

HATFIELD AERODROME

Town and Country Planning Act 1990, Section 78

Application for the establishment of a new quarry on land at the former Hatfield Aerodrome, including a new access onto the A1057, aggregate processing plant, concrete batching plant and other ancillary facilities, together with the importation of inert fill materials for the restoration of the minerals working

Application Ref. 5/0394-16

Section 78 Appeal against refusal of planning permission by Hertfordshire County Council.

Appeal Ref. APP/M1900/W/21/3278097

Proof of Evidence of Simon Treacy MRICS MIQ BSc

Subject - Appendices

Document – BAL3/2

Brett Aggregates Limited
Robert Brett House
Ashford Road
CANTERBURY
Kent
CT4 7PP

October 2021

APPENDICES

SRT/1 – MPA Economic Market Briefing 26.08.2021

SRT/2 – MPA UK Minerals Strategy

SRT/3 – MPA Long Term Aggregates Demand 10.03.2017

SRT/4 – Hertfordshire Sites Plan

SRT/5 – Quarries in Met GB Plan

SRT/1 – MPA Economic Market Briefing 26.08.2021

Members' Briefing



No: 12/2021

26 August 2021

Economic & Market Briefing

- **MINERAL PRODUCTS MARKETS: CONTINUED MOMENTUM OVER THE SUMMER** (p. 1)
The industry has been supplying record volumes of materials such as aggregates and asphalt in the first half of the year, whilst also facing challenges in terms of material and skill shortages, particularly drivers. Our MPA market forecast published in May-21 suggested growth in aggregates sales this year by 11% compared to 2020, 9% for asphalt, 10% for ready-mixed concrete and 15% for mortar. The stronger than expected outturn for 2021Q2 and continued strength in demand over the summer both suggest that sales are increasing ahead of our 2021 forecast. The MPA market forecast is due to be updated next month.
- **UK ECONOMY AND CONSTRUCTION: FRAGILE RECOVERY** (p. 2)
The UK economy grew by 4.8% on a quarterly basis in 2021Q2 following the easing of Covid restrictions, but growth is now losing momentum, slowed by the spread of the Delta variant, supply chain constraints and staff shortages. Business surveys indicate that stretched supply capacity and high producers' input prices are building pressure rapidly into the price pipeline. Consumer price inflation is expected to peak temporarily at 4% by the Autumn, before falling back again.

The fragility of the recovery is also evident in construction, where output is currently estimated by the ONS to have declined for three consecutive months during April-June. Business surveys weakened over the summer on the back of widespread supply chain delays and reduced sub-contractor availability and transport capacity. However, industry forecasts indicate further growth in output over 2021H2 and next year, with the pipeline of new contract awards remaining at above-average levels and industry optimism strong.
- **MONTHLY STATISTICS** (p. 3-10)
An overview of the latest economic and construction statistics.
- **IN FOCUS: CLIMATE CHANGE PROGRESS, COP AND UK POLICY PLANS** (p. 11-21)
Mitigating and adapting to climate change is vital to our environmental but also our social and economic systems. The first part of the sixth assessment report released this month by the Intergovernmental Panel on Climate Change further emphasises the continued agreement from the scientific community on the scale, speed and consequences of climate change. This means that more than ever, the way we transport people and goods, how we manufacture and build, what we eat, how we live and how we use energy all has to dramatically change in the coming decades if we are to meet the national ambition of net zero by 2050 and make the UK's small but needed contribution to the global challenge.

For further information about these briefings:

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MINERAL PRODUCTS MARKETS

Continued momentum over the summer. The industry has been supplying record volumes of materials such as aggregates and asphalt in the first half of the year, whilst also facing challenges in terms of material and skill shortages, particularly drivers. The particularly strong outturn for 2021Q2 indicates that MPA sales volumes are increasing faster than expected across all materials.

Construction demand for [mineral products](#) rose sharply in the second quarter of the year - according to the latest data available. For aggregates, although sales recorded a small quarterly rate of decline of 0.4% in 2021Q2, volumes were at historical highs, boosted by demand for fill materials on major infrastructure projects and highway schemes. Asphalt sales rose by 4.5% on a quarterly basis in 2021Q2 to over 6 million tonnes, the second highest volume recorded since 2008. Pent-up demand from delayed roads projects due to the pandemic, wider progress on the delivery of Government's Road Investment Strategy and an increase in demand from local authorities for repair and maintenance work, all resulted in an unexpectedly rapid recovery in activity. Mortar sales volumes, which closely reflect housebuilding activity, rose at their second fastest quarterly rate of growth since 2012, up by 21.2%, although some of that is likely to be a 'catch-up' from the impact of adverse weather at the start of the year. By contrast, market conditions for ready-mixed concrete remain weak, with a comparatively slow recovery since last year.

This strong growth in material demand shows that the recovery in construction is continuing, despite ONS data suggesting that [construction output](#) slowed for 3 consecutive months in April-June. The biggest driver of activity is infrastructure, especially with work increasing on HS2, but growing momentum in mortar sales is also evidence of work accelerating on new housing projects. By contrast, demand from office and retail developments remains weak after four years of Brexit-related uncertainty impacting on investment and the impact of the pandemic.

Further growth in construction output is expected over the second half of this year and into next year. In their latest update published in July, the [CPA forecasts](#) construction output to rise by 13.7% in 2021 (a small upward revision on their previous forecast) and by 6.3% in 2022. This is despite shortages and sharp cost rises in both imported construction products and skilled labour over the next 12 months. Infrastructure and private housebuilding are expected to be key drivers of construction growth in 2021 and 2022, while the outlook for the commercial sector remains subdued.

In terms of materials demand, the outturn for 2021H1 indicates that MPA sales volumes are increasing slightly faster than expected across all materials. Our [market forecast](#) published in May-21 suggested that the strong impetus in mineral products demand since March would underpin growth in aggregates sales this year by 11% compared to 2020, 9% for asphalt, 10% for ready-mixed concrete and 15% for mortar. All markets are then expected to see further growth of 3.0% in 2022, except mortar sales which are expected to increase faster next year, by 5.6%. This forecast is due to be updated in September to take account of the latest figures.

At the most recent MPA Economic Affairs Committee in early August, MPA members confirmed the continuing strength of demand over the summer, with volumes growing ahead of our 2021 forecast, but also raised concerns about the sustainability of such rapid growth over 2021H2 and beyond, especially in sectors outside infrastructure. In addition, the surge in pent-up demand for materials alongside declining availability of haulage drivers and increasing costs are challenging future supply capacity, although every effort is being made to mitigate these.

Our updated MPA market forecast is due to be published on 30th September 2021.

UK ECONOMY AND CONSTRUCTION

Fragile recovery. [The UK economy](#) grew by 4.8% on a quarterly basis in 2021Q2 following the easing of Covid restrictions, with GDP now 4.4% below where it was pre-Covid in 2019Q4. However, the recovery has lost some steam during Q3, slowed by the spread of the Delta variant, supply chain constraints and staff shortages.

The vast majority of the growth in Q2 came from household spending, although this is still 7% lower than at the end of 2019. There is therefore plenty of room for further improvement over 2021H2 and current data from GfK show that [consumer confidence](#) remains well above pre-pandemic levels. Forecasters expect households to splash out part of their excess savings in the near term but the overall extent of the boost is highly uncertain. [Retail sales](#) fell unexpectedly in July, partly held back by the unseasonable weather and partly due to the surge in Covid infections, which may have prompted some consumers to stay clear of shops and forced others into self-isolation. More infections when schools reopen in September and with the start of the Autumn/Winter season may well lead consumers to remain cautious for longer, with voluntary social distancing slowing progress for household spending and economic growth compared to current forecasts.

Elsewhere, [business investment](#) also rose in 2021Q2, but remains over 15% below its pre-pandemic levels. The Bank of England [Agents' Summary of Business Conditions](#) indicates that investment is expected to increase over the coming year, conditional on demand and revenues recovering. The business response to Government's capital allowance super deduction has remained tepid so far, with the incentive encouraging some businesses to confirm existing investment plans or bring them forward, whilst having no impact on others.

On [trade](#), there has been a limited rebound in the trade of goods following the impact of Brexit and Covid earlier this year, but trade in services remains weak. Overall, both UK exports and imports are still well below pre-covid levels.

With private sector demand still in catch up mode, it is concerning that business surveys are already showing signs of slowing as we progress through the third quarter. Acute supply chain constraints and staff shortages are pushing up costs and impacting on supply capacity in [services](#), [manufacturing](#) and [construction](#). Surveys suggest that growth slowed in July and continued to lose momentum in August ([UK Flash PMI](#)), although strong business optimism for the year ahead is still fuelling a rise in employment. Pressures from stretched supply capacity and high producers' input prices are building rapidly in the price pipeline. The [Bank of England](#) revised up its forecast for consumer price inflation, predicting it would peak at 4% by the autumn, but also maintaining its view that this is transitory.

The fragility of the recovery is also evident in construction. [Construction output](#) increased by 3.3% in 2021Q2 compared with 2021Q1, but is also estimated to have declined for 3 consecutive months during Apr-Jun. Monthly output in June fell back just below the pre-Covid level. Growth in infrastructure remains brisk but private new housing and private housing repair & maintenance slowed. This is despite record breaking [builders' merchant sales](#) in Q2 and MPA mortar sales volumes rising by over 20%. The [UK construction PMI](#) also eased sharply in July, indicating that the recovery lost some momentum on the back of widespread supply chain delays, reduced sub-contractor availability and transport capacity. Driver shortages were also reported by MPA members and MPA supports [Logistics UK's](#) call for visas to boost the supply of drivers whilst tackling the testing backlog and encouraging the recruitment and training of UK candidates.

Whether or not ONS statistics are revised up in the coming months, it is evident that activity hovering around 'pre-Covid levels' is no stellar performance: construction output growth had already broadly stalled in the two years prior to Covid. That said, the recovery is still underway and further growth is forecast in the second half of this year and next (see the CPA/Experian forecasts p.10). New contract data support this view, with the value of new contract awards from Barbour ABI remaining at above-average levels in July (at £6.6bn, see figures 2a-2e on p.5-9).

MONTHLY STATISTICS: MPA DATA ROUND-UP

- Notes:
- Greener shadings indicate stronger or improving performance relative to the recent past.
 - Red shadings indicate weaker or worsening performance relative to the recent past.
 - Inflation: a green shade indicates that the rate is at or around the official Bank of England's 2% target.

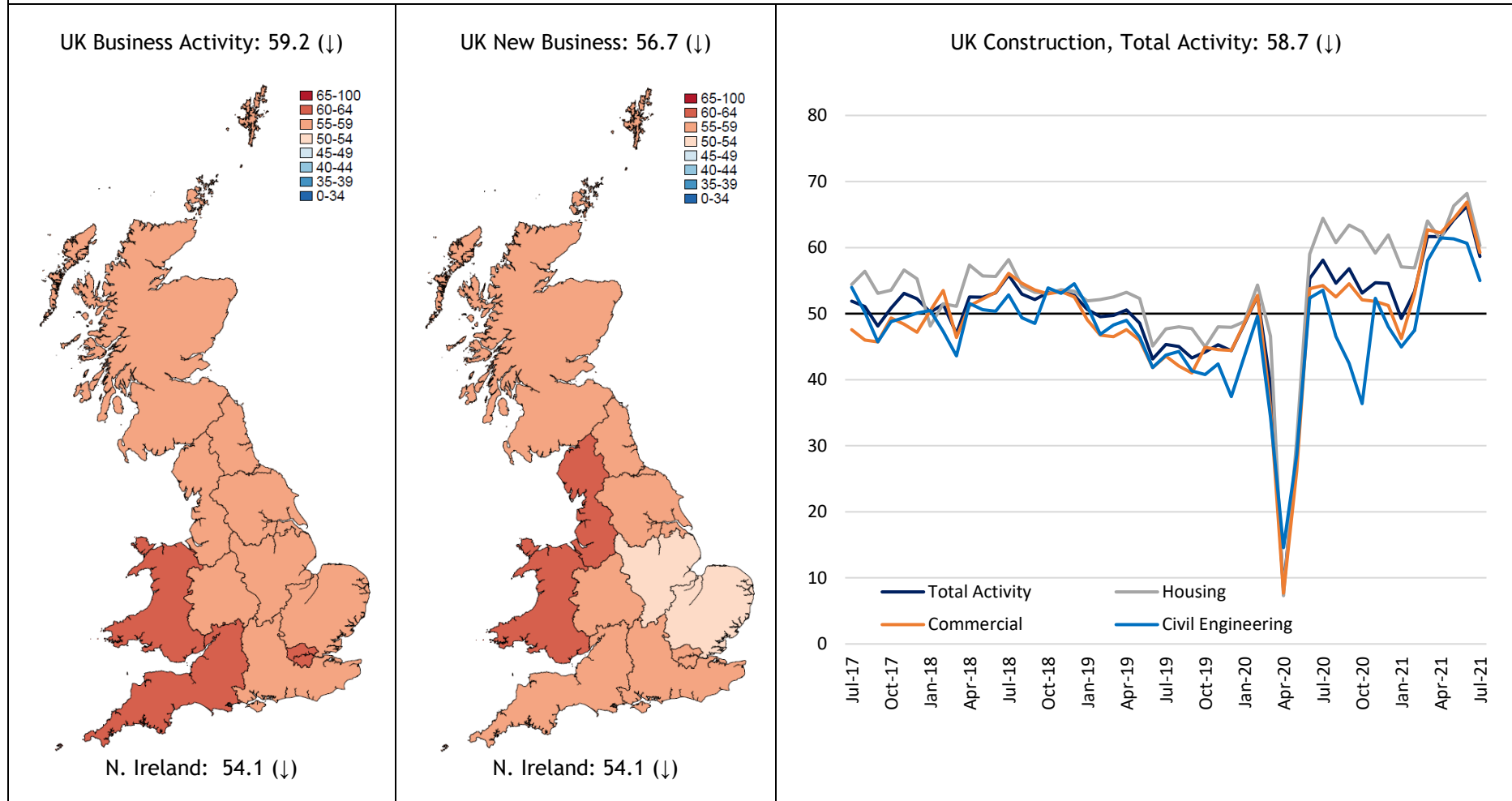
UK ECONOMY		Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21
Gross Domestic Product (GDP)	Monthly	7.3%	2.2%	1.3%	0.9%	-2.2%	1.0%	-2.7%	0.8%	2.4%	2.2%	0.6%	1.0%	
	3M to [...] vs. prev. 3M	-5.4%	9.4%	16.9%	11.3%	5.0%	1.3%	-1.5%	-1.9%	-1.6%	1.5%	3.6%	4.8%	
PMI: All Business Activity	Monthly index												62.2	59.2
PMI: All New Business	Monthly index												61.9	56.7
Unemployment (≥16y)	Rate, 3M to [...]	4.3%	4.5%	4.8%	5.0%	5.1%	5.2%	5.1%	5.0%	4.9%	4.8%	4.8%	4.7%	
Consumer price inflation	12M to [...]	1.0%	0.2%	0.5%	0.7%	0.3%	0.6%	0.7%	0.4%	0.7%	1.5%	2.1%	2.5%	2.0%
UK MANUFACTURING														
Index of production	Monthly	7.4%	1.9%	1.2%	1.2%	1.4%	-0.6%	-2.2%	0.9%	1.7%	0.2%	0.1%	0.2%	
	3M to [...] vs. prev. 3M	-3.6%	13.6%	21.3%	12.3%	6.2%	3.4%	1.4%	-0.5%	-1.1%	0.4%	1.7%	1.8%	
PMI - Manufacturing Activity	Monthly index												63.9	60.4
UK CONSTRUCTION														
GB CONSTRUCTION OUTPUT	3M to [...] vs. prev. 3M	-8.6%	20.0%	41.3%	22.8%	10.2%	2.7%	0.1%	-0.6%	2.3%	5.8%	6.8%	3.3%	
Incl. New Housing	3M to [...] vs. prev. 3M	-17.2%	31.2%	82.6%	44.9%	18.8%	4.0%	-1.0%	-1.6%	3.9%	8.0%	8.0%	0.1%	
New Infrastructure	3M to [...] vs. prev. 3M	3.4%	7.4%	13.8%	5.0%	5.1%	4.3%	7.2%	4.8%	4.0%	4.5%	10.6%	15.9%	
Other new work	3M to [...] vs. prev. 3M	-12.6%	12.2%	29.5%	15.8%	5.9%	-0.8%	-4.2%	-4.8%	-0.7%	4.6%	4.4%	0.5%	
Repair & Maintenance	3M to [...] vs. prev. 3M	-4.7%	24.7%	41.4%	22.7%	9.6%	3.5%	1.0%	0.8%	2.5%	5.6%	5.9%	2.3%	
NORTHERN IRELAND CONSTRUCTION OUTPUT	3M to [...] vs. prev. 3M			-10.9%			-7.5%			15.8%				
Incl. New Housing	3M to [...] vs. prev. 3M			-14.0%			-9.8%			17.2%				
New Infrastructure	3M to [...] vs. prev. 3M			-0.5%			0.5%			12.9%				
Other new work	3M to [...] vs. prev. 3M			-9.4%			-15.8%			4.2%				
Repair & Maintenance	3M to [...] vs. prev. 3M			-14.0%			-3.6%			23.5%				
UK BUSINESS SURVEYS														
PMI Construction Activity	Monthly index												66.3	58.7
PMI Construction New Orders	Monthly index												65.8	60.3
MONTHLY CONTRACT AWARDS: TOTAL														
Incl. Residential	3M to [...], £bn	£3.7	£4.4	£5.4	£4.9	£4.9	£4.5	£4.3	£4.6	£4.9	£6.3	£6.5	£6.2	£5.6
Infrastructure	3M to [...], £bn	£1.1	£1.4	£1.7	£1.7	£1.7	£1.6	£1.6	£1.7	£1.8	£2.1	£2.1	£2.0	£2.1
Commercial & Retail	3M to [...], £bn	£0.8	£1.1	£1.3	£1.2	£1.0	£1.0	£0.8	£0.8	£0.7	£1.2	£1.4	£1.4	£1.1
Industrial	3M to [...], £bn	£0.5	£0.5	£0.7	£0.7	£0.8	£0.6	£0.6	£0.5	£0.5	£0.6	£0.7	£0.8	£0.8
Other	3M to [...], £bn	£0.4	£0.5	£0.6	£0.5	£0.5	£0.6	£0.6	£0.7	£0.8	£1.0	£0.9	£0.8	£0.6
	3M to [...], £bn	£0.9	£0.9	£1.1	£0.8	£0.8	£0.7	£0.8	£0.9	£1.2	£1.4	£1.5	£1.1	£1.0
OTHER INDICATORS														
UK mortgage approvals	3M to [...] vs. prev. 3M	-18.4%	139.2%	273.8%	132.8%	49.2%	21.4%	8.6%	-2.9%	-11.5%	-14.9%	-10.2%	-4.6%	
UK house prices	12M to [...]	1.7%	2.5%	3.6%	4.7%	6.3%	7.5%	7.6%	9.0%	9.8%	9.6%	9.8%	13.2%	

Sources: ONS, IHS Markit/CIPS, Bank of England, HM Land Registry, Barbour ABI.

MONTHLY STATISTICS: REGIONAL AND SECTORAL UPDATE

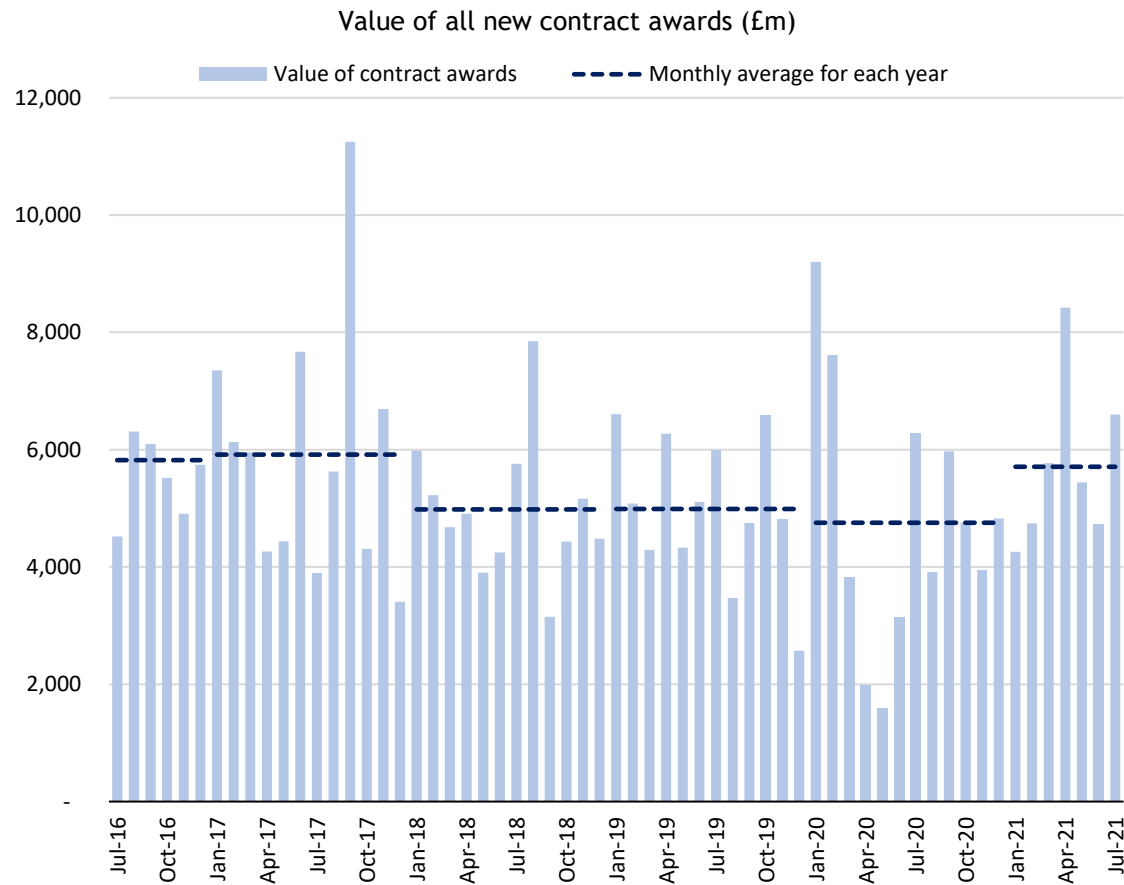
1. Purchasing Manager Index (PMI*), July 2021. Source: IHS Markit/CIPS.

