

Construction Industry Forecasts 2022-2024

Spring 2022 Edition - £210



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DISCLAIMER

All construction figures (starts, completions, orders and output) refer to Great Britain.

All output figures are in 2019 constant prices using the historic figures from the Office for National Statistics (ONS) – as at 14 April when the Forecasts were finalised.

All new orders figures are in 2019 constant prices using the historic figures from the Office for National Statistics (ONS).

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Overview

The volume of construction output is forecast to rise by 2.8% in 2022 and 2.2% in 2023. This is still significant growth and activity levels currently remain robust but it is a sharp revision downward compared with the 4.3% and 2.5% respectively forecast in Winter as rising energy costs, commodity prices and inflation following Russia's invasion of Ukraine are likely to weigh on construction demand and exacerbate cost inflation on construction products over the next 12 months.

Construction activity down on the ground currently remains strong. Total construction output in 2021 rose by 12.7% in volume terms according to the Office for National Statistics (ONS) and, on a monthly basis, construction output in February 2022 was broadly flat (-0.1%) compared with January as it was adversely affected by three unseasonal national storms in mid-February but output was still 6.1% higher than a year earlier and higher than in January 2020, pre-pandemic.

More recently, construction activity in March increased compared with February according to the [S&P Global/CIPS UK Construction PMI](#), at its joint-strongest pace since June 2021 with strong growth in all three key sectors in March although whilst the growth in commercial activity accelerated, growth in housing and civil engineering slowed. Construction firms increased staff numbers again in March but the key issues for contractors remained on the supply side. Futures contracts and lag effects mean that the increases in energy, commodity and construction product price inflation reported in the S&P Global/CIPS survey in March are

Construction output
to grow by



2.8%
in 2022



2.2%
in 2023

Key Points

- Construction output rises **2.8%** in **2022** and **2.2%** in **2023**
- Infrastructure output to increase **8.8%** in **2022** and **4.6%** in **2023**
- Private housing output rises by **1.0%** in both **2022** and **2023**
- Commercial output to increase by **5.2%** in **2022** and **2.8%** in **2023**
- Industrial output to rise by **9.8%** in **2022** and **9.3%** in **2023**
- Private housing repair, maintenance and improvement to fall by **3.0%** in **2022** and **4.0%** in **2023**

mainly due to the impacts of energy cost rises in the second half of last year and UK construction is yet to experience the impacts of energy cost and metals commodity price spikes since the Ukraine invasion as yet. S&P Global/CIPS also reported that business optimism fell to a 17-month low but this was primarily due to sentiment and uncertainty following the invasion.

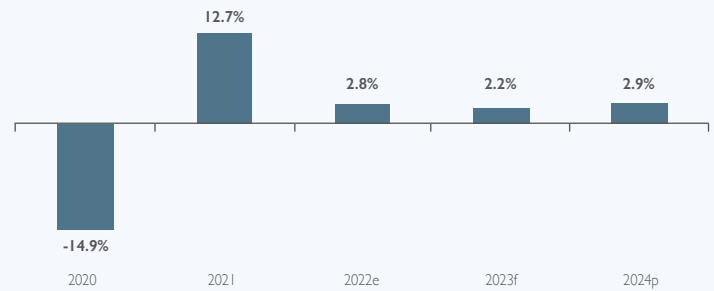
Construction demand has continued to remain remarkably resilient in recent years despite the number of big 'one-off' uncertainties and industry specific issues that could adversely affect it; the end of the Brexit implementation period, the Covid-19 pandemic, global supply

chain difficulties, materials and products inflation, Personal Indemnity insurance cost rises, IR35 and reverse charge VAT. The most recent big 'one-off' uncertainty since the CPA's last forecast was clearly Russia's invasion of Ukraine, which is likely to have wide-ranging impacts across the UK economy and the construction industry. In the near-term, energy costs have risen sharply and remain volatile and are likely to remain so until there is clarity on the extent of sanctions against Russian

oil and gas. Energy costs were already rising sharply in the second half of last year and more recent spikes will exacerbate issues. Directly, this will hit households in terms of energy bills. In addition, it will also hit firms, which don't benefit from an energy price cap, consequently leading firms across the economy to increase prices. Furthermore, commodity prices have also risen sharply since the invasion, which will hit consumers and businesses. As a result, inflation will rise further this year than expected in Winter, peaking at 8.5% in April and averaging 6.8% over the year as a whole (see [Economy](#)).

