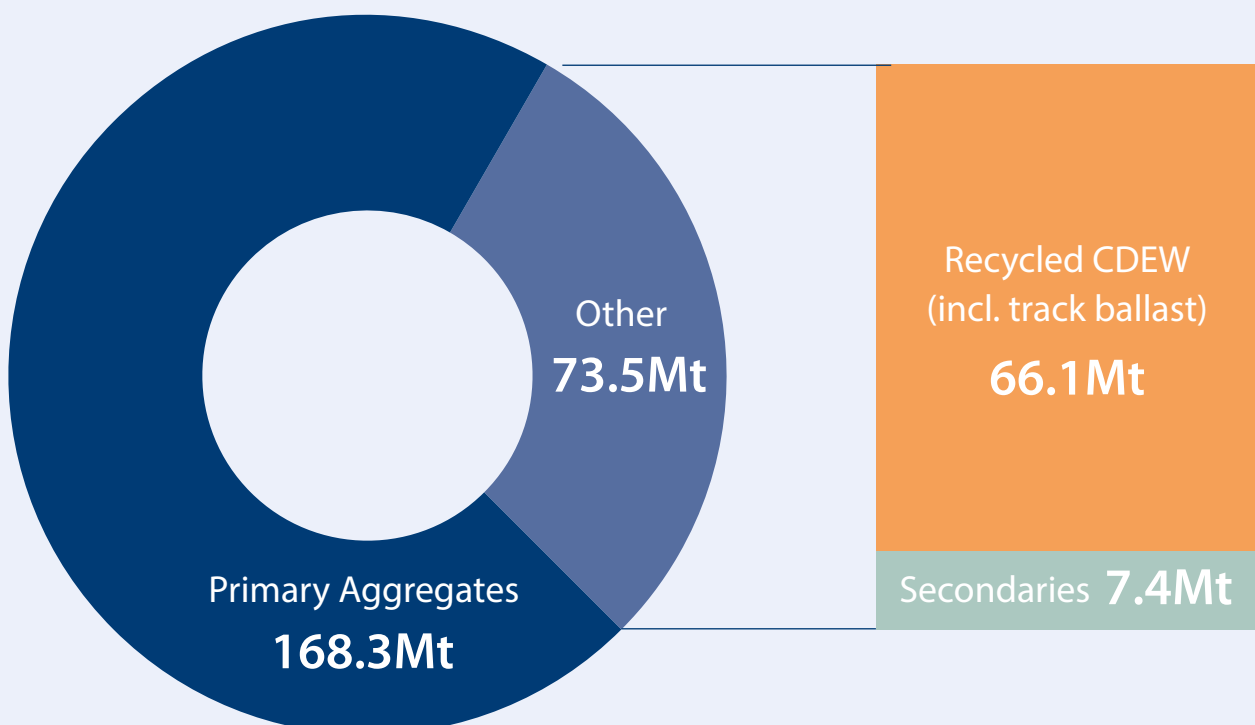
In 2022, recycled and secondary sources of aggregates accounted for 30% (73.5 million tonnes) of the overall supply of construction aggregates in Great Britain, one of the highest recycling rates in Europe (Figure 3, Figure 4).

The absence of regularly collected and compiled national statistics for recycled and secondary aggregates use at all scales can make it challenging to track the industry's continuing progress to support and enable the delivery of resource efficiency and circular economy policy ambitions. In response, the Mineral Products Association (MPA) has developed a methodology to track their contribution to overall aggregates supply to address this data gap with the best information available. The methodology used is based on published statistics from third parties whenever possible, combined with other tried and tested material-specific assumptions.

Notwithstanding this work, there remains a clear need for more rigorous industry data to be made available through official government sources, particularly given the challenges ahead with regard to circularity, sustainability and decarbonising all sectors of the economy to meet our Net Zero target by 2050.

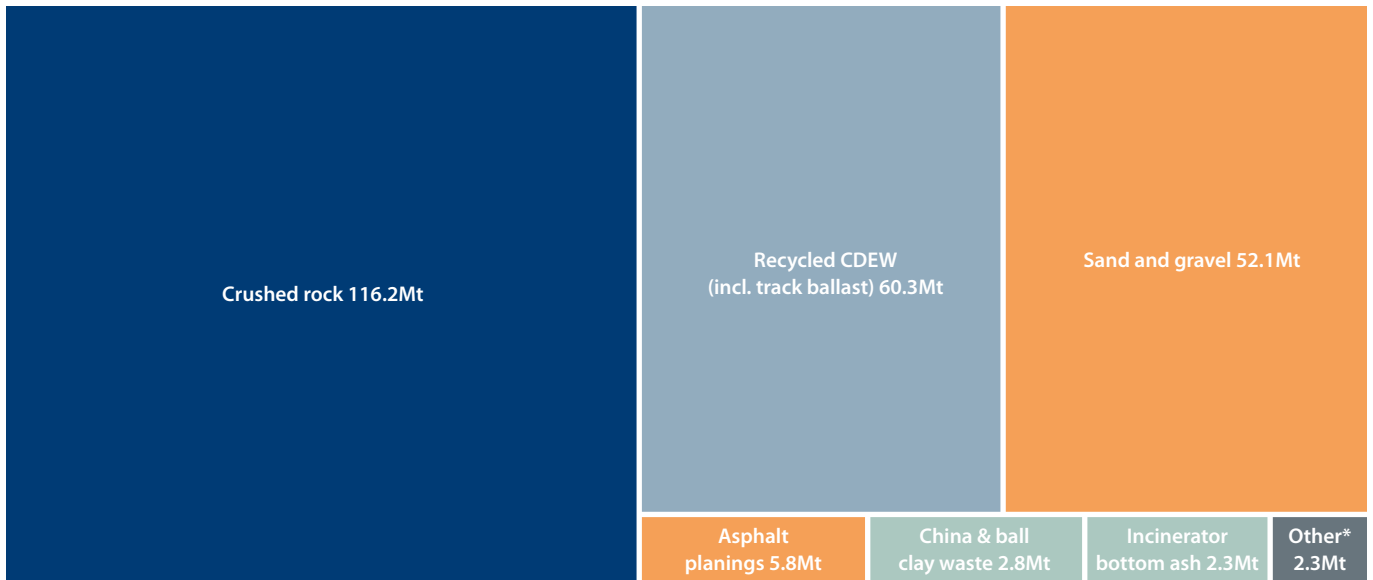
In a bid to transform waste management practices across the United Kingdom, the government is preparing to introduce mandatory digital waste tracking from 2025, encompassing all waste types, from household to industrial. The transition should help improve the quality of data related to construction and demolition waste.