*An index <50 indicates contraction, 50 no change, >50 growth. Arrows show the direction of the monthly change.

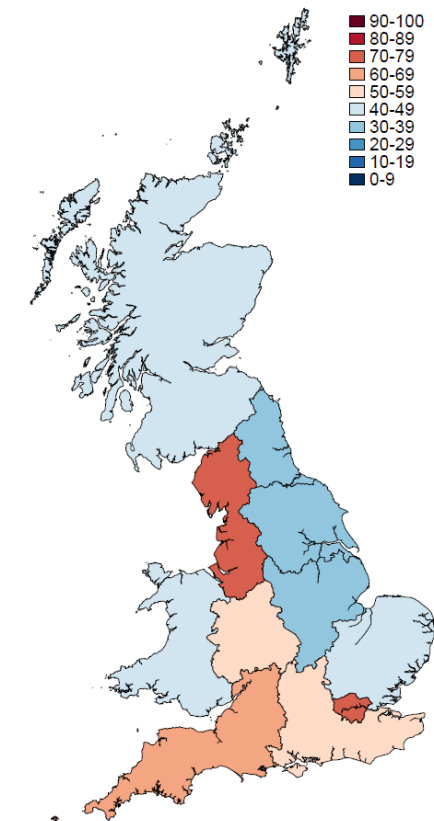


2a. New construction contract awards: All sectors (GB) *Source: Barbour ABI.*

*The Relative Strength Index (RSI) measures current activity levels relative to the last 5 years, using a 0-100 scale. The RSI is provided on a 3-month average basis.

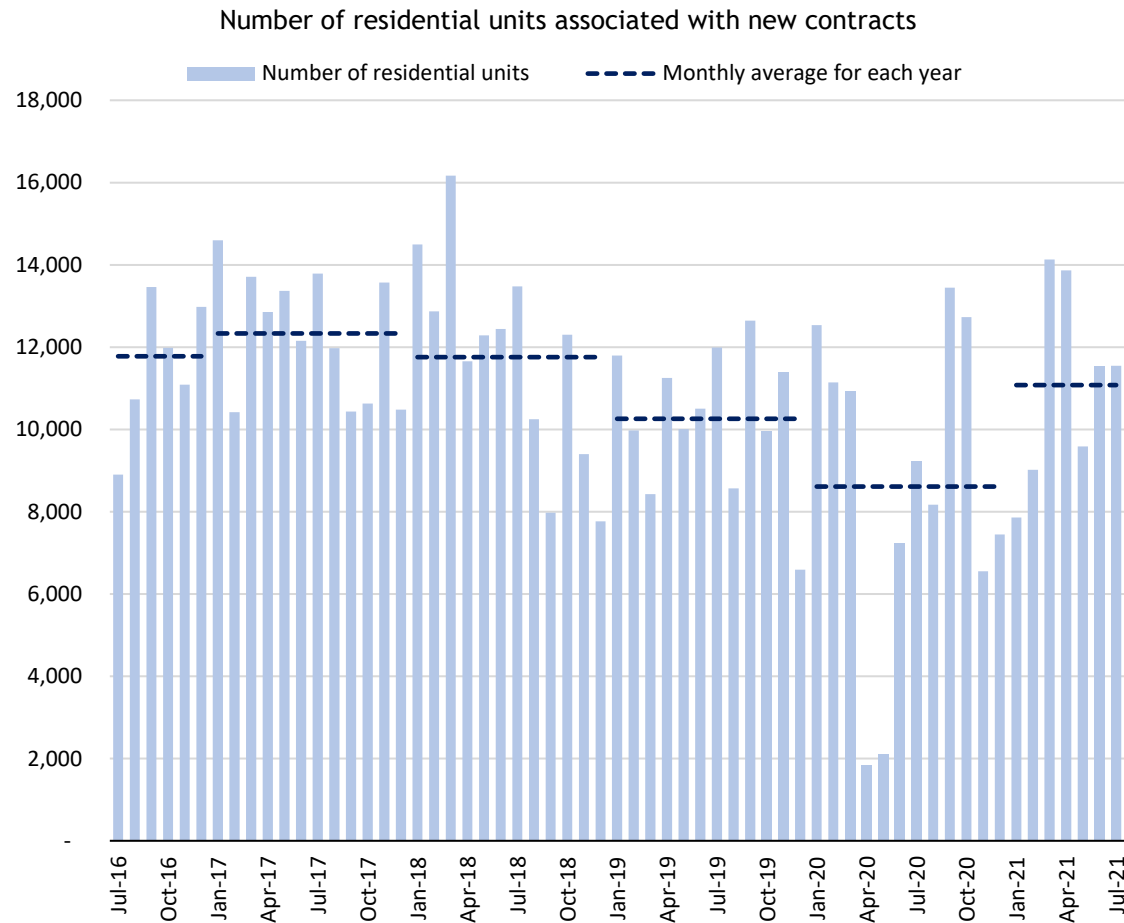


Relative Strength Index*, Jul21: 60
(Jun21: 75)

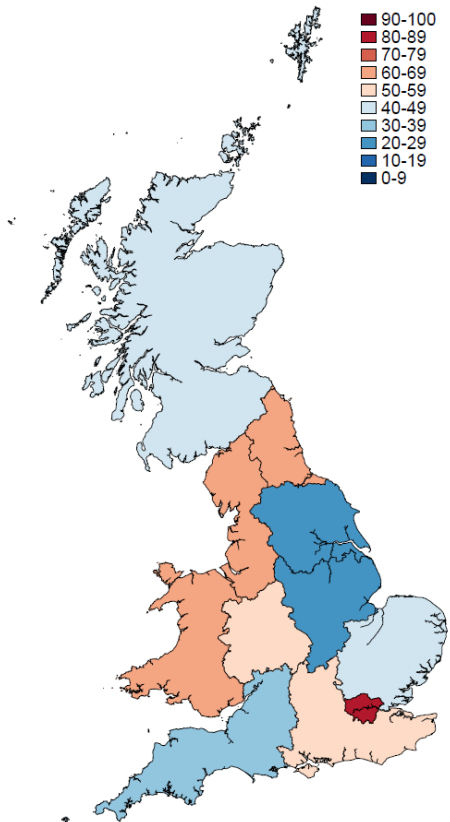


2b. New construction contract awards: Residential (GB) *Source: Barbour ABI.*

*The Relative Strength Index (RSI) measures current activity levels relative to the last 5 years, using a 0-100 scale. The RSI is provided on a 3-month average basis.

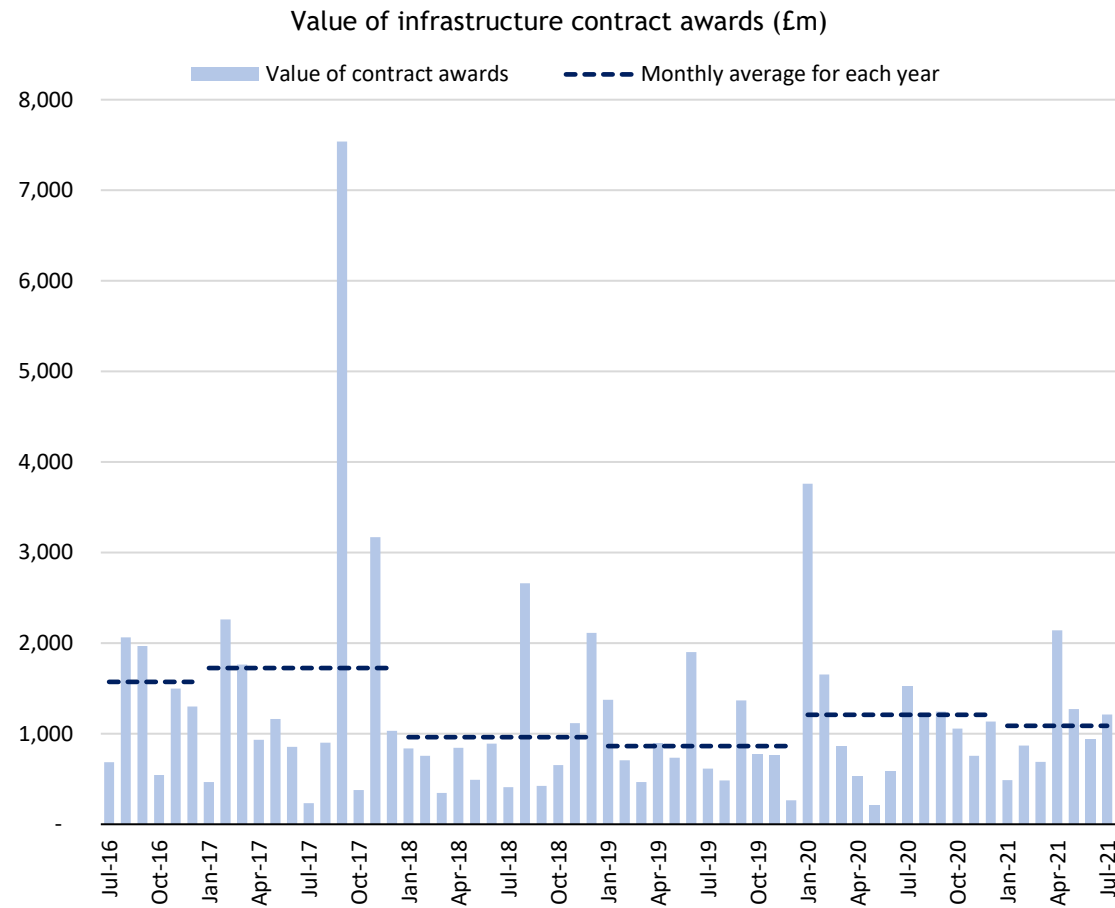


Relative Strength Index*, Jul21: 62
(Jun21: 58)

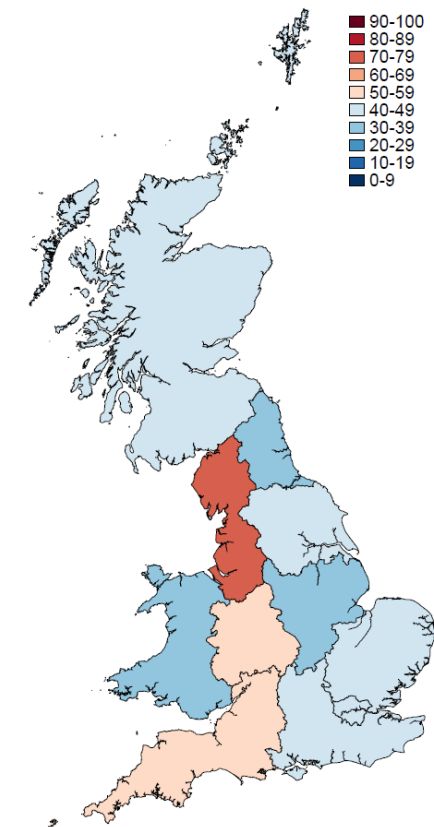


2c. New construction contract awards: Infrastructure (GB) *Source: Barbour ABI.*

*The Relative Strength Index (RSI) measures current activity levels relative to the last 5 years, using a 0-100 scale. The RSI is provided on a 3-month average basis.

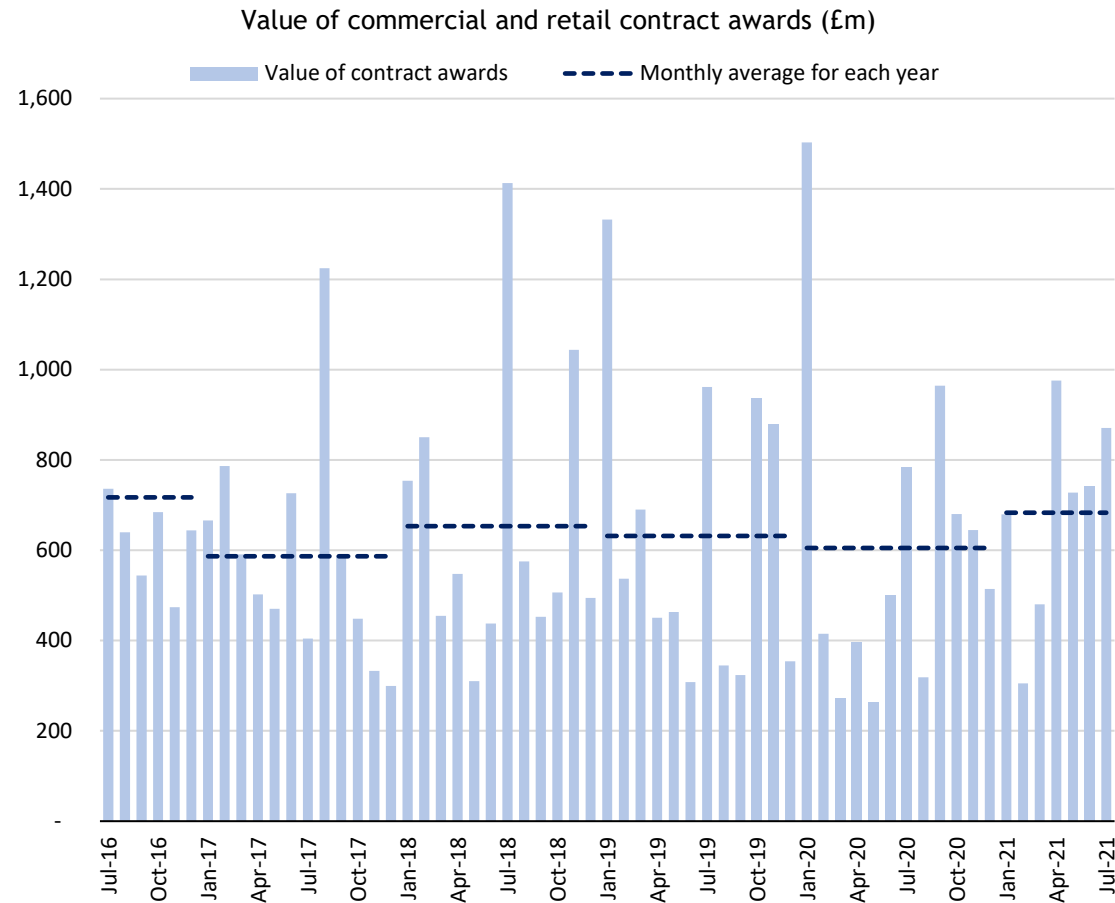


Relative Strength Index*, Jul21: 48
(Jun21: 61)

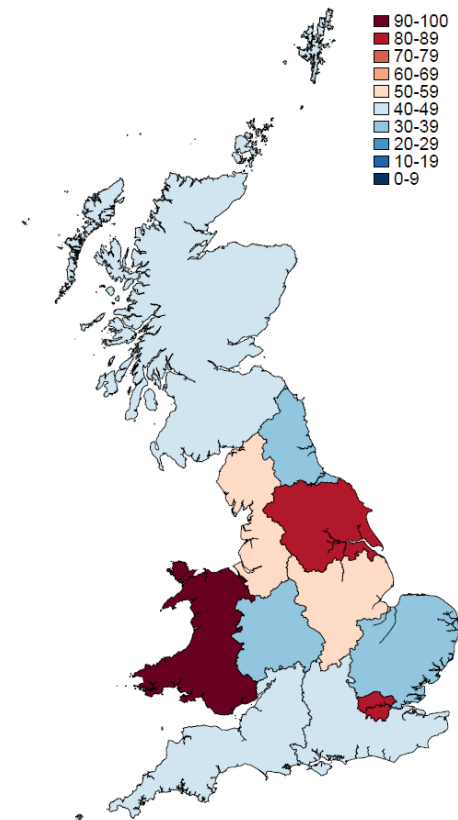


2d. New construction contract awards: Commercial offices & retail (GB) *Source: Barbour ABI.*

*The Relative Strength Index (RSI) measures current activity levels relative to the last 5 years, using a 0-100 scale. The RSI is provided on a 3-month average basis.

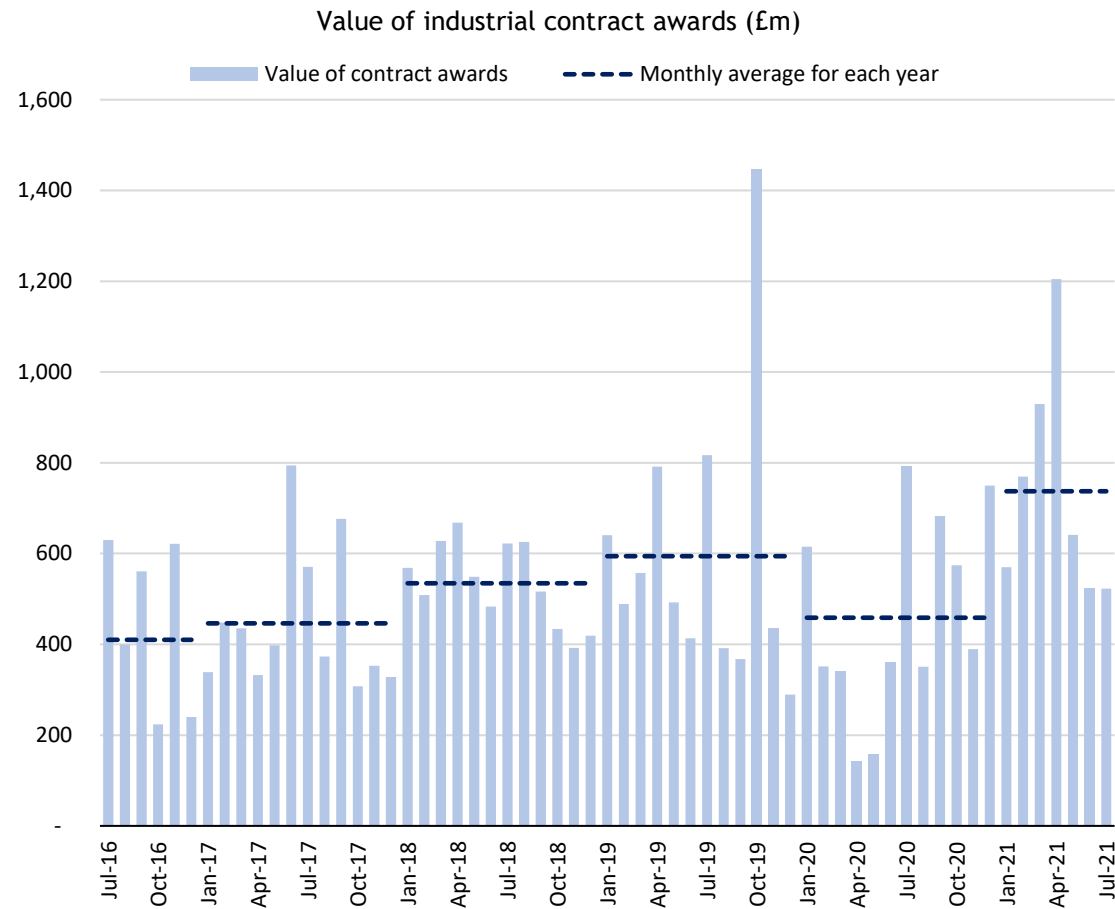


Relative Strength Index*, Jul21: 78
(Jun21: 82)

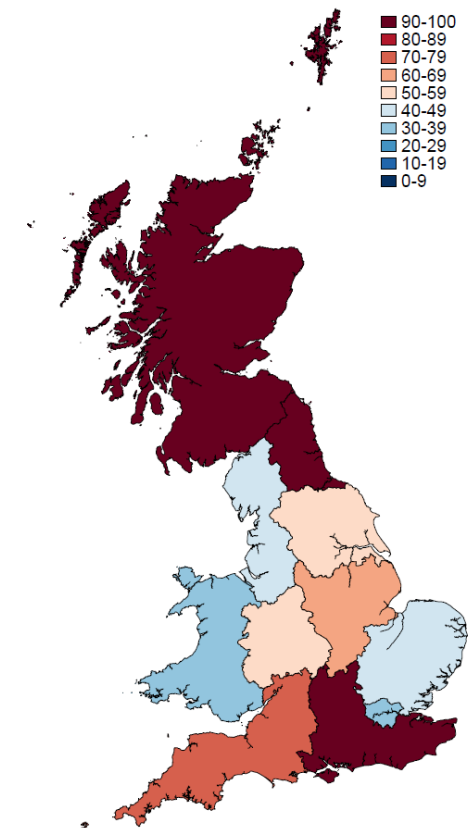


2e. New construction contract awards: Industrial (GB) *Source: Barbour ABI.*

*The Relative Strength Index (RSI) measures current activity levels relative to the last 5 years, using a 0-100 scale. The RSI is provided on a 3-month average basis.