The rise in inflation will lead to falls in real household disposable income and consumer confidence, which may lead to significant falls in consumer spending and a slowdown in business investment. In turn, the largest impacts on construction demand from this may be on household-facing sectors such as private housing and private housing repair, maintenance and improvement (rm&i). In addition, it could also affect sectors that are highly dependent on large up-front investment for a long-term rate of return such as commercial and industrial.

Construction Output (% Growth)



Source: ONS, Construction Products Association

The invasion of Ukraine will exacerbate energy cost rises, metals commodity prices and construction product prices particularly for energy-intensive products



On the supply side, Russia and Ukraine together only accounted for 1.2% of UK construction products imports in 2021 overall. However, this varies considerably by product. The imported products in which there may be a supply issue and/or greater cost inflation from Russia and Ukraine are likely to be steel plates, rolled coil and concrete reinforcing bars, bitumen products and timber-related products. The large indirect impacts are likely to be on both domestic and imported products due to the increase in energy and commodity costs. This is particularly the case for energy-intensive metals and commodity-based

products such as aluminium and steel for which energy costs are between 25% and 33% of total costs. It is worth noting that many of these manufacturers work on energy forward contracts and hedge to a certain extent so there tends to be a lag between energy cost rises and the impact on product costs. However, the prices of energy-intensive products were

Construction Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

already likely to increase by significant double-digit percentages even before the conflict due to the lagged impact of the energy cost rises in the second half of last year. This will now be considerably higher for both heavy side domestic made products and imported products such as bricks, mineral products, steel and aluminium. As a result, it will increase the pressure on specialist contractors on fixed-price contracts even further following the costs rises that they faced in 2021 as a result of materials availability and cost inflation issues, which had eased over the Winter period. For future projects, contractors will be seeking to reprice, add fluctuation clauses and introduce risk-sharing arrangements to deal with the uncertainty.

The majority of activity this year will be determined by projects down on the ground already or in the pipeline with contracts awarded and the length of time before we see impacts on demand across construction will vary heavily by sector. House builders and Small and Medium-sized Enterprises (SMEs) working on renovation projects consistently report that demand is likely to be strong until the end of 2022 Q3 but that there is little clear visibility after that, particularly as it is difficult to assess the impacts of cost inflation next year. In commercial, refurbishment activity and changes in use will drive activity from a low base but there is likely to be a pause on some larger towers projects in the medium-term due to

Public & Private Sector Construction Output

£ million	2020	2021	2022	2023	2024
Change on previous year	Actual	Actual	Estimate	Forecast	Projection
Public Sector inc. PFI	37,811	42,000	43,537	45,493	46,896
	-10.1%	11.1%	3.7%	4.5%	3.1%
Private Sector	112,422	127,387	130,555	132,355	136,163
	-16.4%	13.3%	2.5%	1.4%	2.9%
Total Construction	150,233	169,387	174,092	177,848	183,059
	-14.9%	12.7%	2.8%	2.2%	2.9%

Source: ONS, Construction Products Association

uncertainty over demand and concerns over viability due to cost increases. In the industrial sector, the warehouses pipeline continues to be strong throughout the forecast period and there remains little to suggest demand will be affected. Within sectors such as infrastructure there remains a pipeline of activity up to the end of the forecast

period in 2024 and beyond that points towards strong growth due to large projects such as HS2, Thames Tideway and Hinkley Point C as well as the five-year spending plans in regulated sectors such as roads, rail, water and electricity. Major infrastructure projects, are, however, likely to continue to be dogged by delays and cost rises in 2022 and 2023 whilst frameworks in regulated sectors may see the allocated value spent but it may be on a smaller volume of work and extended over a longer period due to delays in getting activity down on the ground, particularly within roads.

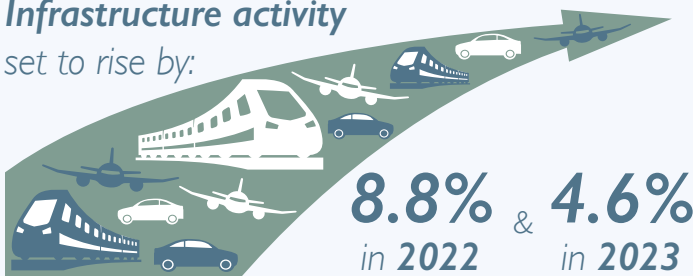
Within the CPA's latest forecasts it is notable that over the forecast period the key driver of growth is expected to be public sector rather than private sector, which highlights the impacts of uncertainty and cost concerns on project viability. This is in sharp contrast to 2021, when private sector construction activity was the key driver of industry recovery after the Covid-19-affected fall in construction output during 2020. Public construction output is forecast to rise by 3.7% in 2022 before growth of 4.5% in 2023 whilst private construction output is forecast to rise by 2.5% in 2022 and 1.4% in 2023.