Figure 1 - Estimates of total aggregates supply (million tonnes) in Great Britain, 2022



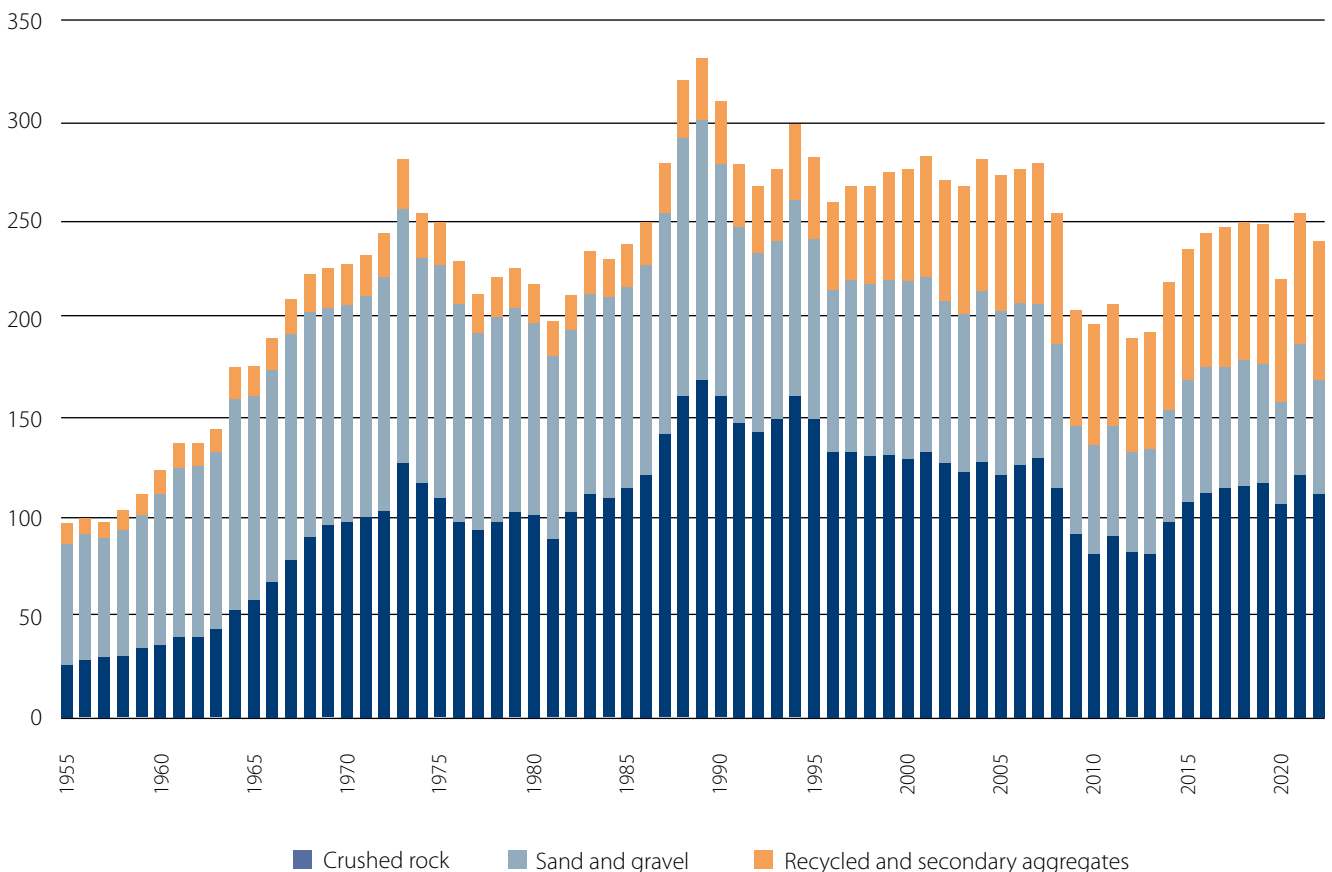
Overview of the Aggregates Market

Figure 2 - Constituents of aggregates supply (million tonnes) in Great Britain, 2022



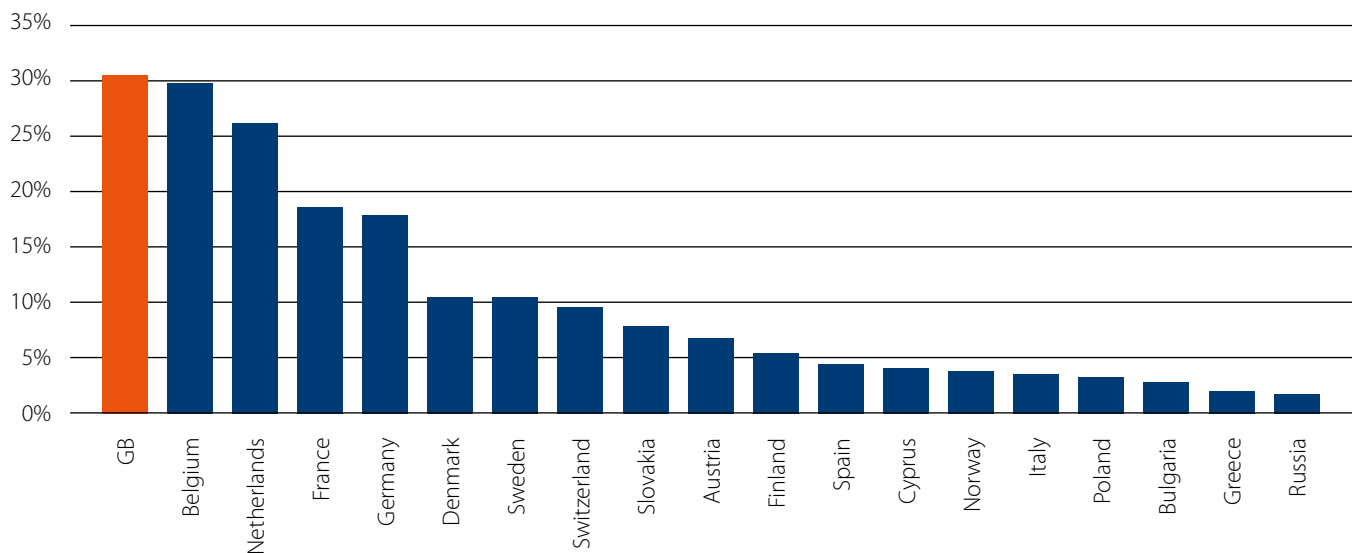
* Includes iron and steel slag, clay and shale, slate waste, chalk, fly ash, furnace bottom ash and colliery spoils.

Figure 3 - Total aggregates supply (million tonnes) in Great Britain, 1955-2022



Overview of the Aggregates Market

Figure 4 - Share of recycled and secondary sources in total aggregates supply, 2022 (Aggregates Europe - UEPG, MPA)



Definitions and Methodology

Primary aggregates are minerals that are extracted for aggregates use (BS EN Aggregate product standards “Natural”). In 2022, crushed rock represented 69% of the total volume of primary aggregates produced, with sand and gravel quarries and marine dredged sand and gravel making up the remainder of the total primary aggregates supply.

Whilst local and regional markets may be highly dependent on a particular type of aggregates due to geological availability or the need for specific construction products, the total market is mostly supplied from domestic sources. Aggregates imports account for less than 5% of total supply¹.

Recycled aggregates are materials derived from CDEW, which are reprocessed and/or re-used as aggregates for construction purposes whenever possible. This includes the hard inert materials which would generally be suitable for recycling into aggregates. This definition comprises railway ballast but excludes asphalt planings, which are accounted for separately. Suitable soft CDEW recovered as recycled soils are entirely excluded, but in many cases, these materials will be re-used to support the restoration of land (MPA, 2019).

Secondary aggregates are by-products of other industrial, production or extractive processes, which can be used as aggregates for construction purposes. These include blast furnace iron and steel slags, incinerator bottom ash (IBA), fly ash, furnace bottom ash (FBA), china clay, ball clay, slate and chalk waste and colliery spoils. Collectively, these materials make an important contribution to the total aggregates supply and, depending on their quality and composition, can be used as replacement construction aggregates in the manufacture of concrete and concrete products and a range

of other construction applications. It should be noted that certain secondary aggregates are defined as manufactured aggregates within the BS EN aggregate product standards.