Relative Strength Index*, Jul21: 56
(Jun21: 89)



3. SUMMARY OF KEY MACROECONOMIC AND CONSTRUCTION FORECASTS

UK Economy (annual % change)

		2021	2022	2023	Next update?
IMF	World Economic Outlook Update, Apr-21	5.3	5.1	2.0	Oct-21
OECD	Economic Outlook, May-21	7.2	5.5	-	Dec-21
OBR	Economic & Fiscal Outlook, Mar-21	4.0	7.3	1.7	Nov-21
HMT	Average new forecasts, Jul-21	6.9	5.5	-	Aug-21
BOE	Inflation Report, Aug-21	7.3	6.0	1.5	Nov-21

GB Construction (annual % change)

		2021	2022	2023
CPA (Summer 2021)	New work	14.7	7.0	3.5
	Repair & maintenance	11.8	4.9	1.1
	All work	13.7	6.3	2.7
Experian (Summer 2021)	New work	12.4	6.4	3.5
	Repair & maintenance	10.7	4.2	2.6
	All work	11.8	5.6	3.2

Detailed CPA Construction Forecast (GB): Summer 2021 (As published)

	Housing	Infrastruc ture	Public Non- housing	Industrial	Commec ial	Total New Work	Repair & Maintena nce	Total Construc tion
Output (£m)								
2019	44,882	22,252	10,126	5,555	29,353	112,168	59,311	171,479
2020	35,461	21,152	9,275	4,484	23,476	93,848	53,602	147,450
2021	41,231	26,099	10,017	5,499	24,841	107,687	59,906	167,593
2022	44,643	28,625	10,421	5,878	25,710	115,277	62,829	178,106
2023	46,429	28,794	11,499	6,220	26,393	119,335	63,514	182,849
Annual changes (%)								
2020	-21.0%	-4.9%	-8.4%	-19.3%	-20.0%	-16.3%	-9.6%	-14.0%
2021	16.3%	23.4%	8.0%	22.6%	5.8%	14.7%	11.8%	13.7%
2022	8.3%	9.7%	4.0%	6.9%	3.5%	7.0%	4.9%	6.3%
2023	4.0%	0.6%	10.3%	5.8%	2.7%	3.5%	1.1%	2.7%

IN FOCUS: CLIMATE CHANGE PROGRESS, COP AND UK POLICY PLANS

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Mitigating and adapting to climate change is vital to our environmental but also our social and economic systems. The first part of the sixth assessment reportⁱ released this month by the Intergovernmental Panel on Climate Change (IPCC) further emphasises the continued agreement from the scientific community on the scale, speed and consequences of climate change. This means that more than ever, the way we transport people and goods, how we manufacture and build, what we eat, how we live and how we use energy all has to dramatically change in the coming decades if we are to meet the national ambition of net zero by 2050 and make the UK's small but needed contribution to the global challenge.

What progress has been made?

In 2019 GHG emissions were estimated to be 43.8% lower than they were in 1990ⁱⁱ. However, contrary to this commonly quoted measure of success the footprint of UK consumption is quite different. Consumption emissions (i.e., the broader impact of UK consumption including emissions embedded in imported goods and services), are around 50% higher than the UK's territorial emissionsⁱⁱⁱ. **Figure 1** outlines the diverging trend between UK territorial emissions and consumption-based accounting.

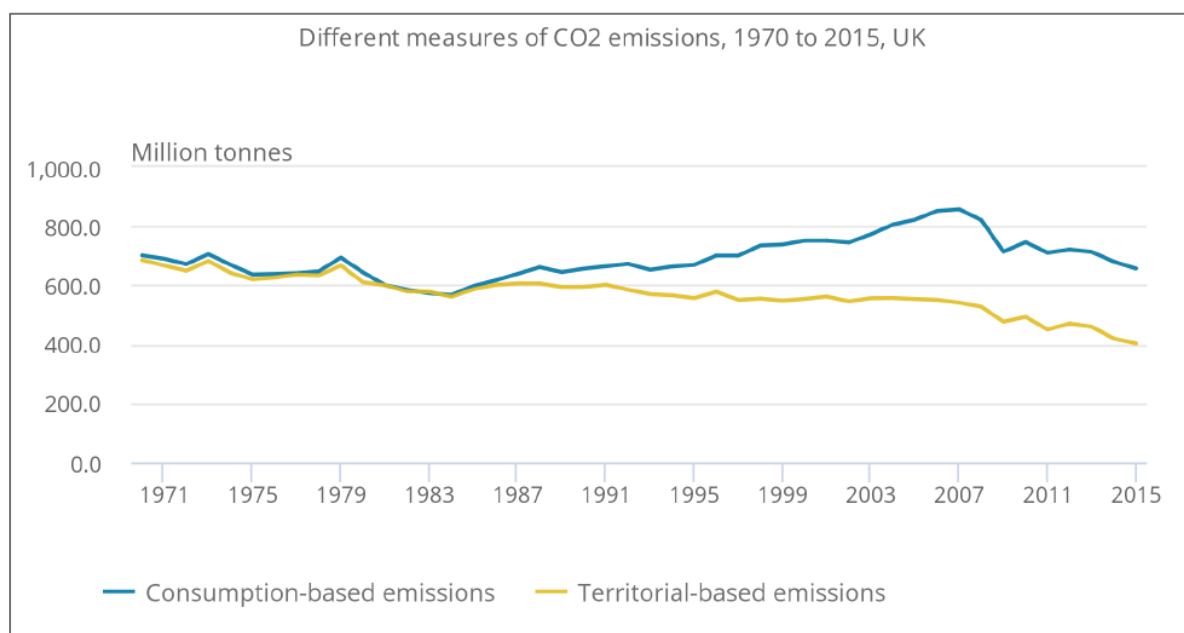


Figure 1. UK Consumption and territorial emissions 1970-2015. Source Office for National Statistics^{iv}

UK greenhouse gas emissions reduced by 2% from 2017 to 2018 and then by 2.8% from 2018 to 2019. On average since 1990, GHG emissions have reduced by around 1.5% per year, with emissions in 2019 of 454.8 million tonnes^v. These very modest reductions have largely been

possible due to changes in the power generation system, firstly decreases in the use of coal increases in the use of natural gas and more recently increased renewables. The reductions are also partly due to the UK consuming more imported goods where their emissions fall outside of the UK's GHG accounting. As such, transport is now the largest emitting UK sector at 28% of the territorial emissions; it is also the sector that has made the least amount of progress since 1990, with a reduction of just 3% over that period.

MPA member production activities are responsible for around 2% of UK GHG emissions, with cement and concrete around three quarters of that. Often quoted in the media is that cement is responsible for around 7% of global CO₂ emissions^{vi}, but for the UK the figure is less than 1.5%. UK national GHG emissions are around 1% of the global total, so it is going to take a lot more than a net zero target in the UK to limit global temperature change to +1.5 degrees by the mid-century.

Did climate change progress benefit from the Covid crisis?

According to the International Energy Agency, global primary energy demand dropped nearly 4% in 2020 and global energy-related CO₂ emissions fell by 5.8%^{vii}. In absolute terms, the 2020 reduction in CO₂ emissions of almost 2 gigatonnes is equivalent to the annual emission of the EU. Whilst most economies saw a decline of 5-10 percentage points compared to recent rates of emissions growth, China's emissions still increased in 2020 although the rate of increase slowed by just one percentage point compared with its average rate over the 2015 to 2019 period. To place the scale of change to 2050 into context, the global annual emissions reduction needs to nearly match that of 2019 to 2020 for every year between now and 2050 to meet net zero without relying on physical lockdown and economic paralysis.

If nothing else, 2020 starkly illustrates that delivering a net zero carbon economy will neither be swift, inexpensive nor straightforward. If addressed quickly, it's likely to be disruptive to the current economic model. Economists estimate that the economy-wide cost of climate inaction outweighs the cost of action over the long term^{viii}. However, the short-term costs remain significant, with estimates ranging from 1%-5% of GDP each year (£20-£100bn pa) to the more recent sustained increase in UK investment which adds around £50 billion annually by 2030^{ix}.

What is the response of the policy makers?

The Climate Change Act was passed in the UK in November 2008^x. It sets out emission reduction targets that places a legal duty on Parliament to comply. It was the first global legally binding climate change mitigation target set by any country. Originally, the Act committed the UK to reducing its greenhouse gas emissions (GHG) by 80 per cent by 2050, compared to 1990 levels. However, this goal was strengthened in 2019 when the UK became the first major economy to commit to a 'net zero' target. The national target requires the UK as a whole to reduce all GHGs to net zero by 2050, and earlier in Scotland with some leeway for Wales. The Act is implemented in the form of carbon budgets, five-year units of action to 2050. The level of the carbon budgets is proposed by the statutory Climate Change Committee (CCC).

The Climate Change Committee has reported^{xi} that the **UK is significantly off track to meet net zero by 2050**. Subsequently, the Committee has provided extensive advice on the sixth carbon budget (2033-37) to Government in order to correct the trajectory in line with the new net zero target. The CCC have recommended that the UK sets a sixth carbon budget to require a reduction in UK greenhouse gas emissions of 78% by 2035 relative to 1990, which is a 63% reduction from 2019, and that it should be accompanied by a similarly ambitious

2030 pledge to reduce emissions by at least 68% from 1990 as part of the UK's nationally determined contribution (NDC) to the United Nations 'Paris Agreement' process.

What policies will the UK use to deliver net zero?

The 68% target reduction by 2030 was committed^{xii} to in the Prime Minister's '10-point plan' in November 2020. Within that plan, a series of announcements and commitments were made, ***Annex I***. The energy system will continue to play a significant role in the short to medium term so the Energy white paper released shortly after the PM's plan repeated and supplemented the previous commitments, ***Annex II***. The specifics for the decarbonisation of industry are contained within the Government's Industrial Decarbonisation Strategy (IDS)^{xiii} which provides more detail on how the Government plan to decarbonise industrial production. Cement production is specifically referenced in the strategy and the wide-ranging actions and commitments are included in ***Annex III***. More recently the UK Hydrogen Strategy is of particular relevance to gas consumers and includes further energy system commitments.

In summary the main decarbonisation actions interacting with MPA member activities that have been announced recently are:

Targets: the commitments to the 2030, 2035 and 2050 targets set the trajectory from which implementing policies will flow. Crucially, the downward pressure on GHGs will place upward pressure on carbon pricing, taxation and other regulatory costs.

Electricity generation: The additional 40GW of offshore wind will filter through as additional cost due to increased intermittency, policy costs supporting renewables and additional network costs.

Low carbon gas: The ambition for 5GW of hydrogen by 2030 combined with the increase of biomethane in the gas grid will most likely increase cost as the green gas levy develops. Change in taxes and levies to rebalance costs between gas and electricity to reflect the carbon footprint is also signalled.

Low carbon transport: Government has announced phase out dates for sale of diesel and petrol cars (2030) Goods vehicles under 26 tonnes (2035, subject to consultation) and HGVs over 26 tonnes (2040, subject to consultation). Meeting this relies on the vehicles being available and the electricity/hydrogen supply network being established.

Buildings and construction products: Government initiatives to develop low carbon product labelling, definitions of low carbon products and promotion of low carbon procurement.

Carbon capture: Currently focused on the delivery of the low carbon and net zero clusters but indications that dispersed sites (those located in remote locations away from industrial clusters) need to be addressed. Business models and infrastructure development will need to address both clusters and dispersed sites but the actions on the latter are currently uncertain.

Biodiversity: Environmental land management pilots could offer opportunities.

Finance: Commitments to pockets of funding and innovation are welcome but likely to be insufficient in scale for the challenge. The financial community is being pressed to use its influence in both reporting and investment.

Carbon pricing: The new UK Emissions Trading System includes reviews and features that will add pressure to the cost of emitting CO₂. Further expansion of the system is being considered. The future of the UK ETS and EU ETS linking remains uncertain, as does the potential for carbon price adjustments at the UK border.

Energy and CO₂ system regulation: On the journey to net zero, the role and activities of the energy system are key. Changes in progress include defining energy storage, new governance arrangements for Ofgem, regulation of CO₂ transport and storage.

Between the Energy White Paper, the PM's 10-point plan, the industrial decarbonisation strategy and the announcements and details contained within them, the pace and scale of policy change appears to be moving up a gear. Will it be broad enough? Fast enough? Will it put the UK on course for meeting the 6th Carbon Budget? Early indications suggest that this is only a small portion of what is needed and the Climate Change Committee view is that more action is needed, and faster.

How is our industry responding to the changes?

We should start the answer with the largest emitter within mineral products. In the early 1990s the UK cement industry began switching from fossil fuels to waste derived alternative fuels and alongside the transition from wet process cement production to dry process preheater-precalciner technology the emissions reduction for the industry started to take shape. In 2005, the British Cement Association set out a carbon reduction strategy^{xiv} to deliver the then Government's 60% emissions reduction target by 2050. These initiatives provided the foundation for more detailed work on decarbonisation roadmaps. In 2013, the Mineral Products Association provided details^{xv} of a roadmap to deliver the Government's 80% reduction target by 2050 which was used as the basis for the 2015 Government cement industry roadmap^{xvi} with the same aim of decarbonising the cement industry by 80%.

The early action from switching kiln technology, plant rationalisation, using waste derived biomass fuels and using less clinker in cement has delivered significant emissions reduction. The UK cement industry has reduced CO₂ emissions between 1990 and 2018 by 53%. It is currently decarbonising faster than the UK as a whole, which has reduced emissions by 43% over the same period and on the same basis. The early action means that the UK concrete and cement industry is less than 1.5% of direct territorial emissions, and five times lower than the global figure. Consequently, deep levels of decarbonisation now require breakthrough, step change and increasingly disruptive innovation, technology and business changes as outlined in the UK Concrete and Cement Industry Roadmap to Beyond Net Zero^{xvii}. MPA's innovation programmes on fuel switching, low carbon cements and carbonation are helping to place the industry at the forefront of emissions reduction. MPA is also working closely with BEIS on the business models that will enable the deployment of carbon capture, use and storage of CO₂ in industry, and on the decarbonisation of dispersed sites, to ensure their specific and unique needs can be addressed in funding calls and mechanisms to help deliver the industry roadmap reduction levers presented in **Figure 2**.

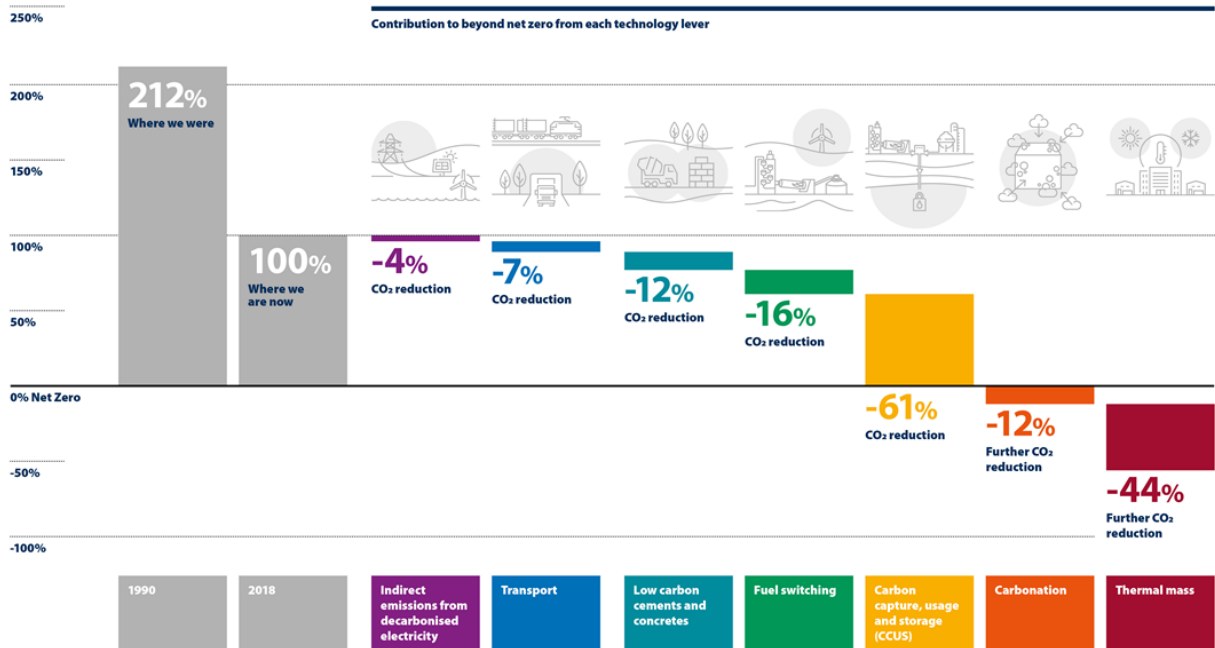


Figure 2: UK Concrete and Cement Industry Roadmap to Beyond Net Zero.

The European cement association CEMBUREAU has responded to the need for climate change action and policies such as the EU Green Deal^{xviii} with the European cement industry carbon neutrality roadmap^{xix}. CEMBUREAU's carbon neutrality roadmap demonstrates that reaching net zero emissions along the cement and concrete value chain is achievable by 2050 going from 783kgCO₂/t cement in 1990 to zero through onsite and value chain reductions associated with the '5Cs': clinker, cement, concrete, construction, re-carbonation.

The Global Cement and Concrete Association's (GCCA) climate ambition statement commits to continue to drive down the CO₂ footprint of their member operations and products and aspires to deliver society with carbon neutral concrete by 2050. GCCA will work across the built environment value chain to deliver this aspiration in a circular economy, whole life context.

Common across all roadmaps is the need for industry commitment, innovation, investment, cross-industry partnership, behavioural change and Government support. These roadmaps focus on the high-profile cement and concrete sectors, but all MPA product groups will need to meet net zero by 2050 and work is in progress to share the roadmap learning to benefit other mineral product activities.

What can we expect in the run up to COP26?

The Government policies outlined here are just some of the initial outputs we expect in the run up to the UK hosting COP26 in Glasgow in November this year. Further Government output is expected with a Net Zero Strategy and the HM Treasury Net Zero review which will expand on some of the economic and competitiveness aspects of meeting net zero.

COP25 in Madrid failed to make significant progress in many areas and significant decisions were deferred. COP26 should be a key meeting as it is planned that the 'Paris Rulebook'

will become fully operational. The rulebook puts the detailed mechanisms on the Paris agreement which came into force in 2016. The so called ‘article 6’ discussions will be crucial to the success or failure of the Glasgow COP. The article 6 rules will include international cooperation in carbon markets. Importantly, the Glasgow COP is five years after Paris and each party to the Paris Agreement must update their “Nationally Determined Contributions” (or “NDCs”) to include strengthened commitments. Strengthened adaptation support will also feature and alongside the CO₂ haggling will be a significant debate on climate finance and support for developing nations. The pre-COP in Italy at the end of September will give us a clue of the potential success for COP26 and whether the politics can converge to the same degree as the climate science.

Annex I

Summary of relevant commitments and announcements from the Prime Ministers’ 10 Point Plan

- By 2030, we aim to produce 40GW of offshore wind, including 1GW of innovative floating offshore wind
- The UK to develop 5GW of low carbon hydrogen production capacity by 2030
- Investment in small modular and advanced modular nuclear reactors
- End the sale of new petrol and diesel cars and vans by 2030, with all vehicles being required to have a significant zero emissions capability (e.g., plug-in and full hybrids) from 2030 and be 100% zero emissions from 2035. We will invest £20 million next year (2021) in freight trials to pioneer hydrogen and other zero emission lorries, to support industry to develop cost-effective, zero-emission HGVs in the UK.
- Implement the Future Home Standard in the shortest possible timeline, and consult shortly on increased standards for non-domestic buildings
- We will establish CCUS in two industrial clusters by mid 2020s, and aim for four of these sites by 2030, capturing up to 10 Mt of carbon dioxide per year.
- We will launch Environmental Land Management pilots next year (2021)
- Mandatory reporting of climate-related financial information across the economy by 2025, with a significant portion of mandatory requirements in place by 2023.
- We will implement a green taxonomy that defines which economic activities tackle climate change and environmental degradation to help better guide investors

Annex II

Summary of relevant announcements from the Energy White Paper

- Supporting the deployment of CCUS in four industrial clusters including at least one power CCUS project, to be operational by 2030 and putting in place the commercial frameworks required to help stimulate the market to deliver a future pipeline of CCUS projects.
- Establishing a new UK Emissions Trading System, aligned to our net zero target, giving industry the certainty they need to invest in low-carbon technologies.
- Aiming to bring at least one largescale nuclear project to the point of Final Investment Decision by the end of this Parliament, subject to clear value for money and all relevant approvals.
- Consulting on whether it is appropriate to end gas grid connections to new homes being built from 2025, in favour of clean energy alternatives.

- Growing the installation of electric heat pumps, from 30,000 per year to 600,000 per year by 2028.
- Building world-leading digital infrastructure for our energy system based on the vision set out by the independent Energy Data Taskforce, publishing the UK's first Energy Data Strategy in spring 2021, in partnership with Ofgem.
- We will publish a call for evidence by April 2021 to begin a strategic dialogue between government, consumers and industry on affordability and fairness
- By 2022, we will establish the role which BECCS can play in reducing carbon emissions across the economy and, as part of a wider biomass strategy, set out how the technology could be deployed
- We will complete a review of the existing energy National Policy Statements (NPS), with the aim of designating updated NPS by the end of 2021.
- In partnership with the Office of Gas and Electricity Markets (Ofgem), we will work to minimise the costs to consumers
- Ensure electricity networks are able to integrate increasing renewable generation and more electric vehicles (EVs), while controlling system costs
- Make sure that energy system information about supply and demand is used to drive greater efficiency and lower costs, as well as promote more innovation and new services for consumers
- Ensure that the system's rules and governing institutions support the transition away from fossil fuels to clean energy
- We will publish a new Smart Systems Plan in spring 2021, jointly with Ofgem, and define electricity storage in law, legislating when Parliamentary time allows.
- We will set out our vision for energy as a guide to Ofgem, by consulting in 2021 on a Strategy and Policy Statement for the regulator.
- The Prime Minister's 'Ten Point Plan for a Green Industrial Revolution' announced that we will consult on a date for phasing out the sale of new diesel HGVs.
- We will increase the proportion of biomethane in the gas grid.

Annex II

Summary of relevant announcements and actions from the Industrial Decarbonisation Strategy

- Action 1.1: We will change the policy landscape, creating a set of incentives that are coherent and enough to drive emissions in line with our carbon budget targets and all the way to net zero 2050. Timeframe: 2030. Action in 2021/22: Embed strategy principles into key policy decisions: UK ETS reforms; CCUS and low carbon hydrogen business models development; demand-side policy call for evidence.
- Action 2.1: Use carbon pricing as a tool to send a clear market signal, providing certainty over our net zero ambition for industrial sectors. Timeframe: 2020s - 2050s Action in 2021/22: This will include consulting on a net zero consistent emissions cap; reviewing the long-term role of free allowances; exploring expanding the scope of the scheme to cover more sectors of the economy; exploring linking with other schemes internationally; and considering the case for a supply adjustment mechanism.
- Action 2.2: Put in place funding mechanisms to support deployment and use of CCUS and low carbon hydrogen infrastructure. Timeframe: 2020s - 2040s Action in 2021/22: Publish initial business models for CCUS (2021) and low carbon hydrogen (2022).

- Action 2.3: Establish the right policy framework to ensure uptake of fuel switching. Timeframe: 2020s. Action in 2021/22: Launch a call for evidence on energy affordability.
- Action 2.4: Take initial steps to create a market for negative emissions technologies. Timeframe: 2020s. Action in 2021/22: Publish response to the Greenhouse Gas Removals Call for Evidence.
- Action 2.5: Establish a targeted approach to mitigating carbon leakage. Timeframe: 2020s - 2030s. Action in 2021/22: Review the design of the UK ETS, including the long-term role of free allowances
- Action 2.6: Work with stakeholders to understand how an EU Carbon Border Adjustment Mechanism could affect the UK. Timeframe: 2020s - 2030s. Action in 2021/22: Engage with EU and UK business, academic and government stakeholders to understand how the policy could affect UK industry.
- Action 3.1: Develop proposals to improve data transparency. Timeframe: 2023. Action in 2021/22: Call for evidence on low carbon products to include data collection to support demand-side measures.
- Action 3.2: Develop proposals for new product standards. Timeframe: 2025. Action in 2021/22: Call for evidence on low carbon products to include defining low carbon products.
- Action 3.3: Develop proposals for product labelling. Timeframe: 2020s. Action in 2021/22: Consider benefits of labelling system for intermediary products.
- Action 3.4: Use public procurement to drive change. Timeframe: 2020s - 2050s. Action in 2021/22: Develop Clean Energy Ministerial initiative on coordinated public procurement action; publish National Procurement Policy Statement.
- Action 3.5: Support businesses to make greener choices. Timeframe: 2020s - 2050s. Action in 2021/22: Engagement with businesses to understand how government can support changes in procurement practices and encourage consolidated demand via buyers' alliances.
- Action 4.1: Support deployment of CCUS on industrial sites in clusters to capture and store around 3 MtCO₂ per year by 2030. Timeframe: 2030. Action in 2021/22: Announce Industrial Decarbonisation Challenge Deployment Phase 2 winners. Publish Initial business models for CCUS (2021). Response to consultation on Carbon capture, usage and storage: market engagement on cluster sequencing.
- Action 4.2: Support increasing amounts of fuel switching to low carbon fuels during the 2020s. Timeframe: 2020s - 2030s. Action in 2021/22: Develop production of hydrogen through the Net Zero Hydrogen Fund and publish Hydrogen Strategy. Launch a call for evidence on energy affordability. Publish the Bioenergy Strategy in 2022.
- Action 4.3: Consider the implications of the recommendation of the Climate Change Committee to set targets for ore-based steelmaking to reach near-zero emissions by 2035. Timeframe: 2020s. Action in 2021/22: Collaborate with the Steel Council to understand the business environment necessary to support the transition.
- Action 4.4: Work with industry to understand what is required to make sites retrofit-ready. Timeframe: 2020s. Action in 2021/22: Assess the feasibility of mandating that new equipment is retrofit ready.
- Action 4.5: Work with the cement sector to explore options to decarbonise sites in dispersed locations. Timeframe: 2020s. Action in 2021/22: Engage with the minerals industry to consider options for dispersed sites, building on the report published in August 2020 (BEIS, CCS deployment at dispersed industrial sites, 2020).

- Action 4.6: Review policies to address specific barriers faced by less energy-intensive, dispersed sites. Timeframe: Early 2020s. Action in 2021/22: Undertake analysis of current and emerging energy policies and engage with less energy-intensive, dispersed sites.
- Action 4.7: Ensure planning reforms brought forward as part of Project Speed support the delivery of low carbon infrastructure. Timeframe: 2020s. Action in 2021/22: Review planning regimes to enable net zero to be delivered at pace.
- Action 4.8: Improve coordination between decarbonisation and environmental policies to meet a common sustainability agenda. Timeframe: 2020s. Action in 2021/22: Assess synergies and alignment between decarbonisation and environmental policies.
- Action 5.1: Support sites to install energy management systems. Timeframe: Early 2020s. Action in 2021/22: Encourage organisations to adhere to the requirements set by international energy management standards.
- Action 5.2: Improve heat recovery and reuse across industry, particularly in sites which use high temperature processes. Timeframe: 2020s. Action in 2021/22: Develop projects through the Industrial Heat Recovery Support (IHRS) programme (closed to new applications but funding will be provided until 2022) and the Industrial Energy Transformation Fund (IETF), with phase 2 of the IETF launching in 2021.
- Action 5.3: Help less energy-intensive, dispersed industrial sites improve energy efficiency through the adoption of technologies available in the market with low payback times. Timeframe: 2020s. Action in 2021/22: Review how sites can adopt energy efficiency solutions, with measures being considered including audit programmes, expert advice, and training for SMEs as well as expanded funding schemes and finance options.
- Action 5.4: Develop a communications plan to make industry aware of the support that is already available to increase energy efficiency. Timeframe: Early 2020s. Action in 2021/22: Develop a plan which focuses on providing direct advice, advice on best practice, behaviour changes and digital solutions.
- Action 5.5: Support increased resource efficiency and material substitution within industry, by driving the transition towards a circular economy model and increasing reuse, repair and remanufacturing. Timeframe: 2020s. Action in 2021/22: Publish modified Waste Prevention Programme.
- Action 6.1: Support innovation in fuel switching technologies, including low carbon electricity, biomass and hydrogen. Timeframe: 2020s - 2040s. Action in 2021/22: Utilise funds from the Net Zero Innovation Portfolio to accelerate the development of electrification and hydrogen/biomass fuel switching.
- Action 6.2: Support first-of-a-kind demonstration of CCUS from a range of industrial sources. Timeframe: Mid 2020s. Action in 2021/22: Support CCUS innovation through the Carbon Capture and Utilisation Demonstration (CCUD) Innovation Programme.
- Action 6.3: Support the development of industrial digital technologies to maximise efficiency improvements. Timeframe: Early 2020s. Action in 2021/22: Support research and analysis into funding, feasibility and deployment of the latest digital technologies, through the Manufacturing Made Smarter Challenge programme.
- Action 6.4: Support research into advanced technologies. Timeframe: 2020s Action in 2021/22: Analyse opportunities and develop an approach towards utilising digitalisation technologies to support industrial decarbonisation ambitions using advanced technologies to support industrial decarbonisation ambitions.

- Action 6.5: Support advancements in product innovation. Timeframe: 2020s - 2050. Action in 2021/22: Incentivise the uptake of smarter designs of industrial products and more efficient technologies through programmes such as Made Smarter.
- Action 7.1: Work with our partners to create a coalition of countries committed to shared approaches to developing the market for low carbon products. Timeframe: 2021 - 2030. Action in 2021/22: Use COP26 and the G7 Presidency to seek joint commitments on using public procurement to drive industrial decarbonisation.
- Action 7.2: Lead global innovation efforts, through the UK's leading role in Mission Innovation, to reduce the costs of supplying low carbon industrial products. Timeframe: 2020s - 2050. Action in 2021/22: Participate in emerging Missions (public-private innovation alliances); engage the UK private sector, governments and academic in Missions; and share knowledge about innovation advances and successes in UK industry through the Innovation Platform that will be launched as part of MI 2.0.
- Action 7.3: Support industrial decarbonisation through trade policy. Timeframe: 2020s - 2050. Action in 2021/22: Ensure the UK's right to meet our Net Zero target is protected within Free Trade Agreements and advance the UK's climate change objectives at the WTO, with organisations like the OECD and WEF, and as part of the UK's upcoming G7 presidency.
- Action 7.4: Capitalise on the export opportunities of having a world-leading net zero industry. Timeframe: 2020s - 2050s. Action in 2021/22: Explore further options to build on progress on Environmental Goods and Services liberalisation and ensure UK exports continue to be supported by the UK Global Tariff Schedule and the Clean Growth Direct Lending Facility to create opportunities globally.
- Action 7.5: Continue to work with key international organisations, countries and initiatives to encourage industrial decarbonisation in developing countries. Timeframe: 2020s - 2050s Action in 2021/22: Support industrial decarbonisation projects with Official Development Assistance through existing programmes: the Clean Energy Innovation Facility and the International CCUS Programme.
- Action 8.1: Unlock new job opportunities through deployment of low carbon infrastructure in industrial areas. Timeframes: 2020s - 2030s. Action in 2021/22: Announce Industrial Decarbonisation Challenge Deployment Phase 2 winners.
- Action 8.2: Support the skills transition so that the current and future workforce benefit from the creation of new jobs. Timeframe: 2020s. Action in 2021/22: Building on the findings of the Green Jobs Taskforce, further develop our understanding of the skills requirement to achieve our industrial decarbonisation ambition and support educational institutions and industry to deliver.
- Action 8.3: Create incentives for new industrial sectors to base themselves in the UK's industrial hubs and promote opportunities to attract foreign investment. Timeframe: 2020s - 2040s. Action in 2021/22: Ensure future UK economic growth policy supports investment in the UK's low carbon manufacturing sector. There are ongoing discussions with the administrations in Scotland, Wales and Northern Ireland to establish at least one Freeport in each nation as soon as possible.
- Action 8.4: Work with devolved government across England, Scotland, Wales and Northern Ireland to unlock barriers to decarbonisation. Timeframe: 2020s - 2040s. Action in 2021/22: Understand local barriers and opportunities faced by industry and local government in England. Continue to work closely with devolved administrations where devolved powers are required to take forward policy development.
- Action 9.1: Publish an update on the progress of the Strategy every year in the annual government response to the Climate Change Committee's progress report. Publish

an update of the actions in the strategy every five years. Timeframe: 2020s - 2050. Action in 2021/22: Ensure frameworks are in place to publish an update on the progress of the strategy within the annual government response to the Climate Change Committee's progress report.

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SRT/2 – MPA UK Minerals Strategy

UK Minerals Strategy

Meeting the demand for minerals and mineral products sustainably for the next 25 years

A Strategy prepared by the UK minerals and mineral products industry, facilitated by members of the CBI Minerals Group and the Mineral Products Association

July 2018





Foreword

The minerals and mineral products industry is essential to the economy and our quality of life.

Minerals and mineral products represent the largest material flow in the economy at around 1 million tonnes per day in a typical year and should not be taken for granted. Too often policy makers assume supply, failing to appreciate the role and importance of the industry; provision of mineral resources has to be planned, monitored and managed.

It is crucial therefore that the link is made between the need for more and better housing and infrastructure and the raw material supply chain that enables them to be delivered.

Quite simply, our economy could not function without minerals and mineral products which touch virtually every aspect of our lives - in housing, schools, hospitals, roads, rail, power stations, airports, ports, food, water and agriculture.

Over the last 20 years, the industry has been working progressively towards

developing a UK Minerals Strategy to help national and local Government and key stakeholders understand not just the scale and importance of the industry, but how best to ensure that future demand can be supplied sustainably and support growth in the economy.

The UK has never attempted to develop a strategy for this sector and this document, which has benefited from extensive consultation, attempts to fill that gap. We believe it will be helpful to key stakeholders by providing a common platform and context to inform future policy development, whether it relates to industrial strategy, provision of housing and infrastructure or the protection and enhancement of natural capital.

It is hoped that the Strategy will receive recognition by Government and key stakeholders and be valued as an important consideration in the development of future UK minerals and mineral products policy

Nigel Jackson
Chief Executive, Mineral Products Association
and Chair, CBI Minerals Group



The Strategy

The aim of the Strategy is to ensure that UK demand for minerals and mineral products is supplied sustainably for the next 25 years. This will require identifying and permitting at least 5 billion tonnes of mainly construction and industrial minerals to be sourced primarily from indigenous resources.

To achieve this, Government and relevant stakeholders should:

- recognise that minerals and mineral products, and the industry that supplies them, are essential to the economy and our quality of life;
- recognise that supply cannot be assumed; it needs to be planned, monitored and managed;
- ensure steady and adequate provision is made, primarily through the land use planning system; and
- establish supportive policy, operating and trading conditions to enable UK industry to thrive and invest in future supply.

Of overriding importance is the requirement for a strong national minerals and mineral products policy and statement of need. These would inform and underpin national, regional and local planning to enable sufficient minerals and mineral products to be supplied to key sectors of the economy.



Overview

The UK has abundant and diverse mineral resources and a resilient, productive industry that is committed to supplying both indigenous demand and valuable export markets.

Minerals and mineral products underpin the economy. They are critical to the development and maintenance of the built environment, our infrastructure and our quality of life. Recognition and support for the minerals and mineral products industry, and its critical role, should therefore be a national priority and policy imperative.

Continuing supply from UK sources is dependent upon sufficient mineral resources being accessible and economically recoverable. Crucially it also depends on mineral operators being given a workable ‘licence to operate’ through consents and permits to extract and process minerals and manufacture mineral products.

While improved resource efficiency and recycling have a continuing role to play, the vast majority of future supply will need to be sourced from primary minerals.

We are approaching a critical period, particularly for aggregates, the largest single component of mineral supply. Demand is likely to increase. Permitted reserves are declining steadily and not being replenished at an equivalent rate. Meanwhile, energy intensive mineral production is under increasing competitive pressure from energy and climate change

policies and costs as these become less harmonised with overseas competitors.

Government’s objectives for the delivery of much needed homes and infrastructure, economic growth and rebalancing the economy towards production and manufacturing, are at risk unless these issues are recognised and addressed.

This Strategy sets out the measures necessary to achieve this. The Strategy is intended to stand alone, but will also complement the UK’s Industrial Strategy (2017) and particularly the sector deal for Construction. The focus is on non-energy minerals, as the oil and gas industries have their own policy and regulatory regimes and consequently are excluded. It does however include coal, which is covered by the same regulatory regime as other land-based minerals.

Government recognition of the Strategy is sought to ensure that it is given sufficient weight in national and regional policy, and in local plan-making and decisions. The Strategy requires commitment from both Government and the industry if the aims are to be achieved.

It builds on the supporting evidence set out in Appendices A and B.

Key Pillars of the Strategy

ECONOMIC



DEMAND & IMPORTANCE
Government should provide clear national policy and a statement of need for minerals and mineral products to underpin local plan-making, policy and decisions to enable a steady and adequate supply of minerals and mineral products to be maintained.



SUPPLY & DISTRIBUTION
The **Industry** will submit sufficient planning or marine licence applications. Mineral planning authorities and marine regulators should ensure that sufficient sites are allocated in plans and consents or marine licences granted, to maintain a steady and adequate supply of minerals and mineral products to meet demand, while also ensuring that reuse and recycling is maximised.



TRADE & INVESTMENT
Government should ensure there is a supportive regulatory, operating and trading environment to encourage investment, trade and export of UK minerals and mineral products, and reduce risks from insecurity of international supply.

ENVIRONMENTAL



PLANNING & REGULATION
Government should ensure that the mineral planning system is properly resourced to operate effectively and that duplication with other regulation, particularly environmental permitting, is minimised.



ENVIRONMENTAL BENEFITS
The **Industry** will aim to deliver environmental net gains through responsible site management and high quality restoration, adding to the wildlife, recreational and landscape assets already created.



ENVIRONMENTAL IMPACTS
The **Industry** will continue to avoid and mitigate the impacts of extraction, processing, manufacturing and transportation as part of the transition to a low carbon and circular economy.

SOCIAL



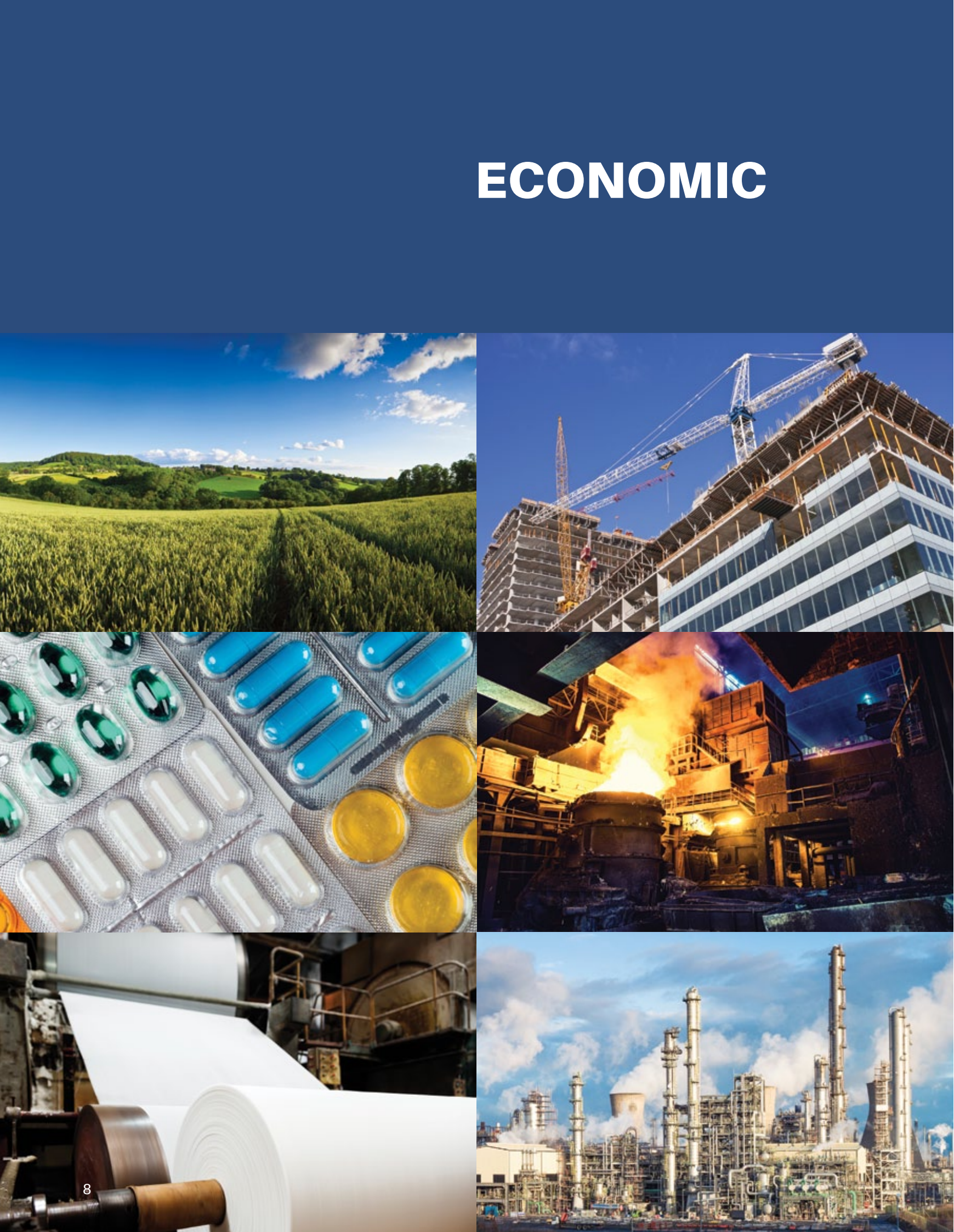
EDUCATION, SKILLS & EMPLOYMENT
The **Industry** will continue to provide attractive career opportunities and meet skills needs for a modern, healthy, safe, well-educated and diverse workforce and encourage people to choose to work in the industry.