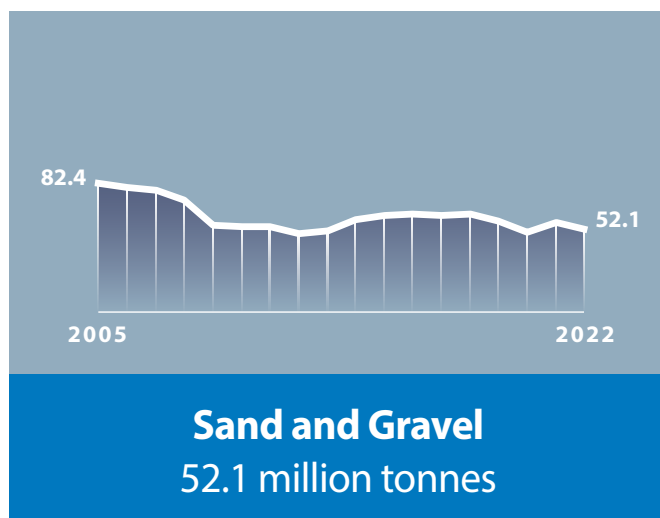
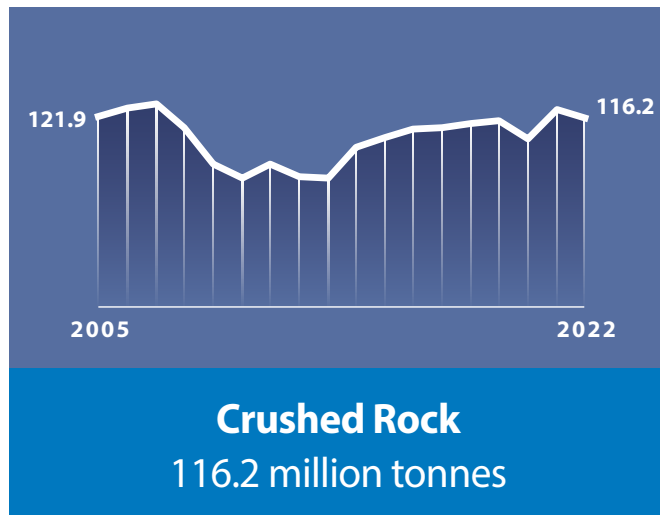
In the absence of more recent Government data, all estimates for CDEW and secondary aggregates use contemporary construction and sales data combined with on statistics from historical research which provided data for the years 2005 and 2008 (DCLG, 2007a; DCLG, 2007b; WRAP, 2010). It is assumed that all CDEW which can be recycled as aggregates is being used, with limited opportunity for a significantly higher share of CDEW in aggregates markets. Research by the former Department for Communities and Local Government (DCLG) into CDEW markets suggests that this was already the case in 2005, with little evidence of hard construction and demolition waste which could be recycled into aggregate being landfilled as waste (DCLG, 2007a). This situation is unsurprising given such resources are widely valued in construction markets and given the drive towards greater circularity and green construction, and anecdotal evidence suggests the demand for these materials has never been higher. Furthermore, disposing of such materials in landfills comes at a significant cost, incentivising their reuse wherever possible.

Using the information available, MPA estimates the contribution of recycled and secondary aggregates to total aggregates supply from 2009 onwards using a range of material-specific assumptions, which are detailed in the following sections. It should be noted that the devolved administrations may publish recycling data based on activities in their jurisdictions. These recycling rates may differ from the estimates for Great Britain presented in this document.

¹ In 2019, just 4.8 million tonnes of primary aggregates were imported into England and Wales principally from Scotland and Norway, but with small quantities from France and Northern Ireland (BGS, 2016; 2021).

Constituents of Aggregates Supply

Primary Aggregates



Historical statistics on non-energy mineral production in Great Britain are available from the Annual Mineral Raised Inquiry Survey (AMRI survey), previously carried out by the Office for National Statistics (ONS). This includes data on extracted sales of chalk, clays, crushed rock, dolomite, granite, limestone, peat, ore minerals, salt, sandstone, sand and gravel, slate and other minerals, together with employment for each quarry type. The last annual survey available provides data for 2014, after which the government withdrew funding.

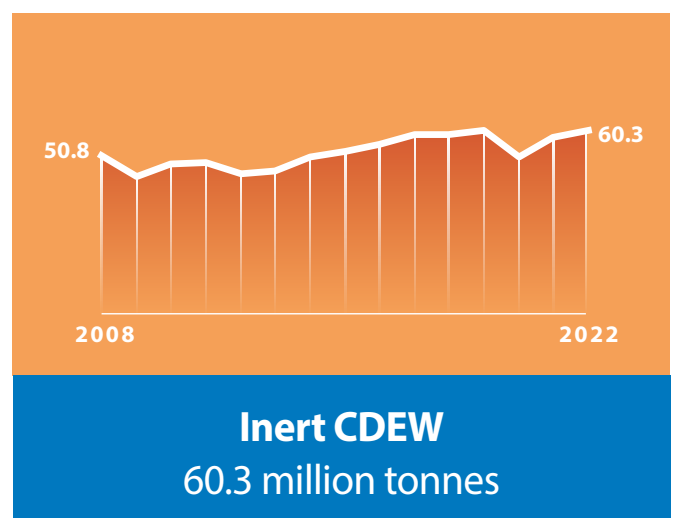
More recent statistics on primary aggregates sales in England and Wales (BGS, 2016; 2021) and in Scotland (BGS, 2023b) are available from the Aggregate Minerals Surveys (AM survey). The 4-yearly survey provides national and regional sales patterns, inter-regional flows, transportation, consumption and permitted reserves for primary aggregates. The latest data available at the time of writing covers the year 2019.

There are no other official sources of statistics for primary aggregates production at a national scale. Thanks to its wide industry

representation, MPA can use information collected from its producer members to fill the gaps in the data. MPA collects sales statistics for a range of construction materials, including primary aggregates. The MPA Sales Volumes Survey (MPA, 2024) represented 73% of total sand and gravel, and 82% of total crushed rock sales in England and Wales in 2019 when compared to the most recent AM survey. For Scotland, the particularly low response rate to the 2019 AM survey means that it has not been possible to compare the MPA data against it. However, historical information derived from AMRI for 2014 indicated that the MPA data represented 56% of total sand and gravel sales and 44% of crushed rock. Overall, the significant market representation makes it possible to use the MPA data trends as a reasonable proxy for changes in total primary aggregate sales in Great Britain for more recent years.

MPA estimates that 168.3 million tonnes of aggregates were produced in 2022 in Great Britain, comprising of 116.2 million tonnes of crushed rock and 52.1 million tonnes of sand and gravel (see Appendix 1). The methodology is based on the total primary aggregates sales as published in the AMRI surveys up to the year 2013, and a combination of the AM survey data for England and Wales and the trends in MPA producer members' sales to estimate the total primary aggregates market in Great Britain over 2014-22. The MPA estimates are also provided to the British Geological Survey (BGS) for the annual publication of the UK Minerals Yearbooks (BGS, 2023a).

Construction, Demolition and Excavation Wastes (CDEW)



Recycled aggregates mainly originate from waste generated during construction, demolition, and excavation activities. Demolition materials are processed into marketable aggregates at either fixed recycling sites (often located on quarries) or directly at construction sites using mobile equipment. The resulting aggregates can then be used directly on-site or offsite.

Constituents of Aggregates Supply

Historical data for England for the years 2005 and 2008 are available from the former Department for Communities and Local Government and WRAP. According to these two reports, the total production of recycled aggregates in England was 42.1 million tonnes in 2005 and 43.5 million tonnes in 2008 (DCLG, 2007a; WRAP, 2010). These tonnages include hard inert CDEW, i.e. materials which would generally be suitable for processing into aggregates (Table 1). This definition includes railway ballast but excludes asphalt planings which are accounted for separately. Recycled soils are also excluded.

Table 1. European waste codes for hard inert CDEW include:

EWC code	Description
17.01.01	Concrete
17.01.02	Bricks
17.01.03	Tiles and ceramics
17.01.07	Mixture of concrete, bricks, tiles and ceramics
17.05.08	Track ballast
17.02.02	Glass waste
19.12.09	Minerals (incl. sand, stones from waste treatment)

Based on the England data, MPA assumed a further 4 million tonnes of recycled aggregates produced in Scotland and 3 million tonnes in Wales, resulting in a total of 49.1 million tonnes of recycled aggregates in 2005 in Great Britain. The estimate for Great Britain in 2008 is obtained using the England trend recorded over 2005-08, leading to a total production of recycled aggregates of 50.8 million tonnes in 2008. There has been no further information published on recycled aggregates at the national level since the WRAP report.

Meanwhile, robust data on the arisings of CDEW also remains difficult to obtain and a standard methodology has yet to be adopted nationally. Available information includes:

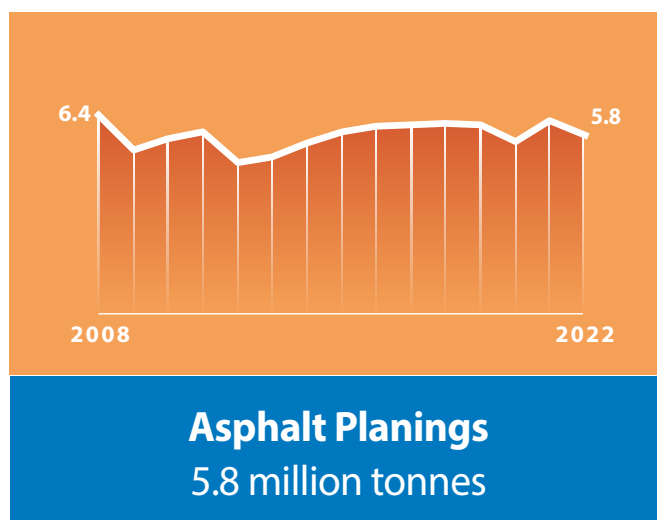
- In England, the Environment Agency publishes annual data from regulated waste management facilities as part of its Waste Data Interrogator (Environment Agency, 2024b). Whilst this will include waste material that is suitable for use as a recycled aggregate, it excludes materials processed by mobile plants directly on construction sites, which is likely to result in significant underestimation of total tonnages of recycled aggregates.
- In Scotland, data from Scottish Environment Protection Agency (SEPA) shows that the construction and demolition sector generated a total of 4 million tonnes of construction and demolition waste in 2021, with significant variations from year to year² and little scope for trend identification.
- A recent survey from Natural Resources Wales showed that the Welsh construction and demolition sectors generated an estimated 3.4 million tonnes of waste in 2019, including mixed wastes (45%), soils (38%), segregated aggregates (7%) and other non-metallic wastes (3%) (Garrett, Armstrong, Fogarty, & Fry, 2022).

Without further information, the MPA methodology to project the volume of recycled aggregates to 2022 is based on the assumption that the trends in general construction activity (ONS, 2024) should be a

good indicator for the trend in the amount of demolition work taking place, and therefore of the generation of CDEW. On that basis, MPA estimates that 60.3 million tonnes of inert CDEW waste were produced in 2022 (Appendix 1).

It is hoped that the proposed introduction of mandatory digital waste tracking in 2025 will help improve the quality of future data related to construction and demolition waste. It should help demonstrate that the value and importance of recycled aggregates in supporting policy ambitions for a circular economy means that little of the waste arising from CDEW activity will be disposed of outright. The vast majority of CDEW arisings will be processed, recycled, and reused.

Asphalt Planings



According to the European Asphalt Pavement Association (EAPA), asphalt materials are almost unique among construction products in that they can be 100% recycled, and in many cases reused directly back into the application and even the site from which they have been extracted (EAPA, 2014). The availability of asphalt planings is therefore closely linked to general road maintenance.

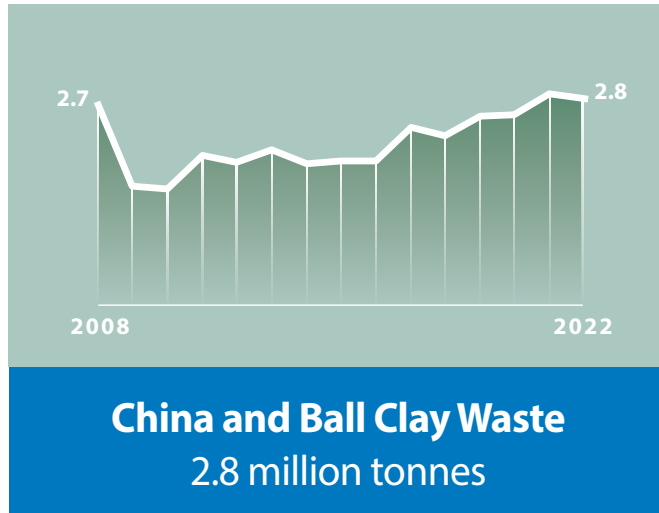
A total of 8 million tonnes of asphalt planing arisings were available in the UK in 2005, 5.6 million tonnes (70%) of which occurred in England (DCLG, 2007b). To obtain a Great Britain estimate, MPA assumed an equal split of the difference between the UK and England to represent Scotland, Wales and Northern Ireland (0.8 million tonnes each), meaning total arisings of 7.2 million tonnes in 2005.

No further direct sources of information on the size of the asphalt planings market at the national level could be identified. As a result, from 2008 onward, MPA assumed total asphalt planings to follow the trend in MPA asphalt sales, a proxy for general road maintenance activity. MPA estimates that 5.8 million tonnes of asphalt planings were recycled as construction aggregates in 2022 (Appendix 1).

² As low as 3.7 million tonnes in 2012 and as high as 5.8 million tonnes in 2018 (SEPA).