PUBLIC UNDERSTANDING & ENGAGEMENT
The **Industry** and **Government** should work with stakeholders to improve public understanding of the need for minerals and mineral products and their associated supply chains, and strengthen the evidence base and availability of relevant data.



RESEARCH & INNOVATION
The **Industry** will encourage and invest in innovation, research and development, including the identification of new resources and the development of new markets.



ECONOMIC

ECONOMIC

Demand & Importance

Government should provide clear national policy and a statement of need for minerals and mineral products to underpin local plan-making, policy and decisions to enable a steady and adequate supply of minerals and mineral products to be maintained.



The continued extraction of minerals is essential to the UK for our economy and quality of life. Minerals provide the main constituents for most construction materials, such as asphalt, cement, concrete, bricks, mortar, glass, plaster, ceramics, and for uses as diverse as chemicals manufacture, pharmaceutical products, agriculture, and the production of paper and steel. While the largest tonnages extracted and supplied are construction and industrial materials, the manufacturing industry as a whole requires a greater range of minerals than ever before.

Cuts to the resourcing of monitoring and forecasting of need at national level, particularly for aggregates, as part of the Managed Aggregates Supply System, have resulted in an absence of up-to-date national and regional assessments of future requirements. Most planning authorities lack the resources to undertake meaningful assessments of future needs, potentially leading to under-provision. In addition, slow local plan preparation and incomplete coverage has contributed to a lack of certainty, discouraging investment by industry, and resulting in insufficient applications being brought forward at the right time.

Based on recent consumption, the industry estimates that in excess of 5 billion tonnes of primary minerals, predominantly aggregates, will be required over the next 25 years, i.e., the next generation, the majority of which will be from primary indigenous sources.

A clear national policy and a statement of need for minerals and mineral products is urgently required to provide strategic context for planning, delivery and monitoring at local level. This includes the updating of National and Regional Guidelines for Aggregates in England, and recognition of the national importance of a range of industrial and metalliferous minerals to specific industries, the UK economy, and to trade.

ECONOMIC

ECONOMIC IMPORTANCE OF THE MINERALS AND MINERAL PRODUCTS INDUSTRY TO THE UK

210mt	UK mineral annual extraction
£15Bn	Annual turnover of mineral extraction
£68Bn	Annual turnover of mineral products manufacture
£5Bn	Annual gross value added (GVA) of mineral extraction
£22Bn	Annual GVA of mineral products manufacture
£209Bn	Annual GVA of ‘first use’ markets
£235Bn	Annual total GVA of mineral extraction, products manufacture & first use markets
16%	Share of the UK total economy directly attributable to minerals
34,000	People directly employed in mineral extraction
4.3m	Jobs supported throughout the “downstream” supply chain

THE ENTIRE ECONOMY OF THE UK RELIES ON MINERALS

The flow of minerals through the economy (2013) (Source: ONS, ABS, MPA)

⁽⁴⁾ MPA believes the ONS estimate for the cement industry's GVA is understated. 2013 GVA for this industry was estimated by MPA to be £329m.



Supply & Distribution

The Industry will submit sufficient planning or marine licence applications. Mineral planning authorities and marine regulators should ensure that sufficient sites are allocated in plans and consents or marine licences granted, to maintain a steady and adequate supply of minerals and mineral products to meet demand, while also ensuring that reuse and recycling is maximised.



The UK is fortunate to have varied geology on land and off-shore, enabling most of its needs for bulk non-metallic minerals to be met from indigenous sources, although processed materials such as cement are increasingly imported. The largest tonnages extracted and supplied are construction and industrial materials, predominantly land-based aggregates, but also including marine aggregates particularly into London, South East England and Wales. While recycled and secondary materials now provide around 30% of aggregates supply, reducing some requirements for primary materials, this source is virtually maximised and primaries will form the vast majority of future supply. In addition, manufacturing industries require a wider range of minerals than ever before.

Primary mineral resources are not evenly distributed and can only be extracted where they naturally occur. This distinguishes the extractive industries from the other sectors of the economy. A limited number of strategically important sites supply demand in other regions. Some materials are transported long distances, particularly by rail and ship, requiring significant investment and effective safeguarding of infrastructure such as wharves, rail depots and inland waterways, to enable sustainable supply.

Igneous and metamorphic rocks, carboniferous limestone, sandstone,

industrial minerals, tungsten, potash and building stone have limited geographic distribution and major resources and reserves occur within or close to protected landscapes, including National Parks. In order to supply future demand these resources will need to continue to be worked. This need is recognised in national planning policies that provide for major development in these areas, including minerals extraction, in exceptional circumstances and where it is in the public interest.

Permitted reserves, particularly of construction aggregates, are not being replenished quickly enough and some major extraction permissions, providing large amounts of material across the country, will be coming to an end in the near future or, in the case of some old permissions, 2042. Some local shortages in minerals supply are already evident, such as certain qualities of sand, and are likely to increase.

Industry will continue to invest in extraction and production, but needs a clear, strategic and encouraging operating environment. Supportive national policies and a statement of need is required to set the context for local planning and regulation, and to provide industry, particularly those with international owners, with the confidence to invest.

Trade & Investment

Government should ensure there is a supportive regulatory, operating and trading environment to encourage investment, trade and export of UK minerals and mineral products, and reduce risks from insecurity of international supply.



Many specialist metals, the vast majority of which have to be imported, and some other minerals are needed in relatively small quantities but are nevertheless essential for manufacturing, particularly many high-tech products.

We are fortunate, however, that tungsten mining has recently recommenced in Devon, and a new and internationally important polyhalite mine is being developed in Yorkshire. Exploration for other important resources is continuing. The UK is also fortunate in having important deposits of higher value minerals, such as china clay (kaolin), ball clay, potash, gold and tin, with exports contributing positively to our balance of trade.

The UK also provides mining expertise and business entrepreneurial skills to develop resources wherever they occur in the world, and is a global HQ for many major mineral companies.

Rising demand around the world and trade restraint from some producer countries means that security of supply for our metallic and other key mineral needs is of increasing concern. This necessitates

constant geopolitical evaluation and monitoring. Other countries are developing strategies to promote resource security, including trade agreements, the use of indigenous resources, recycling and efficiency of use; indeed, it is a requirement of the EU Resource Management Plan that all Member States shall do so.

Industry will continue to explore and develop indigenous resources where and when appropriate, and maintain and seek new export markets. Favourable trade deals will enable the continuation of both import and export of essential minerals and mineral products. A supportive investment environment would help to encourage new exploration and the development of indigenous resources.

The cumulative impact of direct and indirect policy and regulation of the UK energy intensive minerals industry, including cement, industrial lime and ceramics, as well as china clay, is increasing the cost of production and in turn their international competitiveness, potentially making the UK less attractive for inward investment.

ENVIRONMENTAL

ENVIRONMENTAL

Planning & Regulation

Government should ensure that the mineral planning system is properly resourced to operate effectively and that duplication with other regulation, particularly environmental permitting, is minimised.



National and local planning policy provides the framework for mineral safeguarding and extraction in accordance with sustainable development principles. Up-to-date development plans are essential to provide certainty and encourage investment. Production and adoption of minerals plans, including allocation of sites for extraction, has been slow, and in many areas plans are still not in place.

although some projects can exceed this significantly. The cumulative impacts of regulation can be significant and make longer-term commercial planning more difficult for industry and can deter investment, particularly by multi-national companies who may see better returns elsewhere. Industry experience is that there is a need to ensure more efficient and effective implementation of regulation.

An efficient mineral planning and environmental permitting system is needed to ensure sufficient mineral permissions are granted in the right place and at the right time. This constituent of the 'licence to operate', i.e. securing planning permission and the necessary environmental permits, is unnecessarily slow, complex and expensive. It can take up to 15 years between the discovery of a potentially workable deposit and actual production. Planning and permitting costs are typically between £100k and £1m per development,

All stakeholders would benefit from a less cumbersome approach. Planning permissions should effectively be the primary 'licence to operate' and environmental permitting should focus on enabling a permission to be implemented. It must be reasonable, consistent and proportionate, avoiding duplication and delay, to improve both environmental and business outcomes. To do this, planning authorities and regulators need to be properly resourced, with appropriate skills and funding.



Environmental Benefits

The Industry will aim to deliver environmental net gains through responsible site management and high quality restoration, adding to the wildlife, recreational and landscape assets already created.



The industry has an enviable and proven record of delivering high quality site management and restoration of sites to agriculture, leisure, recreation, nature conservation and other beneficial after-uses, as well as creating valuable landscapes and important wildlife habitats.

For example, industry data shows that current and restored mineral extraction sites host 700 SSSIs, and a nationwide network of quarries that have been restored for wildlife are now accessible to the public as part of MPA's National Nature Park, including 15 field study and education centres, as well as 22 local nature reserves. Site restoration and land management has already delivered in excess of 8,000ha of UK priority habitats. The industry is uniquely placed among industrial sectors to deliver more, with at least a further 10,000ha committed to in restoration plans.

High quality operational and restoration standards are critical to the industry's reputation, demonstrating that it can be trusted to deliver a valuable legacy once operations have ceased, and to maintaining its 'licence to operate'.

The industry will continue to deliver net gain in environmental assets, and will increasingly measure this in terms of natural capital and ecosystem services provided, such as biodiversity, water and flood management, recreation, and carbon sequestration.

Environmental Impacts

The Industry will continue to avoid and mitigate the impacts of extraction, processing, manufacturing and transportation as part of the transition to a low carbon and circular economy.



Sufficient mineral reserves must be secured to support the economy and development, minimising environmental impacts wherever possible. Extraction can cause disturbance to people and the environment, so high standards of operation and mitigation are essential.

Mineral operations are different to other forms of development, being essentially temporary, and following extraction, sites are routinely restored to socially and environmentally beneficial after-uses. Despite the scale of supply, operations have a small 'footprint' of under 0.3% of the UK's land area and 0.15% of the UK seabed.

While areas designated for their landscape and environmental importance will be avoided wherever possible, there will be a continuing need for minerals extraction in these areas. However, this will only occur where the need is demonstrated, the scope for obtaining the mineral elsewhere is limited, and where impacts can be adequately mitigated.

The impacts of processing, manufacture and transport can themselves be substantial, particularly noise, dust, visual impact and traffic, as well as energy use and associated emissions to air. The industry will strive to reduce such impacts through continuing investment in design, efficiency and technology.

SOCIAL



SOCIAL

Education, Skills & Employment

The Industry will continue to provide attractive career opportunities and meet skills needs for a modern, healthy, safe, well-educated, diverse and competent workforce and encourage people to choose to work in the industry.



The industry, planning authorities and regulators are experiencing difficulties in recruiting and retaining new and appropriately skilled employees. The industry requires technically competent and experienced managers, engineers, geologists, planners, health and safety professionals, mobile and plant operators, technicians and drivers, amongst others. An ageing workforce means attracting and recruiting new staff is critical, including both school and college leavers, apprentices and graduates. The visibility, profile and reputation of the industry are crucial in competing for people with other sectors.

Experienced mineral planners are required to write policy, process applications efficiently and apply professional judgement with confidence. However, planning authorities are experiencing staff shortages and recruitment problems, in part due to closure of planning schools and lack of specialist minerals planning courses.

The industry needs to better demonstrate and communicate that it offers interesting and rewarding career opportunities for a wide range of skills in a safe and healthy working environment with opportunities for training and progression. It needs to ensure employees and contractors acquire and maintain the practical and technical skills and competences needed to work efficiently and safely. More effective links need to be forged with schools, universities, colleges and research institutions, to help raise the profile of careers in the sector.

The industry is committed to increasing the opportunities for apprentices. These are particularly valuable given the high number of operations in rural areas.

Public Understanding & Engagement

The Industry and Government should work with stakeholders to improve public understanding of the need for minerals and mineral products and their associated supply chains, and strengthen the evidence base and availability of relevant data.



Public engagement on the importance and use of minerals and mineral products, together with the economic, social and environmental benefits derived from supplying these from UK resources, is essential. It will raise awareness and develop an understanding of the sector, and help build a consensus on how best to provide and safeguard supplies. Working to ensure the industry is recognised as a good neighbour, responsible operator, important employer, and as leaving a valuable legacy, are all critical in ensuring its 'licence to operate' is maintained.

Making the link between resources, products and uses is an important process which all stakeholders can benefit from.

Over many decades valuable data has been developed and published by Government and the British Geological Survey (BGS) documenting the key metrics relating to the industry and the role that minerals play in our lives and the economy. These data sources should be protected and built on wherever possible. Industry also has a role to play in filling some of the gaps created by a recent decline in Government funding.

Industry supports the Extractive Industries Transparency Initiative (EITI), signed up to by Government, and will continue to participate as this provides useful data and information about taxes and payments made by the sector.

Research & Innovation

The Industry will encourage and invest in innovation, research and development, including the identification of new resources and the development of new markets.



Like all sectors, the UK minerals industry constantly needs to adapt and innovate to maintain competitiveness and identify and exploit new market opportunities. This includes improving the efficiency, productivity and sustainability of mineral operations and supply of raw and recycled minerals, promoting opportunities for downstream manufacturing, and encouraging technological, operational and product innovation. Government data shows that the industry has comparatively high productivity compared to many other sectors of the economy.

Maintaining and strengthening the resilience of minerals and mineral products supplies requires ongoing exploration for economic mineral deposits, improvements to the minerals and mineral products supply chain, and identifying new options for development, and added value, products and uses.

Energy intensive mineral production, particularly cement, lime and ceramics, will most likely require fundamental process changes to meet ambitious decarbonisation and energy goals. In some cases, considerable early action has already been taken. For example, the cement and lime industries have reduced their dependence on fossil fuels to utilise waste derived alternative fuels, including biomass, to minimise their greenhouse gas emissions. Carbon capture and utilisation or storage, alongside electrification or the use of hydrogen fuel all present opportunities for further emissions reduction but the costs and technological barriers are currently prohibitive without a supportive financial and policy framework.

DELIVERY



DELIVERY

Next Steps

Delivery of this industry-led Strategy will require a multi-stakeholder approach involving Government Departments in England, Scotland, Wales and Northern Ireland.

The UK minerals and mineral products industry will engage with Government and stakeholders to ensure that the broad aims of the Strategy are delivered, using the key pillars as the basis for further work. The UK Minerals Forum may have a contributory role to play in encouraging dialogue and the development of solutions.

The industry commends this Strategy to Government. It hopes that it will be recognised and regarded as a material consideration in the development and implementation of economic and planning policy.

Appendix A: Background

NATIONAL POLICIES

The UK has had no overarching national mineral strategy, policy or plan recognising the economic importance of a steady supply of essential minerals and mineral products, from domestic sources or imported. The current relevant planning documents for England, Scotland and Wales are listed below.

- In England, the National Planning Policy Framework (NPPF)
- In Scotland, Scottish Planning Policy 4: “Planning for Minerals”
- In Wales, Planning Policy Wales and Minerals Technical Advice Note 1 and 2 (MTAN1 and MTAN2)
- In Northern Ireland, Strategic Planning Policy Statement for Northern Ireland (SPPS)

SELECT COMMITTEE INVESTIGATION INTO THE EXTRACTIVE INDUSTRIES SECTOR 2014

A House of Commons Business Innovation and Skills Select Committee examined the Extractive Industries Sector in 2014. The Government response in England declined to set out measures to directly support the UK Mineral Extraction Industry, beyond the existing NPPF, but did encourage industry to prepare a strategy.

House of Commons Select Committee for the Department of Business Innovation and Skills Select Committee report of an investigation into the ‘Extractive Industries Sector’ (November 2014):

‘The Government has expressed support for the enlargement of the UK’s domestic extractive sector. However, it is unclear how the Government intends to promote the growth of this sector. We recommend that the

Department publishes a domestic extractives plan setting out the extent and range of its support - both structural and financial - and how it intends to realise that ambition. We welcome the Minister’s offer to meet with industry and deal with roadblocks. We further recommend that the Government sets out in its response the best mechanism for taking this forward.’

Government response, England (January 2015):

‘There is a variety of work underway as part of the industrial strategy. This includes work on procurement, access to finance, technologies, skills and sectors as well as reforms to the planning process. We recognise the importance of mineral products in supply chains and these are covered by existing sectorial strategies, particularly in construction. As part of industrial strategy, it is important that businesses within each sector come together to identify long-term priorities for the sector as a whole. We understand that the Minerals Products Association is developing a strategy for the sector and look forward to discussing the priorities with them. We believe these represent a coordinated approach to supporting growth in the UK’s extractive industries.’

UK MINERALS FORUM AND CBI MINERALS GROUP REPORTS

The UK Minerals Forum (UKMF) examined recent trends in UK minerals production and also looked forward in its report **‘The Future of our Minerals’**, published in November 2014.¹

The key recommendations recognised the need for:

- A national long-term vision and strategy for UK minerals supply as an integral part of future industrial strategy
- Concerted action to help policymakers and the public understand the importance of minerals supply to the UK economy and society
- Effective review and monitoring by all parties of progress in delivering an agreed minerals strategy, and responding to emerging events to keep it on track
- Continued collaboration between Government and industry to deliver the vision in any Minerals Strategy that might be developed
- Boost the resilience of the UK minerals industry.

The CBI Minerals Group published **‘The UK Mineral Extraction Industry’** in February 2016 ², which quantified the economic contribution of the industry. It also describes the various mineral resources, their markets and uses, and characteristics and distribution, drawing on the Mineral Planning Factsheets produced by the British Geological Survey.³

These reports provide important reference and supporting information, and with the UK Minerals Strategy form a trilogy of documents to be considered together.



² http://www.mineralproducts.org/documents/CBI_UK_Mineral_Extraction_Industry_2016_2.pdf

³ <http://www.bgs.ac.uk/mineralsUK/planning/mineralPlanningFactsheets.html>

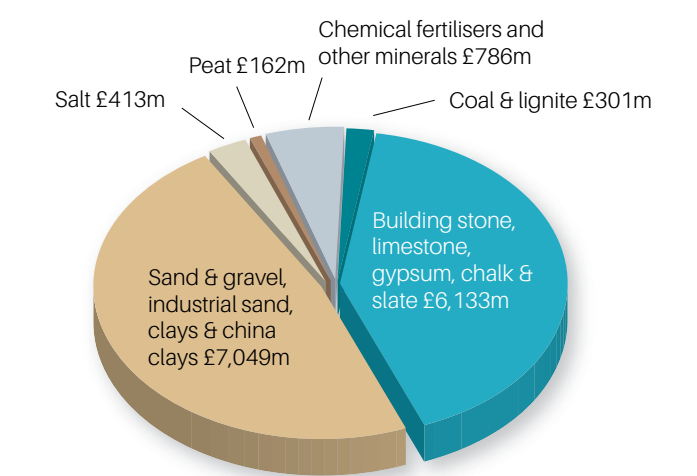


¹ <http://www.ukmineralsforum.org.uk/downloads/The-Future-of-our-Minerals-UKMF-Nov-2014.pdf>

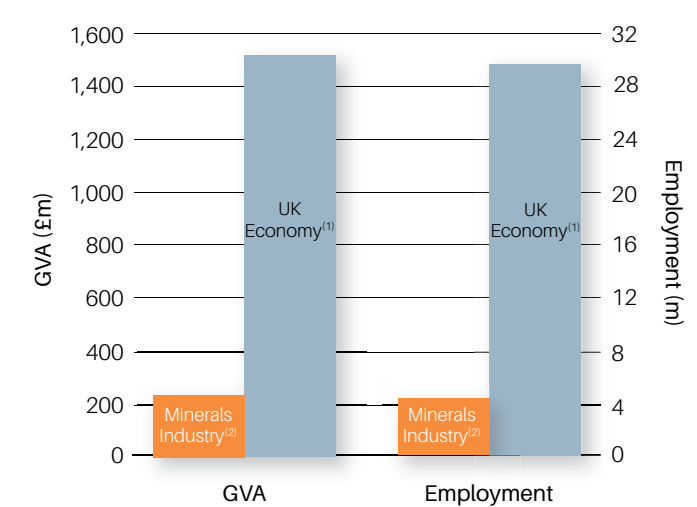
Appendix B: Supporting Information

(SOURCE: THE MINERAL EXTRACTION INDUSTRY, CBI, 2016)

Estimated turnover of UK non-energy minerals and coal (2013) (Source: ONS, ABS, MPA)

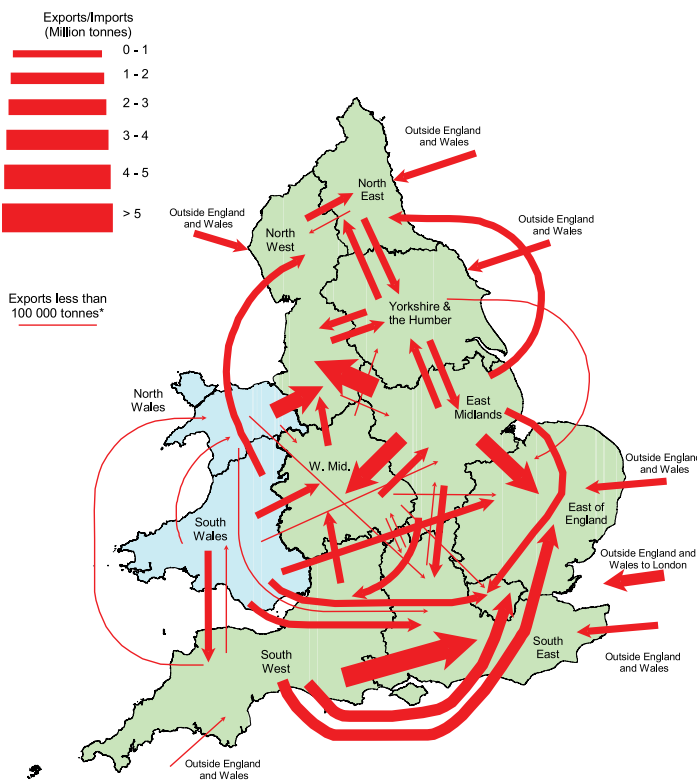


GVA and employment generated by the minerals industry relative to the total UK economy (2013) (Source: ABS, ONS, LFS, MPA)



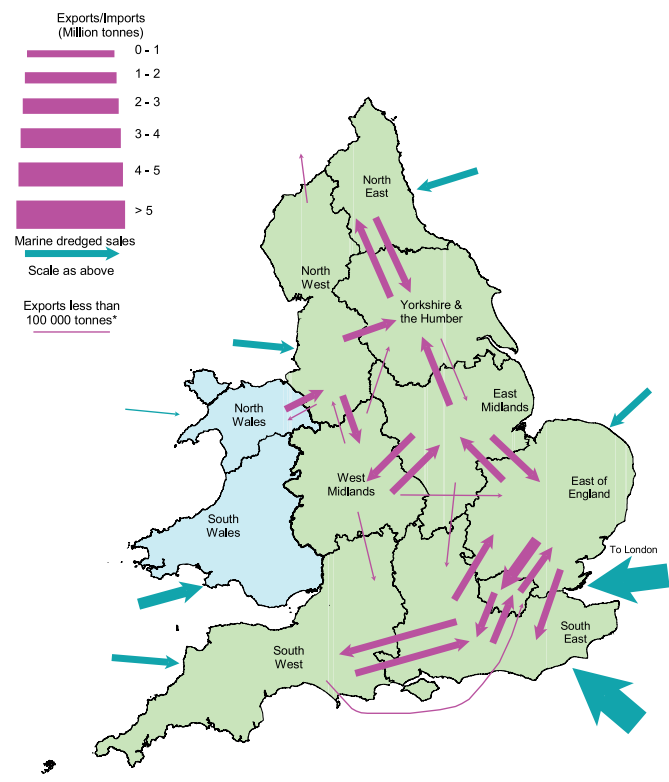
⁽¹⁾ Sections A-S of the Standard Industrial Classification (SIC 2007).
⁽²⁾ Includes mineral extraction, products manufacture and “first use” markets.