Constituents of Aggregates Supply

China and Ball Clay Waste



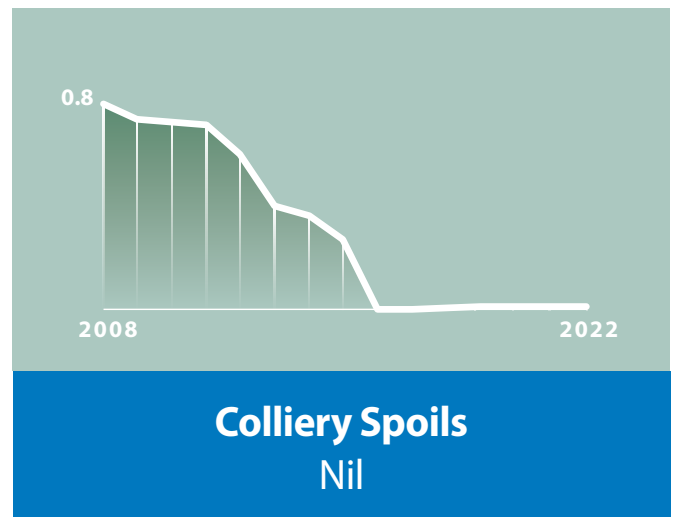
A major source of secondary aggregates is the by-products derived from the extraction and processing of china and ball clay. To obtain one tonne of saleable china clay, up to nine tonnes of other materials are generated. Most of this waste can be used as general fill material for both engineering purposes and site restoration, or as other aggregates uses after crushing and screening, such as in concrete or as building sand.

In 2005, china clay quarries in Devon and Cornwall produced 19.6 million tonnes of waste arisings, 2.6 million tonnes (13.4%) of which were re-used as aggregates (DCLG, 2007b). After 2005, data availability is limited. There are nonetheless annual statistics on sales volumes of china and ball clay sales in Great Britain, which show a total of 1.7 million tonnes in 2021 (BGS, 2023a)³. As this data is for total sales, not just for waste materials, an estimation of china and ball clay waste production is therefore needed.

According to the Kaolin and Ball Clay Association (KABCA), each tonne of china clay typically produces up to 9 tonnes of waste arisings (KABCA), whilst the ratio of waste to production for ball clay is variable but generally in the order of 1 to 1.5 (KABCA). Whilst using these ratios should in theory make it possible to estimate the size of china and ball clay waste produced each year, in practice this is complicated by the fact that the production of secondary aggregates from clay waste also involves the processing of significant historic stockpiles. Consequently, a direct relationship between the rates of primary clay production at any one time and the production of secondary aggregates cannot be assumed. Furthermore, not all of the waste will necessarily be suitable for use as aggregates.

Nearly all clay arisings in Great Britain occur in only two counties in South-West England, in Devon and Cornwall. The annual Local Aggregate Assessment reports for these two counties include published sales volumes for secondary aggregates produced from china and ball clay waste each year. For instance, in Devon, an estimated 0.7 million tonnes of secondary aggregates were sold in 2022, 85% of which originated from china and ball clay workings (Devon County Council). In Cornwall, a total of 2.3 million tonnes of secondary aggregates were sold in 2022, nearly all of which were derived from china clay waste (Cornwall Council). Overall, this indicates that, in 2022, approximately 2.8 million tonnes of clay waste were used as aggregates in Great Britain (Appendix 1).

Colliery Spoils



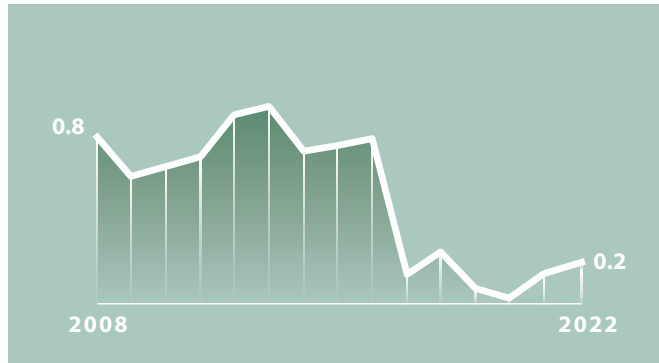
Colliery spoil has historically been used as a source of secondary aggregates, mostly as fill material for engineering purposes or to reclaim land. It is generally obtained from deep coal mining.

There were an estimated 1 million tonnes of colliery spoil used as aggregates in England in 2005 (DCLG, 2007b). There are no other data sources available from which to form an estimate of the size of the market post-2005. A conservative baseline has nonetheless been derived by projecting the volumes forward to 2022 based on the trend in deep-mined coal production, as published by the Department for Business and Trade (DBT, 2023). Production of deep-mining coal ceased in 2015 when the last deep coal mine in the UK, Kellingley Colliery in North Yorkshire, closed. This would suggest that the use of colliery spoils as construction aggregates is likely to be minimal (Appendix 1).

³ BGS estimate for the UK. There are no china or ball clay workings in Northern Ireland (BGS, 2023a).

Constituents of Aggregates Supply

Furnace Bottom Ash (FBA)



Furnace Bottom Ash
0.2 million tonnes

FBA originates from the combustion process at coal-fired power stations. It can be used as a lightweight aggregate in the manufacture of building blocks and structural lightweight fill material.

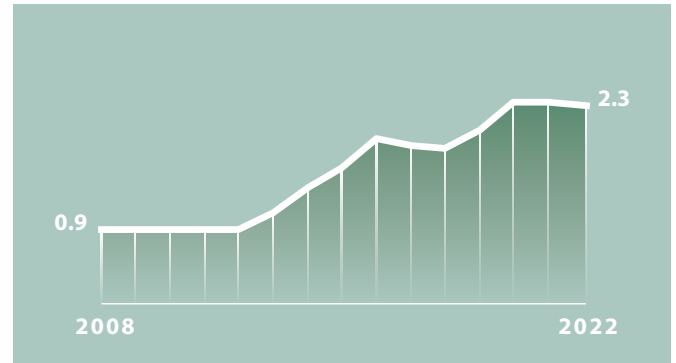
There were approximately 1.2 million tonnes of total FBA arisings in Great Britain in 2005, 90% (1.1 million tonnes) of which were used as aggregates (DCLG, 2007b). More recent data for total sales of FBA in Great Britain⁴ is provided by the UK Quality Ash Association (UKQAA), to which we apply the same 90% ratio for aggregates use. Where annual volumes are missing, MPA provided an estimate based on the general trend in construction activity (ONS, 2024).

It should be noted that the continual decline in the production of FBA in Great Britain in recent years reflects coal power station closures, with low output offset by some imports. A total of 187,000 tonnes⁵ of FBA were sold in 2022 in Great Britain according to the UKQAA, down from over 900,000 tonnes in 2013. Assuming 90% was reused as aggregates would indicate just under 168,300 tonnes of FBA reused as aggregates (Appendix 1).

⁴ Whilst this data is for the UK rather than Great Britain, the survey does not identify any operational coal-fired power stations based in Northern Ireland.

⁵ Subject to confirmation by UKQAA.

Incinerator Bottom Ash (IBA)



Incinerator Bottom Ash
2.3 million tonnes

IBA is the output of municipal solid waste incineration. It may contain glass, ceramics, bricks, concrete, grit, and stone in addition to ash and metals. It is generally recycled in several construction applications to replace primary aggregates, including as fill material or for road paving, concrete or construction blocks.

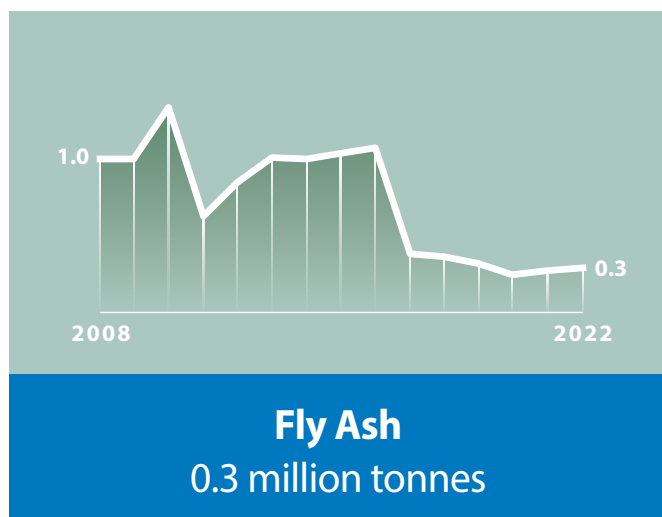
The Environmental Services Association (ESA) indicates that approximately 1.0 million tonnes of IBA are produced in England and Wales each year. In 2011, about 86% of IBA was reused as aggregates, with the remainder including the recovery of metals and hazardous materials (ESA, 2016). With no further information available, this volume is carried over for the years 2005-12.

From 2013, it is possible to use information on wastes transferred offsite for disposal or recovery, as published by the Environment Agency. Consolidating the data available for inert bottom ash and slag results in 1.2 million tonnes of IBA produced in 2013 (Environment Agency, 2024a), 86% (1.1 million tonnes) of which is assumed to have been reused as aggregates. This methodology was applied over 2013-22 and indicates a total of 2.3 million tonnes of IBA reused as aggregates in 2022 (Appendix 1).

⁶ Subject to confirmation by UKQAA.

Constituents of Aggregates Supply

Fly Ash



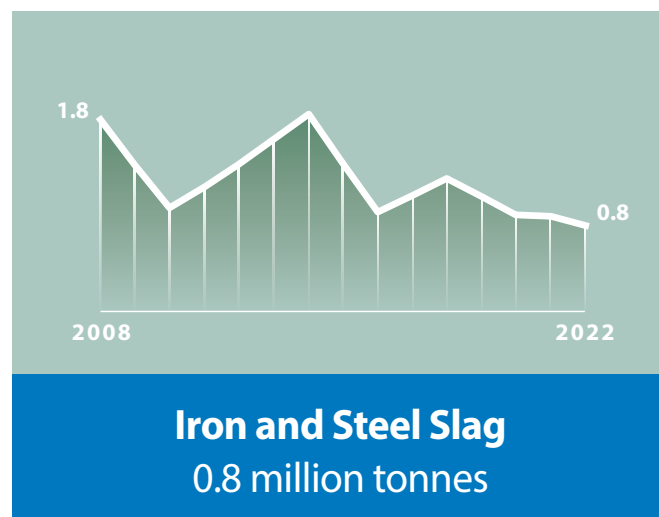
Fly ash is the output from the combustion process at coal-fired power stations. As a fine material, fly ash can be used in the manufacture of cement and concrete, as well as an unbound secondary fill material, such as for the construction of embankments.

The production of fly ash is linked to the UK's energy mix, increasing when more coal is burnt, and levelling off or decreasing when other energy sources take primacy, such as gas. Survey data for sales and utilisation in Great Britain is produced by the UKQAA.

Between 4 and 7 million tonnes of fly ash were produced in the UK each year between 1999 and 2014, and there are significant deposits of this material located adjacent to coal-fired power station sites (UKQAA). Whilst the data is presented on a UK basis, there are no operational coal power stations based in Northern Ireland.

The latest information available on fly ash end-use shows that in 2014, out of a total of 4.6 million tonnes of fly ash sold, 1 million tonnes (21.2%) was used as secondary aggregates in the manufacture of concrete blocks, AAC blocks and as engineering fill. More recent information shows that some 1.4 million tonnes⁶ of fly ash were sold in Great Britain in 2022 (UKQAA). Assuming the same end-use share as in 2014 would indicate a total of 0.3 million tonnes of fly ash used as secondary aggregates in 2022 (Appendix 1).

Iron and Steel Slag

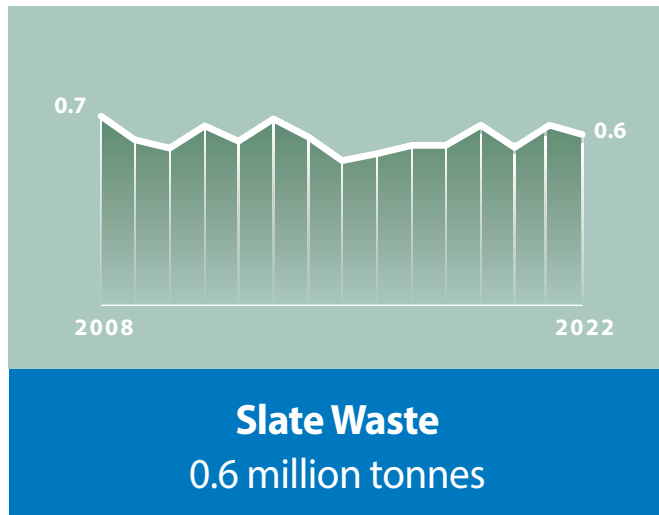


In 2005, 1 million tonnes of iron and steel slag were used as aggregates in England, which represented two-thirds of total UK production (DCLG, 2007b).

More recent data is available as part of an industry survey carried out by Euroslag, for which the MPA collects UK numbers from its members. The survey provides information on the total production of iron and steel slag as well as on end uses, including slag used as aggregates for road construction and other end uses such as cement production, hydraulic engineering, fertilisers, uses in metallurgy and other uses such as for glass making. All numbers provided are for the UK rather than GB, but there are no significant steelmaking works in Northern Ireland. Data for 2022 indicates that 0.8 million tonnes of iron and steel slag were reused as aggregates (Euroslag) (Appendix 1).

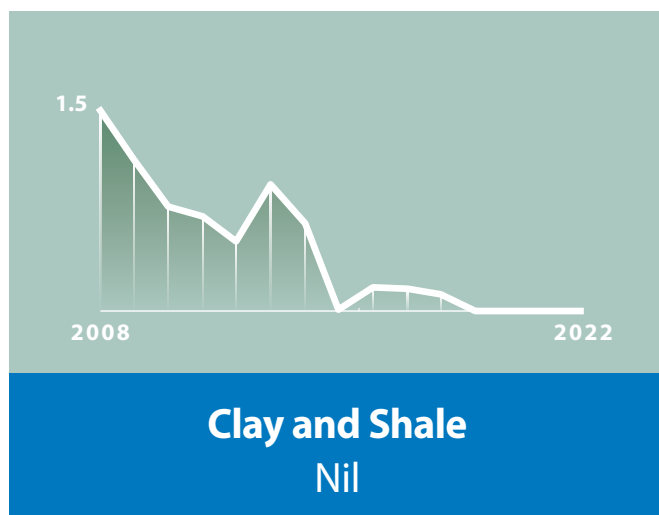
Constituents of Aggregates Supply

Slate Waste



Historical information is available on slate deliveries for fill and other construction uses in Great Britain as published by the Department for Business and Trade (DBT, 2024). Since 2019 however, declining numbers of survey respondents have resulted in increasing suppression of this data to preserve confidentiality. The MPA methodology was therefore updated, with estimates of slate waste reused as aggregates now derived from trends in total slate production. This would indicate a total of 0.6 million tonnes of slate waste reused as aggregates in 2022 (Appendix 1). This is in line with information from the North Wales Regional Aggregates Working Party and Local Aggregate Assessments prepared for Cornwall and Cumbria, which together indicate a total of 531,251 tonnes of slate waste sales took place during 2022.