Crushed rock inter-regional flows, 2014 (Source: Collation of the results of the 2014 Aggregate Minerals survey for England and Wales)



*For clarity, exports less than 25 000 tonnes are not shown.
© Crown Copyright - Collation of the results of the 2014 Aggregate Minerals survey for England and Wales

Sand and gravel inter-regional flows, 2014 (Source: Collation of the results of the 2014 Aggregate Minerals survey for England and Wales)



*For clarity, exports less than 25 000 tonnes are not shown.
© Crown Copyright - Collation of the results of the 2014 Aggregate Minerals survey for England and Wales

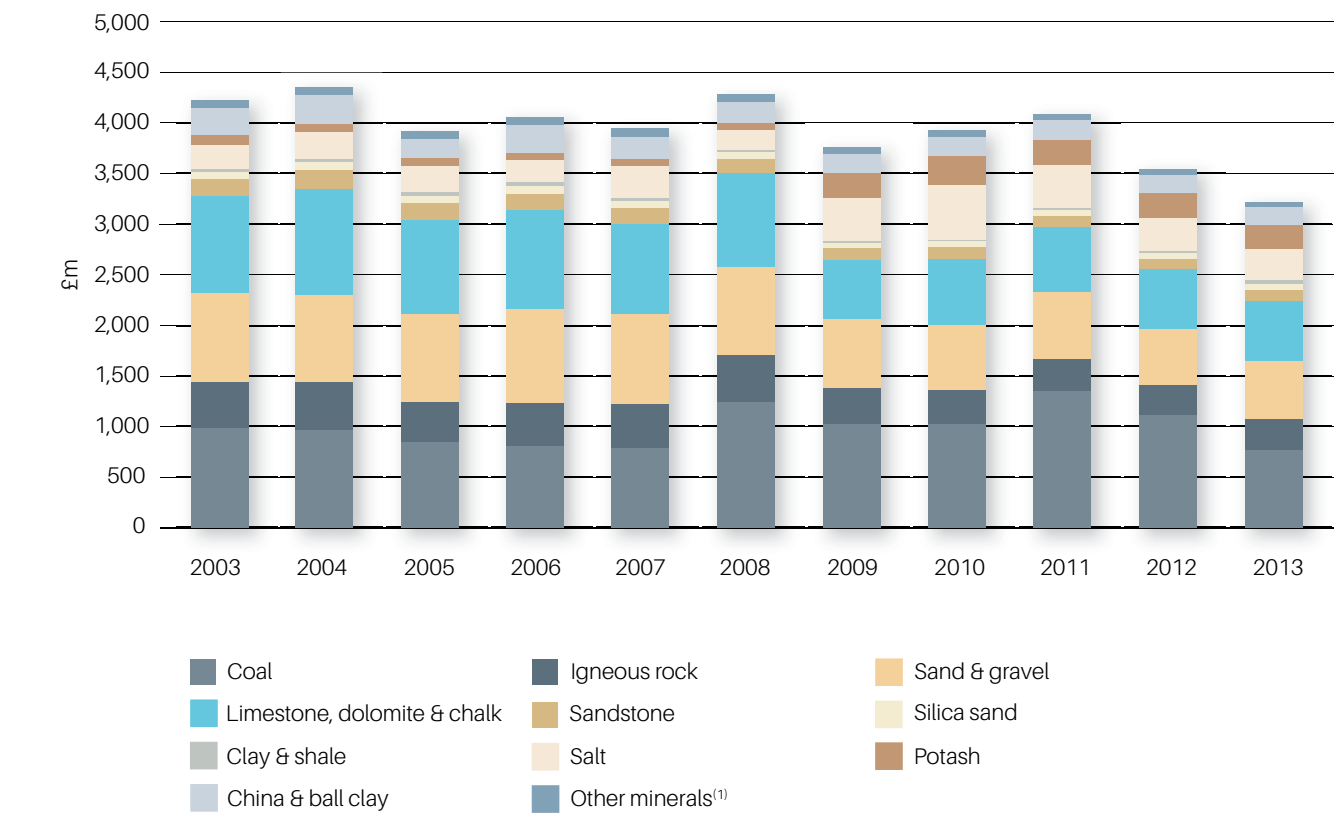
Minerals production in the UK (2013) (Source: BGS)

	Million tonnes
Non-energy	196.9
Construction minerals	172.2
Including	
Igneous rock (inc granite)	40.5
Limestone, dolomite & chalk (construction uses)	53.6
Sandstone	11.5
Sand & gravel - Land-won	43.4
Sand & gravel - Marine	14.6
Slate	0.9
Gypsum	1.2
Fireclay	0.1
Clay & shale	6.5
Industrial minerals	24.6
Including	
Limestone, dolomite & chalk (industrial & agricultural uses)	10.3
Silica (industrial) sand	4.0
China clay (kaolin)	1.1
Salt	6.6
Potassium compounds (potash)	0.9
Ball clay	0.7
Peat	1.0
Other industrial minerals ⁽¹⁾	0.1
Metals	<0.001
Including	
Iron ore	0.0
Tungsten	0.0
Tin	0.0
Gold	<0.001
Silver	<0.001
Zinc	0.0
Copper	0.0
Lead	<0.001
Energy	90.0
Including	
Oil ⁽²⁾	40.6
Gas	36.5
Coal	12.8
Total	286.9

⁽¹⁾ Includes Fuller’s earth (bentonite), barytes, fluorspar, talc, calcspas, chert & flint, china stone (feldspar), phosphorus.
⁽²⁾ Includes crude oil onshore and offshore, and condensates.

APPENDIX B continued

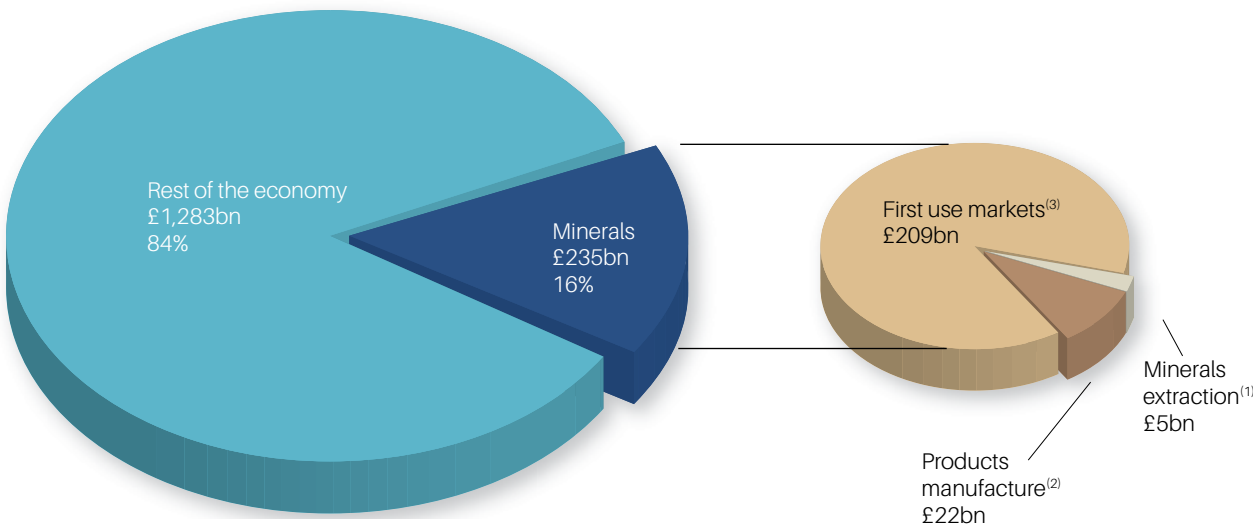
Value of UK minerals production (2011 prices) (Source: BGS)



⁽¹⁾ Includes gold, silver, other non-ferrous metals, gypsum & anhydrite and miscellaneous minerals.

GVA generated by minerals at various stages of the supply chain (2013)

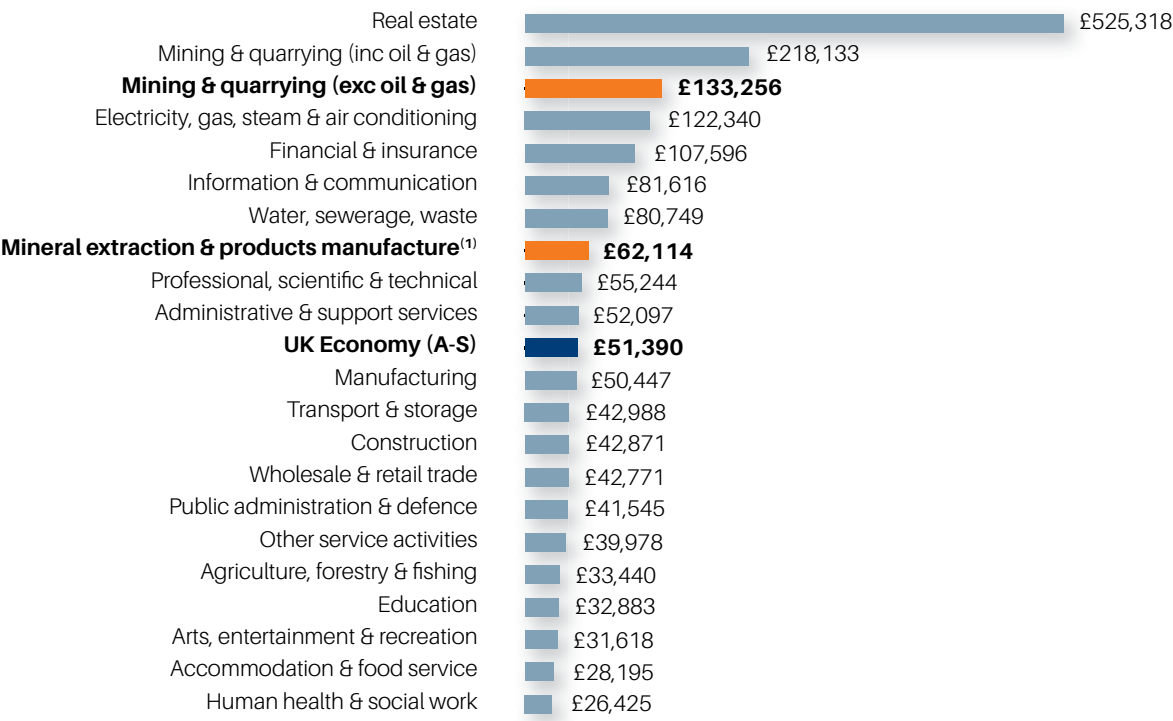
(Source: ABS, ONS, LFS, MPA)



Notes:
⁽¹⁾ Production of raw materials.
⁽²⁾ Manufacture of "enabling" mineral products, e.g. cement, paper etc.
⁽³⁾ First use markets for mineral or mineral products, including construction.

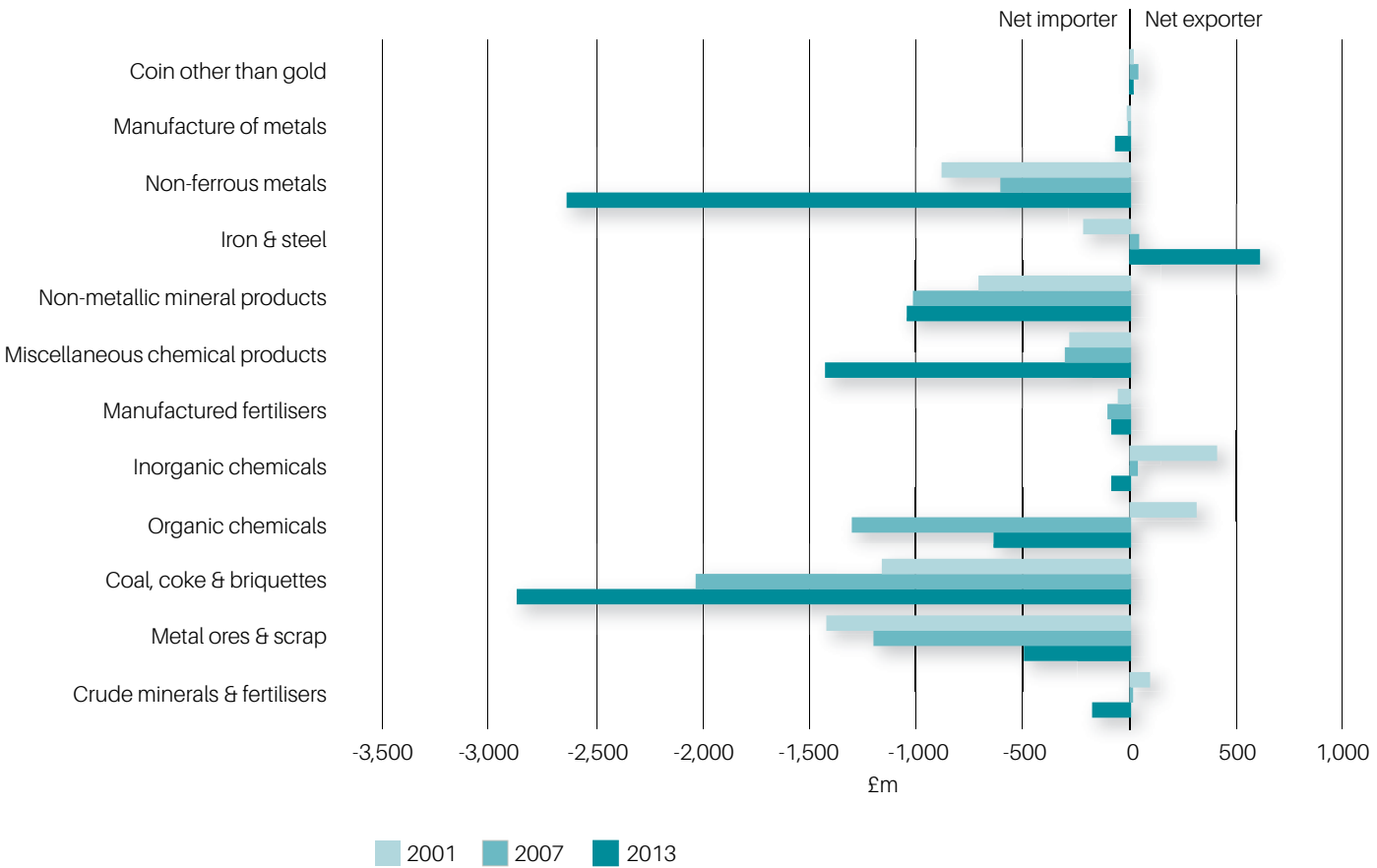
APPENDIX B continued

Productivity by industry, £ per employee (2013) (Source: ABS, ONS, LFS, MPA)



⁽¹⁾ This is not an official ONS Standard Industrial Classification but represents the minerals industry as defined in this publication.

UK balance of trade in minerals and mineral-based products (Source: BGS)



The following organisations support the UK Minerals Strategy. They include the major UK trade associations and other companies who collectively represent around 99% of the UK minerals and mineral products industry.

The Crown Estate and the British Geological Survey have also contributed to the development of the Strategy.

Acknowledgments

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



SRT/3 – MPA Long Term Aggregates Demand 10.03.2017

Long-term aggregates supply & demand scenarios (2016-30)

The Mineral Products Association (MPA) has set out long-term aggregate demand and supply trends at a national (GB) level for the next 15 years, based on a scenario analysis. It aims to provide industry and industry stakeholders with indications of the volumes of aggregates that may be needed to satisfy future demand, reflecting the UK's needs for construction, including housebuilding and infrastructure.

The scenarios proposed below take into account the lower economic and construction outlooks in the next few years as a result of the decision to leave the European Union. Estimates show that a slower outlook for construction activity in the early years of the projection period (2016-23) leads to lower aggregates demand compared to our pre-referendum projections.

The longer-term trends however remain in line with population growth, which is used as a proxy for future construction and aggregates needs. Overall, and despite slower aggregates demand in the short term compared to our previous (2015) analysis, large quantities of primary aggregates will still be required to support future construction needs. While there appear to be sufficient indigenous mineral resources available to support future demand requirements, subject to planning and permitting, the supply mix is likely to be a major issue: the amount of land-won sand & gravel sold each year continues to outstrip the level of new reserves consented.

Executive summary

GENERAL ASSUMPTIONS (Section 1 & 2)

- General construction activity projected using existing forecasts for construction, the UK economy and population growth.
- Current construction and economic forecasts take into account the lower outlooks in the short/medium term as a result of the decision to leave the European Union.
- Aggregates demand projections are based on construction outlook and estimates of material intensity.

KEY FINDINGS – AGGREGATES DEMAND (Section 1 & 2)

- Demand projections suggest that by 2030, 267Mt per annum of aggregates might be needed to respond to construction needs.
- Further declines in material intensity would result in aggregates demand peaking at 220Mt per annum in 2023, before undergoing a steady decline to 200Mt per annum by 2030.
- This means that the industry faces a cumulative demand for aggregates of between 3.2 – 3.8 billion tonnes over the next 15 years.

KEY FINDINGS – AGGREGATES SUPPLY (Section 3)

- While there appear to be sufficient indigenous mineral resources available to support future demand requirements, there are issues around the supply-mix that need to be addressed. Four supply mix scenarios were considered, including no change in the current supply mix of aggregates and variants of supply mixes.
- Under all supply scenarios considered, significant tonnages of primary aggregates will be needed, supplying between 63% - 72% of overall demand, recycled and secondary materials providing the remainder.
- The current decline in permitted reserves of land-won sand & gravel point to growing pressures on the supply of crushed rock and marine sand & gravel to meet future demand.
- Alternative sources of aggregates, including recycling, secondary materials and imports and exports, have a role to play but are unlikely to be a game changer given their constraints. The share of recycled and secondary aggregates vary between 28%-37% of overall demand.
- Future supply of aggregates also faces additional challenges related to issues around transport infrastructure, safeguarding essential minerals infrastructure (wharves/rail-heads) and access to skills.

INTRODUCTION

As economic activity fluctuates, so does the focus on short- or long-term issues. For most industries, recessions inhibit long-term planning, but as growth returns, markets start thinking about future demand and how supply can be secured. The minerals industry is no different. After falling by almost a third over 2007-09, demand for aggregates has since recovered: between 2013 and 2015, the sharp pickup in construction activity resulted in primary aggregate sales increasing by over 20%, although the total 2015 GB aggregates sales volume (incl. recycled materials) remained well below historical highs at 226Mt in 2015 compared with 332Mt in 1989 and 279Mt in 2007.