Clay and Shale

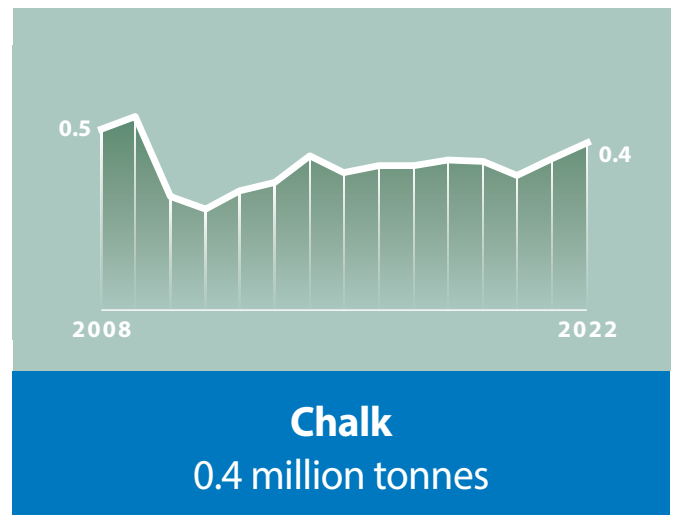


Historical information on clay and shale production by end-use is available from the British Geological Survey (BGS, 2023a). A total of 10.9

million tonnes of clay and shale were produced in Great Britain in 2005, the majority of which (9.7 million tonnes) was for the production of bricks, pipes and tiles and the manufacture of cement. The remainder (1.2 million tonnes) was used for construction and other uses.

The tonnage of clay and shale for construction and other uses peaked at 1.5 million tonnes in 2008, before falling to 0.6 million tonnes in 2014. From 2015, a change in data source appears to have resulted in a further large drop off in tonnages to just 116,000 tonnes of clay and shale used as construction aggregates in 2018, before reaching nil production since 2019 (Appendix 1).

Chalk



The AMRI surveys which ceased in 2014, included data on the annual volumes of chalk for construction use excluding cement in Great Britain, after which funding was withdrawn. The last survey available shows that a total of 3.3 million tonnes of chalk were produced in 2014, 423,000 tonnes of which were used for construction purposes other than cement (ONS, -). Historically, the share of chalk for construction use excluding cement has been relatively stable, ranging from 7% to 13% over 2002-14 (average: 10%).

As no other information is available from 2015 onwards, estimates have been derived from alternative sector data produced by the British Geological Survey. A total of 125.9 million tonnes of chalk, igneous rock, limestone, dolomite and sandstone were produced in the UK in 2021 (BGS, 2023a). Historically, chalk production represented on average 3.2% of this total between 2008-14. Assuming a similar share, total chalk production in the UK is estimated at 4 million tonnes in 2021, with the tonnage for Northern Ireland thought to be relatively small. England accounted for 46 of the 50 mineral workings identified across the UK (BGS, 2023a).

Of these 4 million tonnes, a long-term average of 10% for construction use (excluding cement) points to a total of 0.4 million tonnes of chalk used as secondary aggregates in 2021. As the data for 2022 was not yet available at the time of writing, it is assumed to have followed construction trends (ONS, 2024) (Appendix 1).

Appendix 1

Appendix 1. Estimates of total aggregates supply in Great Britain, 2005-22																		
(Million tonnes)	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019*	2020*	2021*	2022
TOTAL PRIMARY AGGREGATES	204.3	207.1	208.1	187.2	146.8	136.6	145.9	132.9	134.4	161.9	170.0	176.9	176.3	179.9	177.2	158.6	183.3	168.3
Crushed rock (a)	121.9	126.9	129.6	115.1	91.1	82.3	90.9	82.9	82.4	102.3	108.2	113.9	114.5	117.3	119.3	107.8	125.9	116.2
Sand & gravel (b)	82.4	80.2	78.5	72.1	55.7	54.3	55.0	50.0	51.9	59.6	61.8	63.0	61.8	62.6	57.9	50.7	57.5	52.1
TOTAL RECYCLED AGGREGATES	56.3	-	-	57.2	49.3	53.4	54.1	49.6	50.6	55.5	57.8	60.1	63.4	63.4	64.6	55.6	62.7	66.1
Non-hazardous CDEW (incl. track ballasts) (c)	49.1	-	-	50.8	44.1	47.8	48.3	44.8	45.5	50.0	51.9	54.1	57.4	57.3	58.5	50.0	56.5	60.3
Asphalt planings (d)	7.2	-	-	6.4	5.3	5.6	5.8	4.8	5.0	5.5	5.8	6.0	6.1	6.1	6.0	5.5	6.2	5.8
TOTAL SECONDARY AGGREGATES	11.8	-	-	10.6	8.5	7.8	7.8	8.0	9.1	8.9	7.9	7.7	7.0	7.1	7.1	7.1	7.6	7.4
China and ball clay waste (e)	2.6	-	-	2.7	1.6	1.6	2.1	2.0	2.1	1.9	2.0	2.0	2.4	2.3	2.6	2.6	2.9	2.8
Colliery spoil (f)	1.0	-	-	0.8	0.8	0.8	0.8	0.6	0.4	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Furnace bottom ash (FBA) (g)	1.1	-	-	0.8	0.6	0.6	0.7	0.9	0.9	0.7	0.7	0.8	0.1	0.2	0.1	0.0	0.2	0.2
Incinerator bottom ash (IBA) (h)	0.9	-	-	0.9	0.9	0.9	0.9	0.9	1.1	1.3	1.6	1.9	1.8	1.8	2.0	2.3	2.3	2.3
Fly ash (i)	1.8	-	-	1.0	1.0	1.3	0.6	0.8	1.0	1.0	1.0	1.1	0.4	0.4	0.3	0.2	0.3	0.3
Iron and steel slag (j)	1.5	-	-	1.8	1.4	0.9	1.1	1.3	1.6	1.8	1.4	0.9	1.1	1.2	1.1	0.9	0.9	0.8
Slate waste (k)	0.9	-	-	0.7	0.6	0.6	0.7	0.6	0.7	0.6	0.5	0.6	0.6	0.6	0.1	0.6	0.7	0.6
Clay and shale (l)	1.2	-	-	1.5	1.1	0.8	0.7	0.5	0.9	0.6	0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0
Chalk (m)	0.8	-	-	0.5	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
TOTAL AGGREGATES SUPPLY	272.3	-	-	255.0	204.6	197.8	207.8	190.5	194.0	226.2	235.6	244.7	246.7	250.4	248.9	221.3	253.6	241.8
Share of recycled and secondaries	25%	-	-	27%	28%	31%	30%	30%	31%	28%	28%	28%	29%	28%	29%	28%	28%	30%
OTHER INDUSTRY INDICATORS																		
Construction output (annual %) (n)	-2.4%	0.8%	2.2%	-2.6%	-13.2%	8.5%	1.0%	-7.2%	1.6%	9.9%	3.8%	4.1%	6.1%	0.0%	2.1%	-14.3%	12.6%	6.8%
MPA Asphalt sales (annual %) (o)	3.6%	-7.8%	0.3%	-4.0%	-17.5%	6.0%	4.2%	-16.9%	3.9%	8.8%	6.5%	3.5%	0.2%	0.7%	-0.8%	-8.6%	12.5%	-6.5%
Deepmined coal output (annual %) (p)	-23.8%	-1.2%	-18.7%	5.5%	-7.1%	-1.7%	-1.1%	-15.9%	-33.6%	-9.9%	-24.5%	-	-	-	-	-	-	-

Sources and notes:

- not available.