Prospects for the coming years are also positive, even after accounting for the slower economic and construction outlook in the medium term as a result of the decision to leave the European Union on 23rd June 2016 and other global economic concerns. Increased economic uncertainty following the Brexit vote is expected to constrain construction activity over 2017/18, impacting especially on housing, commercial and industrial construction. Meanwhile, infrastructure spending is likely to be a more positive feature of construction from 2018, as work on major projects such as Hinkley Point C and HS2 is planned to start alongside more marked increases in Highways England's road programme.

Following the beginning of the recovery in construction activity in 2013, concerns about whether industries and their suppliers have the capacity to cope with further significant market growth emerged. Signs of stress were well-publicised in some markets, such as for clay bricks, where import volumes rocketed in 2013/14, and partly reflecting a mismatch between the pace of recovery in construction activity and the speed at which UK brick plants' capacity increased.

In the aggregates industry, the latest MPA Annual Mineral Planning Survey shows the potential for future shortages of supply for sand & gravel: in the past 10 years, for every 100 tonnes of sand & gravel used, only 61 tonnes on average has been replaced through new planning permissions, resulting in significant declines in permitted reserves. Looking at sites' development timelines, it takes on average 10-15 years to identify, secure, and get planning permission and permits a new mineral site, which emphasizes the need need to plan strategically for the long term.

The need to think forward, beyond the business cycles, and plan for potential demand and ways to ensure this demand can be supplied is therefore evident. Future economic growth, population growth and trends in material intensity in construction activity will be decisive factors for the level of demand over the next 15 years. A baseline scenario shows that annual demand for aggregates could increase by 18% by 2030, meaning an additional 40Mt of aggregates each year. Over the next 15 years, the industry could have to supply as much as 3.8 billion tonnes of materials.

Our internal consultation with industry stakeholders suggests that the biggest issue is not so much about ensuring the overall supply of aggregates, but more about how the dynamics will work out between the various sources of aggregates in order to meet total demand. Industry stakeholders believe that a major challenge will be

tackling the decline in land-won sand & gravel permitted reserves, and the potential for compensating for this decline through an increase in the supply of alternative sources of aggregates, such as marine sand & gravel, crushed rock, recycled and secondary materials, and imports. Undeniably, all will have a role to play, but none is considered to be a game-changer as long-term issues around transport, logistics and skills shortages add to more material-related issues such as the overall level of permitted reserves, the trend in recycling and the limited practical scope for imports.

This briefing describes the methodology followed and sheds light on these issues, drawing a picture of what the GB aggregates market might look like in the next 15 years.

1. Aggregates demand to 2030 – baseline scenario

Whilst the UK economy contracted by almost 5% between 2007 and 2009, construction output fell by more than 15% over the same period. In the meantime, demand for primary aggregates fell by a staggering 30%. Between 2013 and 2015, the 5.5% growth in GDP, driven by 13.5% growth in construction activity, led to primary aggregate sales increasing by over 20%.

Economic growth and construction activity are significant factors for the demand for minerals, and assumptions about future activity can be used to estimate material demand. The MPA produces regular forecasts for aggregates sales volumes in GB for the next 3 years using insights on economic and construction trends.

The latest forecast published in September 2016 is summarised in table 1 below and will be used as the basis for aggregates demand over 2016-18.

Table 1. MPA Economic Affairs Committee, September 2016 (GB) Forecast, 2015-2018

% chg. on prev. year	2015	2016	2017	2018
Total Aggregates	4.8%	2.0%	-0.1%	1.5%
Crushed rock	5.8%	2.6%	0.4%	1.5%
Sand & gravel	3.1%	1.0%	-1.0%	1.5%
Recycled & Secondary	4.9%	0.4%	-0.6%	1.2%
Source: MPA.				

Our **2016-18** aggregates demand forecast is based on the general economic outlook following the decision to leave the European Union on 23rd June 2016, as well as the revised construction output forecast from the Construction Products Association (CPA). At the end of 2015, industry expected 3%-4% growth per annum in construction output right to the end of this parliament. However, in response to the Brexit vote, the CPA published a new construction forecast (September 2016) with a central scenario for construction output over 2016-18 is discussed, along with higher and lower bounds as an attempt to reflect the range of risk and of risk and

Table 2. Construction output and total aggregates demand projections (GB), baseline scenario

		Construction output (£bn, 2013 prices)	Total aggregates (Mt)	Material intensity (tonnes per £000)
2014	Outturn	128.1	215.8	1.69
2015	Outturn	134.3	226.3	1.68
2016	MPA forecast	134.9	228.1	1.69 (Implied)
2017	MPA forecast	134.1	227.6	1.70 (Implied)
2018	MPA forecast	135.7	230.7	1.70 (Implied)
2019	GDP forecast	138.6	235.8	1.70 (Assumption)
2020	GDP forecast	141.7	241.0	1.70 (Assumption)
2021	GDP forecast	144.7	246.0	1.70 (Assumption)
2022	GDP forecast	147.7	251.2	1.70 (Assumption)
2023	GDP forecast	150.8	256.5	1.70 (Assumption)
2024	Population growth	151.7	258.0	1.70 (Assumption)
2025	Population growth	152.6	259.5	1.70 (Assumption)
2026	Population growth	153.5	261.0	1.70 (Assumption)
2027	Population growth	154.3	262.4	1.70 (Assumption)
2028	Population growth	155.1	263.8	1.70 (Assumption)
2029	Population growth	155.9	265.2	1.70 (Assumption)
2030	Population growth	156.7	266.5	1.70 (Assumption)

uncertainty surrounding the UK economy. Overall, the increased economic uncertainty following the Brexit vote means that lower business investment and real wage growth are expected to constrain housing, commercial and industrial construction over 2017/18, with infrastructure spending likely to be a more positive feature of construction in 2018. In the CPA's central scenario, construction output is expected to grow by 0.4% this year, followed by a 0.6% fall in 2017, before starting to recover in 2018 (+1.2%) as work on major projects such as Hinkley Point C and HS2 is planned to start alongside more marked increases in Highways England's road programme.

Based on this outlook for construction activity, MPA expects aggregates markets to grow by 3% over 2016-18.

Post-2018, we need to project overall construction activity using proxies, and then derive the implied aggregates demand on the basis that material intensity, defined as the volume of material used per £000 spent in construction, remains flat at the 2018 level over the remainder of the projection period. This assumption on material intensity will be relaxed at a later stage to look at future demand for aggregates materials if material intensity declines further.

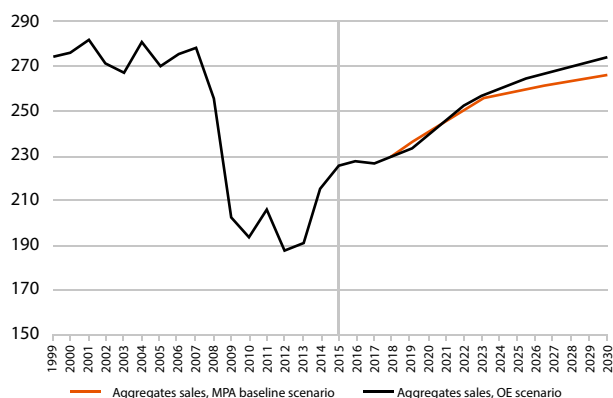
Construction activity over **2019-23** is first assumed to grow in line with the UK economy, using the National Institute of Economic and Social Research's (NIESR) latest GDP forecast published in August 2016. Between 2019 and 2023, GDP is expected to grow by an average of 2.1% per annum.

Post-2023, the assumptions use a different basis. The UK economy saw 7 recessions in the past 60 years, meaning on average 1 recession every 8 years (although the actual distribution of recessions over the period is much more uneven than the average), which makes it difficult to make sensible assumptions as to how economic and construction activity will fluctuate in the longer run. Yet, in order to develop a long-term outlook for material demand, one needs to find a proxy to understand how construction activity might vary.

Population growth is one such proxy, as general increases in the size of the population can be assumed to result in increasing infrastructure and housing needs. ONS produces long-term projections for population growth, and estimates that the UK population will increase by 6.4m people (10%) by 2030, meaning an annual growth rate of 0.5-0.6%. We applied this population trend growth to our construction projections over 2024-30.

Combining assumptions on construction activity and material intensity provides a baseline scenario for the demand for aggregates to 2030, by when demand is projected to increase by 18% or 40Mt per annum, reaching a total demand of 267Mt, a level not seen since 2007 (table 2). This compares with a pre – referendum forecast that aggregates demand would rise to 287Mt per annum by 2030. This limited impact reflects the assumption that the Brexit-related uncertainty is expected to impact on general economic and construction activity only in the short to medium-term before fading as the outcome of the exit negotiations with other European Union member states becomes clearer.

Chart 1. Total GB aggregates demand (Mt) to 2030, MPA baseline scenario and Oxford Economic (OE) scenario



Source: AMRI and MPA calculations.

This is not intended to be a firm forecast, but an indicative trend for the purposes of considering longer term demand and supply issues.

It is worth noting that Oxford Economics (OE) also produces long-term construction forecasts and projections to 2045. Using their estimates for construction activity instead of our baseline scenario laid out in table 2 above, along with our material intensity assumptions, results in a similar profile for aggregates demand, with total demand reaching 275Mt by 2030.

... the long-term construction output trend may be considered as a relatively conservative projection, up about 0.5% per annum post-2023.

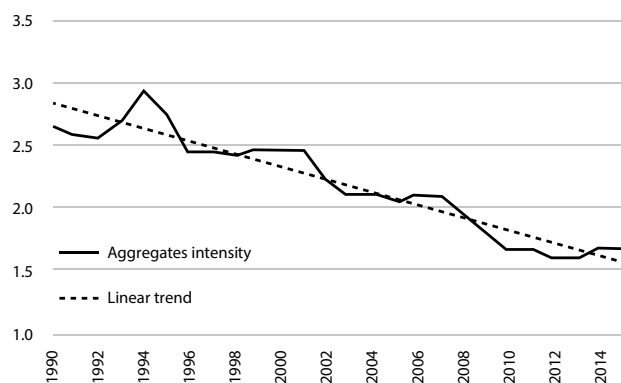
There is of course a significant degree of uncertainty in our baseline aggregates demand scenario, not least reflecting the fact that annual fluctuations in economic and construction activity are highly likely, rather than the steady-growth path assumed. Nonetheless, it is to be noted that the long-term construction output trend may be considered as a relatively conservative projection, up about 0.5% per annum post-2023.

2. Low material intensity demand scenario

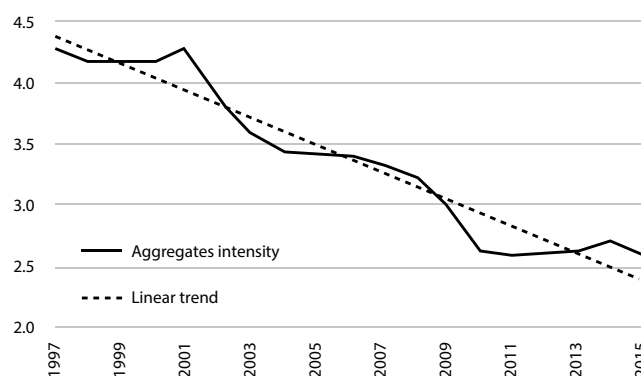
Material intensity is defined as the volume of aggregates used per £1000 spent in construction. There are different ways of computing it, based on whether one considers total construction output (incl. repair & maintenance) or focusses only on new work. Both analyses result in similar conclusions, in that material intensity has declined significantly since the mid-1990s, but also that this decline may have bottomed out in recent years.

Chart 2. Volume (tonnes) of aggregates used per £000 spent in construction in GB

Total construction output



Construction output - new work only



Source: AMRI, ONS.

Variations in material intensity can have a significant impact on the future level of material demand, as technological progress, increased material efficiency, and different compositions of construction work can lead to more or less material being required to produce a similar value of construction output.

Looking at total construction output, the use of aggregates per £000 spent in construction fell by 37% between 1990 and 2015, from 2.66 to 1.68 tonnes. Per annum, it represents an average decline in material intensity by about 1.8% over the period.

We used estimates of material intensity based on total construction output to build scenarios for total aggregates demand to 2030. The use of total construction output was preferred over the alternative of focussing only on new work because of uncertainties around the ONS classification of new work and repair & maintenance work across time.

In our baseline aggregates demand scenario, we assumed that material intensity remains flat at its 2018 level (implied by our medium-term material demand forecast) over the remaining projection period, i.e. at 1.70 tonnes of aggregates used per thousand pounds spent in construction. An alternative aggregates demand scenario is also considered, in which further reductions in material intensity are assumed, putting downward pressures on total aggregates demand over the next 15 years. This would reflect a continuing general focus on resource efficiency in construction, whilst the type of construction required over the coming decades, notably the need to improve housing supply and infrastructure provision, will also help to determine the underlying strength of demand for different materials.

As such, using the baseline scenario, we projected aggregates demand under the assumption that the construction industry would achieve a 1.8% decline in material intensity each year from 2016 onwards. This is not intended to be interpreted as a forecast – it is an illustrative projection to provide a contrast with the base assumption of a stable intensity of use. In practice, any assumption of a long-term reduction in intensity of use implies that this will eventually reach zero – meaning no demand for aggregates regardless of the level of construction output. This is clearly unrealistic given that there is no likelihood of total substitution of aggregates demand (including both primary and recycled aggregates) in the foreseeable future. Under this illustrative projection, demand for aggregates would peak at 220Mt per annum in 2023, before undergoing a steady decline to 200Mt per annum by 2030, as construction output is projected to grow at a slower pace than the decline in material intensity (table 3).

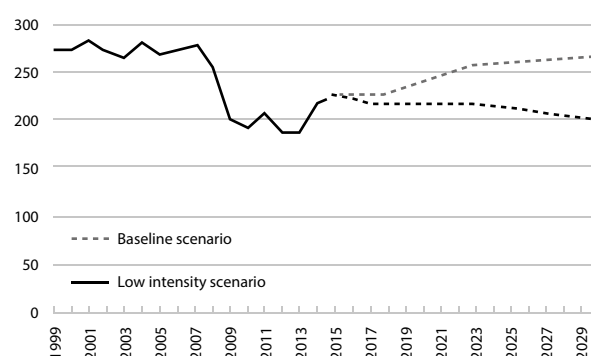
Overall we see that, regardless of the slower economic and construction outlook in the short-term and improvement in material intensity, the industry still faces a cumulative demand for aggregates between 3.2 and 3.8 billion tonnes over the next 15 years under both scenarios.

Table 3. Construction output and total aggregates demand projections (GB), Low intensity scenario

	Construction output (£bn, 2013 prices)	Material intensity (tonnes per £000)	Total aggregates (Mt)
2014 (outturn)	128.1	1.69	215.8
2015 (outturn)	134.3	1.68	226.3
2016	134.9	1.65	223.2
2017	134.1	1.62	217.8
2018	135.7	1.59	216.3
2019	138.6	1.57	217.1
2020	141.7	1.54	217.9
2021	144.7	1.51	218.4
2022	147.7	1.48	219.0
2023	150.8	1.46	219.5
2024	151.7	1.43	216.8
2025	152.6	1.40	214.2
2026	153.5	1.38	211.5
2027	154.3	1.35	208.8
2028	155.1	1.33	206.1
2029	155.9	1.30	203.4
2030	156.7	1.28	200.8

Source: MPA, NIESR, AMRI, ONS.

Chart 3. Total GB aggregates demand (Mt) to 2030, baseline and low intensity scenarios



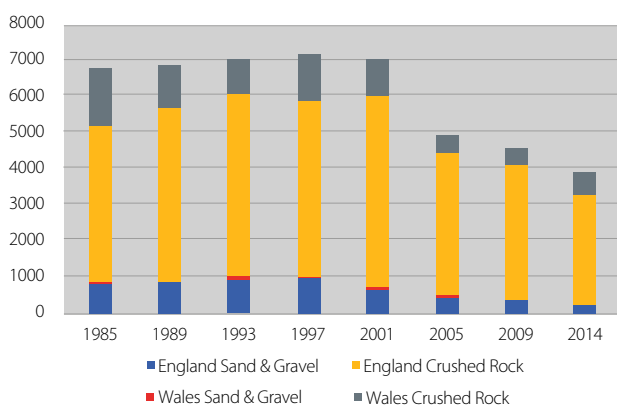
Source: AMRI and MPA calculations.

3. CONSIDERATIONS FOR AGGREGATES SUPPLY

3.1 Resource availability & permitted reserves

Aggregates are widely available in the UK, and import volumes remain relatively low. Instead, and subject to availability of and access to geological resources, a key factor influencing the supply of aggregates, and therefore other mineral products manufactured using aggregates, is the operation of the mineral planning and associated regulatory systems.

Chart 4. Primary aggregate permitted reserves in England & Wales (Mt)



Source: BGS, 2016.

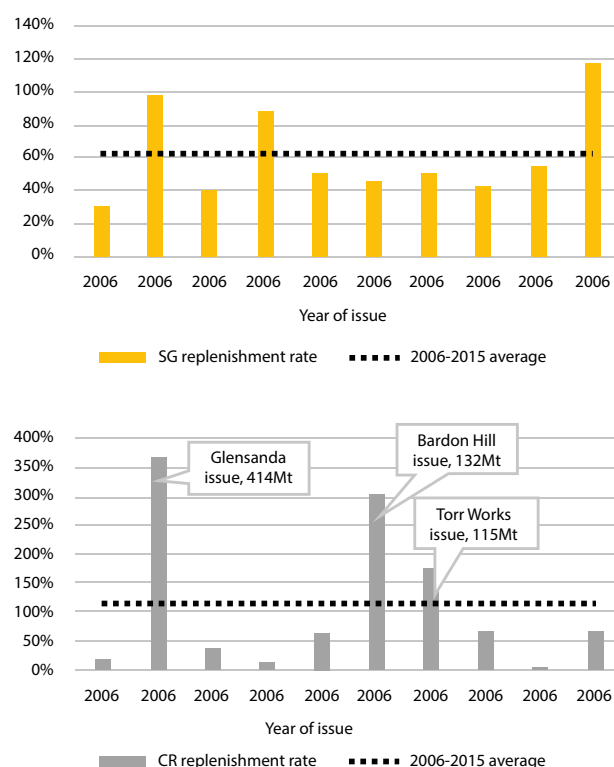
Chart 4 indicates changes in land-won permitted reserves of aggregates in England and Wales since the early 1990s. The step change reduction in 2004/05 was influenced by a more prudent assessment method than used previously. In 2014, the permitted reserves of land-won aggregates was 4 billion tonnes. In addition, data from The Crown Estate indicates a level of economically viable reserves of primary marine aggregates of about 371Mt in 2016.

A more meaningful statistic, the “replenishment rate”, provides a better insight into the long-term availability of supply. Chart 5 below indicates that, whilst the average replenishment rate for crushed rock has been close to and above parity in the past 10 years, land-won sand & gravel is being replaced at a much slower pace: for every 100 tonnes of sand & gravel used, only 61 tonnes is being replaced through new planning permissions. In addition, the crushed rock replenishment rates reflect mostly new permissions granted at a small number of sites, and therefore these reserves are not evenly distributed across the country.

The implication of long-term replenishment rates falling below 100% is that shortages of supply may become apparent. Evidence from Local Aggregates Assessments and Local Plan formulation suggests that pressures on available reserves of traditional sand and gravel sources are beginning to emerge in parts of Yorkshire, the South West, the South East, the North West, and the West Midlands.

This means that supply will have to adapt in order to be able to respond to the baseline demand scenario for the next 15 years.

Chart 5. Land-won aggregates replenishment rates, permissions issued only (GB)



Source: MPA.

3.2 Aggregates supply scenarios

These scenarios are meant to be indicative only. They provide an outline as to what may need to happen in order for the aggregates industry to be able to satisfy future demand, and are intended to provide a basis for discussion as to whether these supply scenarios can be achieved.

The scenarios have been produced at GB level, based on national data and forecasts. These should provide a helpful indication of how aggregates demand and supplies are anticipated to change over the next 15 years. They should also provide a national overview and context for local planning, including in preparation of Local Aggregates Assessments (LAAs).

National planning policy and guidance require that in preparing LAAs authorities consider forecasts of future demand, based on the average of 10 years past sales and other relevant local information.

Attempting to undertake detailed local plan scale modelling would be hindered by data availability and consistency of the assumptions applied and methodology that is used. Instead, MPA considers that LAAs should reflect on the direction that a set of indicators, such

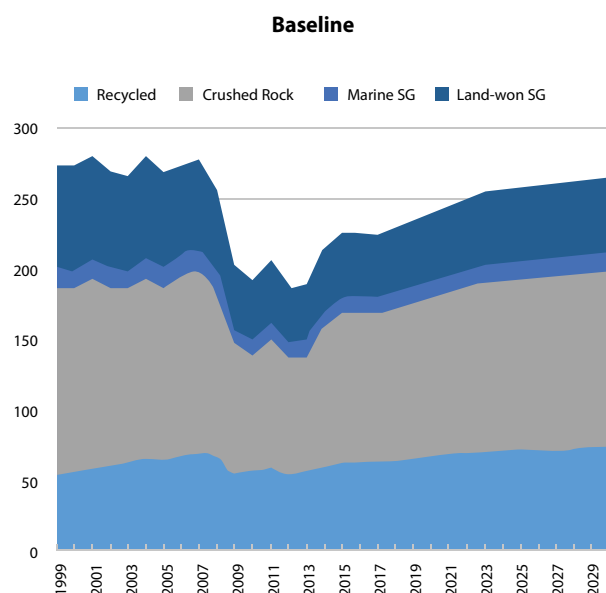
as recent sales of aggregates, macroeconomic trends, planned housing and infrastructure construction and population projections, in order to fully understand what future demand is likely to be and how different it may be from the 10 year average. This should then inform local minerals planning policy, in particular through flexibility and provision for growth in demand and supplies above the 10 year average figure.

MPA will be considering the extent to which the methodology applied at the GB scale could be applied to a Government Office Region analysis.

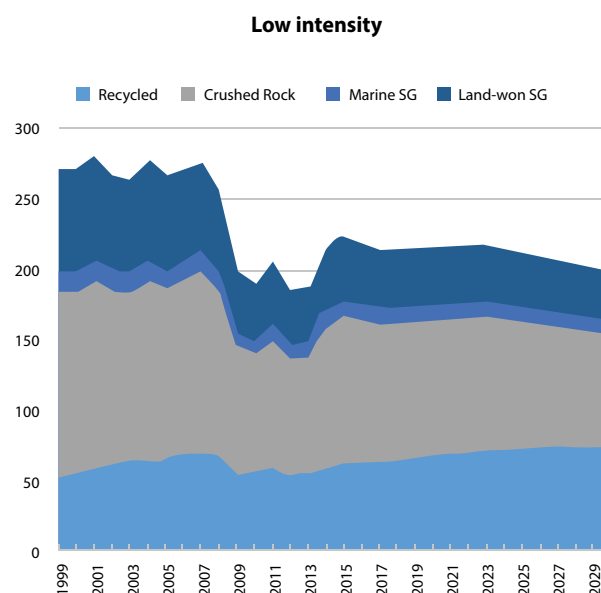
Aggregates supply scenario 1

In this scenario, we assume no change in the current supply mix of aggregates, i.e. the split between primary aggregates reflects the 2014 shares for marine sand & gravel in total sand & gravel (20%), and for total sand & gravel in total primary aggregates (36%). The outcomes of this supply mix are outlined in the charts and tables below, which represent both the baseline total aggregate demand and low intensity scenarios.

Supply scenario 1



(GB, Mt)	2015	2030
Land-won sand & gravel	46	55
Marine sand & gravel	12	14
Crushed Rock	104	123
Recycled & Secondary	64	75
Total	226	267



(GB, Mt)	2015	2030
Land-won sand & gravel	46	36
Marine sand & gravel	12	9
Crushed Rock	104	81
Recycled & Secondary	64	75
Total	226	201

Source: MPA.

Please note that totals may not add up due to individual rounding.

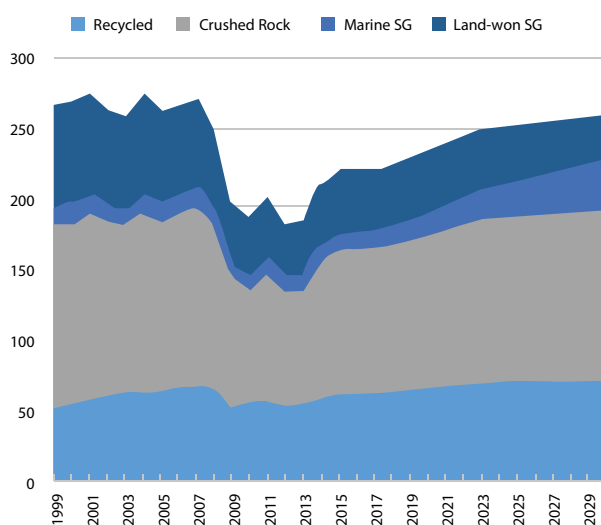
Aggregates supply scenario 2

This scenario assumes that the availability of land-based sand and gravel becomes constrained over time, but there is sufficient marine sand & gravel to replace it. In this scenario, we maintain the volume for total aggregates, and the share of total sand & gravel in the total aggregates as per scenario 1 above. However, land-won sand & gravel

is gradually being replaced by marine resources, so that the share of marine sand & gravel increases to 50% of the total sand & gravel supply by 2030. Projections for crushed rock and recycled materials are as in scenario 1.

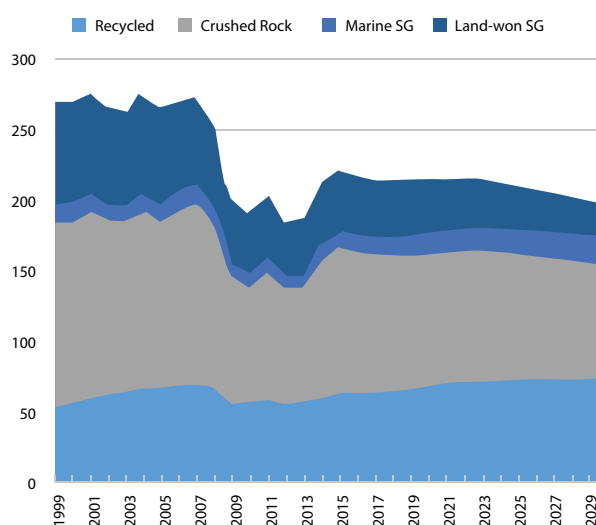
Supply scenario 2

Baseline



(GB, Mt)	2015	2030
Land-won sand & gravel	46	34
Marine sand & gravel	12	34
Crushed Rock	104	123
Recycled & Secondary	64	75
Total	226	267

Low intensity



(GB, Mt)	2015	2030
Land-won sand & gravel	46	22
Marine sand & gravel	12	22
Crushed Rock	104	81
Recycled & Secondary	64	75
Total	226	201

Source: MPA.

Please note that totals may not add up due to individual rounding.

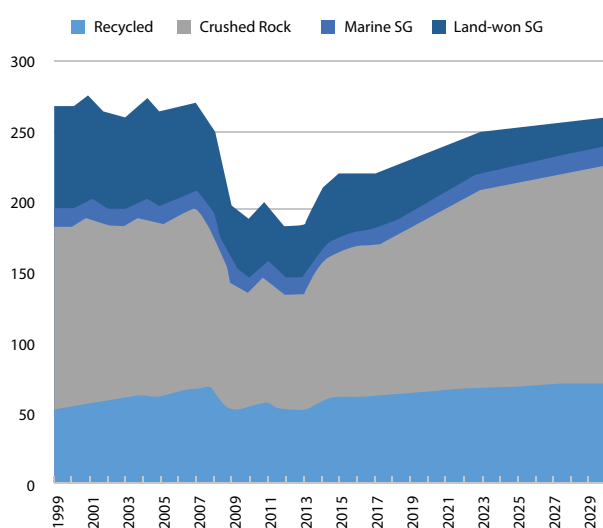
Aggregates supply scenario 3

The third supply scenario represents a situation where declining availability in land-won sand & gravel is fully made up by crushed rock substitution, as marine supplies are limited by wharf and dredger capacity. The total sand & gravel volume is assumed to decline,

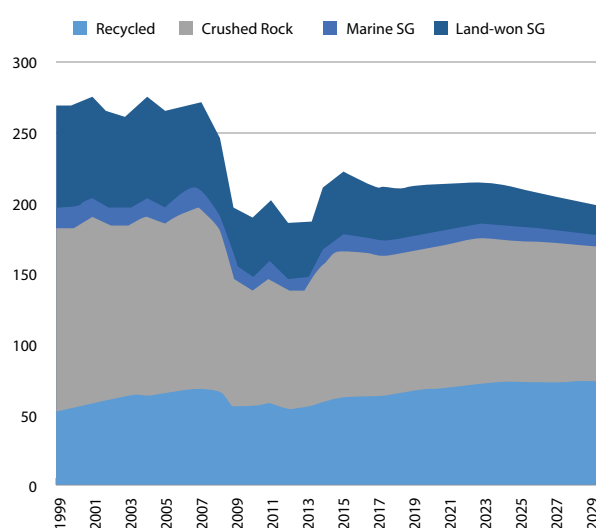
reflecting a 5% per annum fall in land-won sand & gravel (to 21Mt per annum by 2030), which is entirely compensated by a rise in crushed rock supplies. Meanwhile, marine sand & gravel volumes continue to grow as per scenario 1.

Supply scenario 3

Baseline



Low intensity



(GB, Mt)	2015	2030
Land-won sand & gravel	46	21
Marine sand & gravel	12	14
Crushed Rock	104	156
Recycled & Secondary	64	75
Total	226	267

(GB, Mt)	2015	2030
Land-won sand & gravel	46	21
Marine sand & gravel	12	9
Crushed Rock	104	95
Recycled & Secondary	64	75
Total	226	201

Source: MPA.

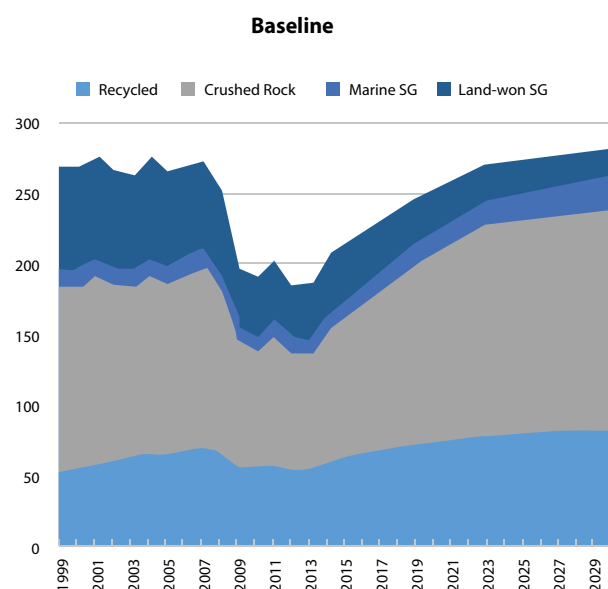
Please note that totals may not add up due to individual rounding.

Aggregates supply scenario 4

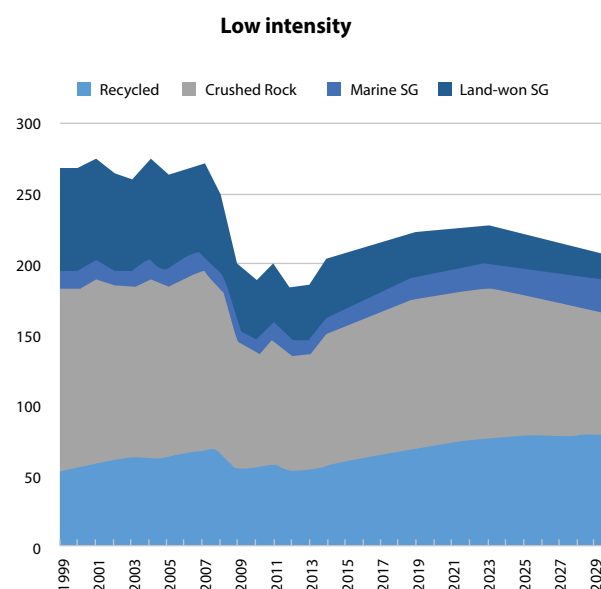
This scenario represents a situation where declining availability of land-won sand & gravel is made up by a combination of increases in both marine sand & gravel and substitution with crushed rock supplies. This scenario also relies on other elements, such as the associated infrastructure (rail/river) to enable the material to access the markets where it is required. Overall, the total sand & gravel volume is assumed to decline, reflecting a 5% per annum fall in land-won sand & gravel (to 21Mt per annum by 2030). The decline is then compensated by a combination of increases in marine sand & gravel

(by 5% pa, to 24Mt per annum by 2030) and crushed rock (to make up the difference with total aggregate demand). Our marine supply assumption can be compared with that of The Crown Estate, which has previously assumed a potential demand for marine aggregates of 29Mt per annum by 2030. Note that in this scenario, whilst crushed rock supplies need to increase by about 2.7% per annum to meet baseline demand, a fall in material intensity combined with increases in marine sand & gravel would by contrast reduce the total tonnage that would actually be required.

Supply scenario 4



(GB, Mt)	2015	2030
Land-won sand & gravel	46	21
Marine sand & gravel	12	24
Crushed Rock	104	146
Recycled & Secondary	64	75
Total	226	267



(GB, Mt)	2015	2030
Land-won sand & gravel	46	21
Marine sand & gravel	12	24
Crushed Rock	104	80
Recycled & Secondary	64	75
Total	226	201

Source: MPA.

Please note that totals may not add up due to individual rounding

3.3 Recycling & secondary aggregates

In aggregates markets, recycled and secondary materials are estimated to represent nearly 30% of the GB market, a much higher share than the rest of Europe, for which the average (excl. GB) currently stands at 10%. All scenarios described above assume that recycled and secondary aggregates supplies grow in line with construction trends, not faster. The view is that the potential for recycling has already reached a high level, and that if further improvements are possible, these are expected to remain incremental in volume terms. Significant sources of secondary materials do exist, but these are currently dislocated from the main market. Going forward, their use and contribution could increase but only with improvements to transport infrastructure.

In the baseline demand scenario, this means that the share of recycled and secondary materials in the total aggregates supply remains stable over the next 15 years, with no improvement. In other words, even if the actual volume of recycled and secondary materials increases, the expectation is that this will not constitute a game-changer: significant sources of primary supplies will be necessary to meet demand.

In the alternative (low material intensity) scenario, the contribution of recycled and secondary materials does not change compared to our baseline scenario, i.e. it continues to grow in line with construction activity in the same way. This means that the squeeze on overall aggregates demand implied by the reduction in intensity is focussed on primary sources, so that the share of recycled and secondary material actually increases over the projection period to reach 37% of the total aggregate supplies by 2030. Again, whilst recycled and secondary materials are providing a valuable source of supply, significant sources of primary supplies would still be necessary to meet overall demand.

One could also argue for the possibility of a decline in the use of recycled materials in the future. As buildings have become more complex, the ability to recover aggregate materials following demolition will be more difficult. With lower quantities available from demolition, the availability of recycled material may become more constrained.

A contrary point of view is that a continuing policy focus on resource efficiency and more efficient and technically advanced recycling practices could squeeze more recycled content from demolition and secondary material sources.

Overall, there are uncertainties associated with the future of some recycled and secondary materials and sources, suggesting that caution is required in making assessments of potential future supply.

3.4 Imports

Construction aggregates are widely available in the UK, which produced about 250Mt in 2015 (production in N. Ireland is estimated to be about 20Mt). Import volumes remain low, accounting for less than 5Mt. It is thought that there may be scope for import volumes to increase, making use of some underutilised port facilities, but of course, such changes will only happen if commercially viable. Overall, it is undeniable that imports have a role to play, but they will be limited by the capacity of port and transport infrastructure to receive and distribute to markets at acceptable amenity and environmental cost. Even a very significant increase to 10Mt per annum by 2030 – if possible – would represent less than 5% of total market supply.

3.5 Transport & logistics

As bulk materials, aggregates are highly dependent on efficient transport networks. There are currently stresses on the availability of drivers and delivery vehicles, the ability for rail freight to supply aggregates, and concerns about future availability of strategic wharf capacity for marine dredged aggregates. Although there is some evidence that transport constraints have delayed deliveries to customers in localities where demand is strong, in general the delivery supply chain has continued to meet customers' needs. Whether this continues will depend on factors such as:

- The availability of drivers, and particularly new entrants;
- The availability of suitable new vehicles;
- The use of larger, articulated tipper trucks;
- The development of more efficient supply logistics in cooperation with customers;
- Potential rush hour delivery restrictions in urban areas;
- The ability of industry and freight operators to increase the average loading of train deliveries;
- The availability of critical rail paths;
- The availability of rail depot capacity in key markets;
- The availability of wharf capacity in key locations;
- The availability of marine dredging production capacity;
- The future distribution of industry demand – clearly concentrated geographical hot spots of demand would place particular pressure on local transport capacity therefore considered scheduling of major infrastructure programmes could help to minimise such transport stresses.

3.6 Skills availability

There is growing concern around the future availability of industry staff with the necessary skills required to allow the sector to continue to function efficiently and effectively. However it is very difficult to assess if this likely to inhibit the industry's ability to operate and supply or whether the supply chain will adapt to potential skills constraints. One area of concern is the possibility for stricter immigration controls post-Brexit. Government will have to take the issue of access to skills into account if it wants to avoid putting further pressures on industries already facing skills shortages.

CONCLUSION

This briefing provides an insight into the future demand and supply for aggregates. It combines both analytical work on projections for future demand to 2030 together with an industry discussion on the potential supply mix for this demand and major market limitations.

Projections suggest that, by 2030, about 267Mt of aggregates might be needed each year to respond to construction needs. Even after projecting further reductions in material intensity to an unrealistic level, this would still mean a total demand for aggregates of 201Mt per annum, the majority of which (more than 60%) would still need to come from primary sources.

There are uncertainties around the mix of primary aggregate sources that will be required to maintain the essential supply of construction aggregates. Trends suggest that the contribution made by traditional land-won sand and gravel sources are likely to continue to decline, being replaced by a combination of marine sand and gravel and crushed rock substitution. Secondary and recycled sources of material are expected to continue to make a major contribution to supply. Whilst demand for aggregates will be determined ultimately by factors such as the rate and shape of economic growth, population changes and associated construction needs, there will also be a significant challenge for industry relating to future investment in operational and transport facilities and skills and training.

The scenarios have been produced at GB level, based on national data and forecasts. These should provide a helpful indication of how aggregates demand and supplies are anticipated to change over the next 15 years. They should also provide a national overview and context for local planning, including in preparation of LAAs.

MPA will be considering the extent to which the methodology applied at the GB scale could be applied to a Government Office Region analysis.

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

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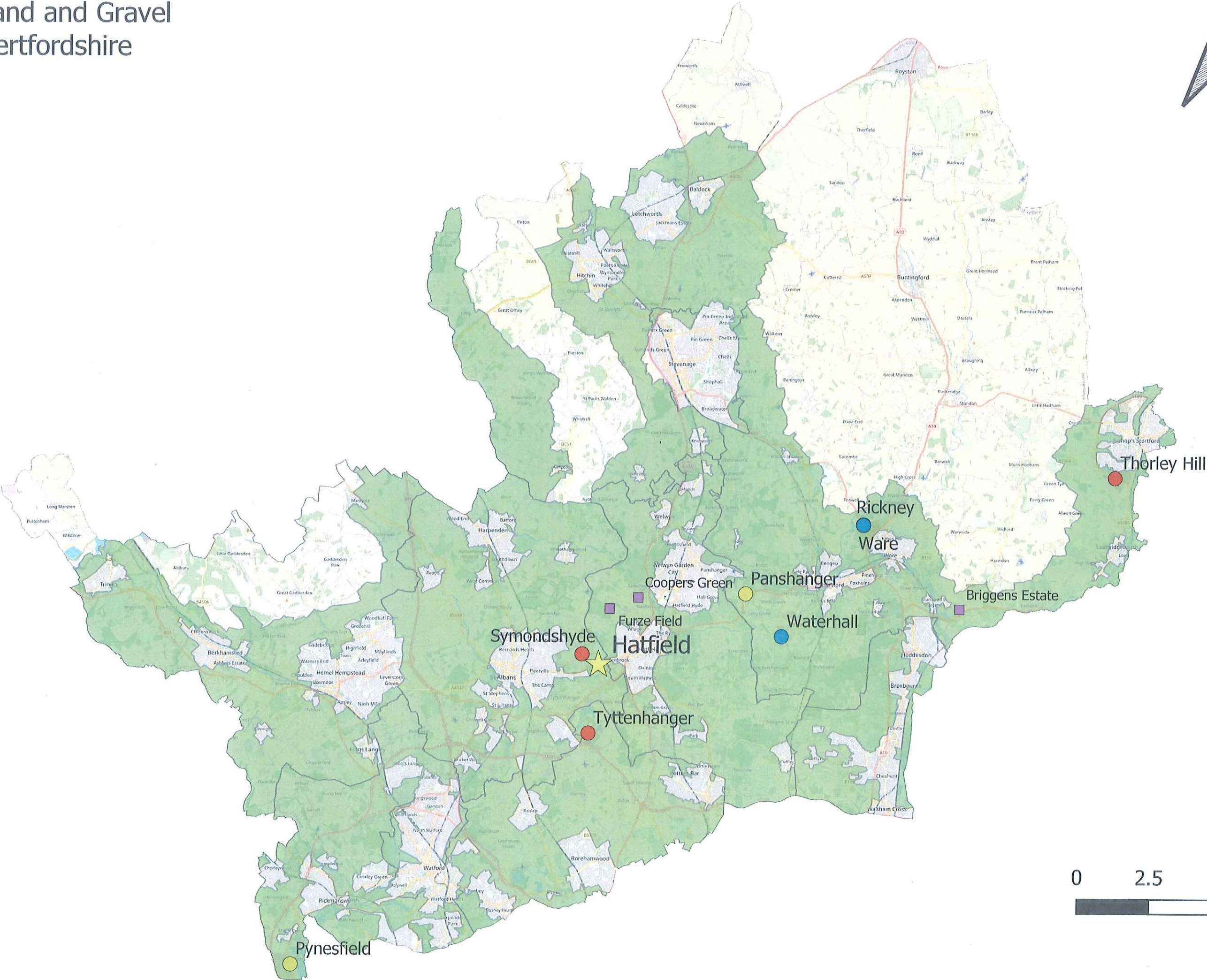
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SRT/4 – Hertfordshire Sites Plan

Sand and Gravel
Hertfordshire



SRT/5 – Quarries in Met GB Plan