* Include marginal revisions of previous estimates.

(a) BGS (2023), MPA estimates.

(b) BGS (2023), MPA estimates.

(c) 2005, 2008: England totals from WRAP (2010). MPA estimates for Scotland and Wales. From 2009: MPA estimates based on construction trends.

(d) 2005: England total from DCLG (2007b). MPA estimates for Scotland and Wales. From 2008: MPA estimates based on asphalt sales.

(e) 2005: DCLG (2007b). From 2008: Data from Devon County Council and Cornwall Council.

(f) 2005: DCLG (2007b). From 2008: Follows deep-mined coal production trends.

(g) 2005: England total from DCLG (2007b), 2008-22: UKQAA.

(h) 2005-12: ESA. From 2013: Data for England and Wales from the Environment Agency (2024). Include EWC 10 01 01; 10 01 15; 19 01 12.

(i) UKQAA. Where data is missing (2015, 2016), it is assumed to follow construction trends.

(j) 2005: England total from DCLG (2007b). From 2008: Euroslag.

(k) 2005: England total from DCLG (2007b), 2009-21: DBT (2024), MPA estimates. 2022: Follows construction trends.

(l) 2005-21: BGS (2023). 2022: Assumed unchanged from 2021.

(m) 2005-14: BGS (2023). Includes chalk for other construction uses (excl. cement), 2015-22: MPA estimates.

(n) ONS (2024).

(o) MPA (2024).

(p) DBT (2023).

Bibliography

Aggregates Europe - UEPG. (-). Annual estimates of aggregates production - 2022. Retrieved from Aggregates Europe: <https://uepg.eu/pages/figures>

BGS. (2016; 2021). Aggregate Minerals Surveys for England and Wales. Keyworth, Nottingham: British Geological Survey Open Reports. Retrieved from <https://www.gov.uk/government/collections/minerals>

BGS. (2023a). United Kingdom Minerals Yearbook 2022. Nottingham, UK: British Geological Survey. Retrieved from <https://nora.nerc.ac.uk/id/eprint/534312/1/OR23001.pdf>

BGS. (2023b). Collation of the results of the 2019 Aggregate Minerals Survey for Scotland. Report prepared for the Scottish Government by the British Geological Survey. British Geological Survey Open Report, OR/23/008. 83pp. Retrieved from <https://www.gov.scot/publications/2019-aggregate-minerals-survey-scotland/>

Cornwall Council. (-). Minerals Monitoring: Local Aggregate Assessment. Annual reports. Latest report includes data for 2022. Retrieved from <https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/minerals-monitoring/>

DBT. (2023). Historical coal data: coal production, availability and consumption 1853 to 2022. Department for Business and Trade. Historical coal data series up to 2022. Retrieved from GOV.UK: <https://www.gov.uk/government/statistical-data-sets/historical-coal-data-coal-production-availability-and-consumption#history>

DBT. (2024). Building materials and components statistics: February 2024. Retrieved from Department for Business and Trade: <https://www.gov.uk/government/collections/building-materials-and-components-monthly-statistics-2012>

DCLG. (2007a). Survey of Arisings and Use of Alternatives to Primary Aggregates in England - 2005 Construction, Demolition and Excavation Waste. Department for Communities and Local Government.

DCLG. (2007b). Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005 - Other materials. Department for Communities and Local Government.

DEFRA. (2023). Digest of waste and resource statistics. Retrieved from <https://www.gov.uk/government/statistics/uk-waste-data/uk-statistics-on-waste#total-waste-generation-and-final-treatment-of-all-waste>

Devon County Council. (-). Mineral and Waste Policy: Local Aggregate Assessment. Annual reports. Latest report includes for 2022. Retrieved from <https://www.devon.gov.uk/planning/planning-policies/minerals-and-waste-policy/local-aggregate-assessment/>

EAPA. (2014). Asphalt: the 100% recyclable construction product. European Asphalt Pavement Association.

Environment Agency. (2024a). Pollution Inventory datasets. Retrieved from GOV.UK: <https://data.gov.uk/dataset/cfd94301-a2f2-48a2-9915-e477ca6d8b7e/pollution-inventory>

Environment Agency. (2024b). 2022 Waste Data Interrogator. Retrieved from data.gov.uk: <https://www.data.gov.uk/dataset/aa53a313-f719-4e93-a98f-1b2572bd7189/2022-waste-data-interrogator>

ESA. (2016). Incinerator Bottom Ash (IBA). Retrieved December 2017, from Environmental Services Association: https://web.archive.org/web/20171210042851/http://www.esauk.org/80/energy_recovery/iba_-_incinerator_bottom_ash

Euroslag. (-). Download: Statistical Data. Retrieved from Euroslag: <https://www.euroslag.com/research-library-downloads/downloads/>

Garrett, M., Armstrong, G., Fogarty, M., & Fry, J. (2022). Construction and demolition waste survey for 2019. Website: Natural Resources Wales. Retrieved from <https://naturalresources.wales/evidence-and-data/research-and-reports/waste-reports/construction-and-demolition-waste-survey-2019/?lang=en>

KABCA. (-). What is Ball clay? Retrieved January 2023, from The Kaolin and Ball Clay Association: <https://kabca.org/what-is-ball-clay.php>

KABCA. (-). What is Kaolin? Retrieved January 2023, from The Kaolin and Ball Clay Association: <https://kabca.org/what-is-kaolin.php>

MPA. (2019). From waste to resource: A UK Mineral Products industry success story. London, UK: Mineral Products Association. Retrieved from https://www.mineralproducts.org/MPA/media/root/Publications/2019/MPA_Inert_Waste_Feb2019.pdf

MPA. (2024). Sales Volumes Survey. Mineral Products Association. Quarterly survey of MPA Producer Members. Available on request.

ONS. (-). Mineral Extraction in Great Britain (AMRI). Annual survey carried out by the Office for National Statistics. The last survey published was Mineral extraction in Great Britain 2014. Retrieved from GOV.UK: <https://www.gov.uk/government/collections/minerals>

ONS. (2024). Construction output in Great Britain: December 2023. Retrieved from <https://www.ons.gov.uk/businessindustryandtrade/constructionindustry/bulletins/constructionoutputingreatbritain/previousReleases>

SEPA. (-). Waste from all sources. Scotland's Environment Waste From All Sources Discover Data tool. Retrieved March 2023, from <https://informatics.sepa.org.uk/WasteAllSources/>

UKQAA. (-). Annual statistics. Retrieved from UK Quality Ash Association: <http://www.ukqaa.org.uk/information/statistics/>

WRAP. (2010). Construction, demolition and excavation waste arisings, use and disposal for England 2008. Waste and Resources Action Programme.

The Mineral Products Industry At A Glance



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

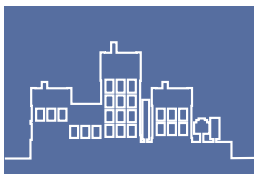
The £8 billion in gross value added in the industry serves as a pillar supporting 11% of the UK economy.



£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

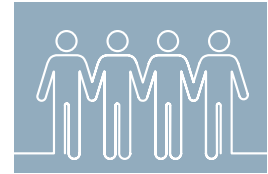
Enabling our main customer to deliver
The industry is the largest component of the construction supply chain, building and improving housing and infrastructure.



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.

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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