The fastest growth rate is expected to be seen in the **industrial** sector, in which output is forecast to rise by 9.8% in 2022 and 9.3% in 2023. Within the warehouses sub-sector, demand was very strong last year but activity was beset by material and labour availability issues in the first three quarters of the year. These issues eased in the final quarter of last year and the indications are that they continued to ease in the first quarter of this year. The pipeline of projects remains strong and demand this year should also be buoyed by some of the activity that was initially expected to take place in the second half of 2021. However, growth in the volume of activity may be constrained by cost inflation and delays once again given the experience of last year. Factories activity is also likely to accelerate from a low base as business investment increases and progress is made on a few major projects such as the UK's first gigafactory in Northumberland.



Commercial and industrial factories may see the largest indirect impacts of rising inflation due to a **slowdown in business investment**

Infrastructure activity
set to rise by:



The sector with the second-fastest growth rate, which is forecast to add the most in value terms over the forecast period given the size of the sector, is **infrastructure**. Output is forecast to rise by 8.8% this year and 4.6% in 2023. Long-term pipelines of work in regulated sectors such as roads, rail, water and electricity provide the majority of general activity in the sector but the key growth is generated by the major projects. This year,

Private housing output expected to **grow by 1.0%** in both **2022** and **2023**



growth is particularly going to be driven by major works ramping up on HS2 but this will also be supplemented by activity on the Thames Tideway Tunnel and Hinkley Point C. All three major projects have been affected by multiple substantial delays and further cost overruns have been factored into the forecasts. In particular, yet more delays and cost overruns are set to be announced in Summer 2022 by EDF on Hinkley Point C following a review of progress on the

project. The government's Energy Security Strategy, published in April 2022, points towards the strong long-term potential for wind farm and new nuclear power stations in terms of both large and small reactors. However, even if this were to occur it would be considerably beyond the scope of the forecasts even in terms of early design work.

Prospects in the largest construction sector, **private housing**, remain cautiously optimistic. Annual house price growth in the general housing market continued at double-digit rates early in 2022 and major house builders continue to stress the strength of the current market. The key question is how long this is likely to remain the case given that real household disposable incomes and consumer confidence will fall over the course of the year. The CPA anticipates that UK annual house price inflation will slow to 6.0% this year and 2.5% in 2023 although it is worth noting that the resilience of the general UK housing market, the persistent 'race for space' and a lack of supply onto the market has sustained house price inflation despite the end of the stamp duty holiday and the more constrained version of Help to Buy. Near-term concerns regard the impacts of the additional provisions and resource that house builders need to devote to addressing fire safety issues, on their legacy buildings up to 30 years old after signing up to government's [Building Safety Pledge](#), rather than utilising the finance and resource on increasing supply. In addition, key concerns medium-term remain regarding affordability, particularly in relation to deposit requirements and the impacts of increased costs in meeting stronger buildings regulations and the Future Homes Standard on house builder margin. Overall, output is only forecast to rise by 1.0% in both 2022 and 2023 but if house price inflation continues to surprise on the optimistic side and housing demand remains strong, the risk may be skewed towards the positive.

Private housing new build and **renovation** demand may see the greatest direct impacts of rising inflation



Private housing rm&i
anticipated to fall by:

3.0%
in 2022

&

4.0%
in 2023

Private housing rm&i, which is the third largest construction sector, has been a key driver of construction recovery since the initial Covid-19 lockdown. Output in February 2022 was 21.9% higher than in January 2020, pre-pandemic. Firms report that demand continues to remain at high levels and that it is likely to do so up to 2022 Q3 at least but of all the construction sectors, private housing rm&i is the most exposed to changes in consumer confidence and real household disposable income, which may impact upon the ability and willingness of homeowners to do renovations work. It is also the sector that is most exposed to materials and products cost inflation and availability issues as small contractors are less

able to plan and purchase in advance for projects. The strength of activity currently in the sector suggests that activity will remain flat, at a historically high level, over the next few months but that demand is likely to slow towards the end of the year. In addition, a hiatus in energy-efficiency work due to the ECO3 programme finishing in March 2022 and ECO4 not having gone through parliament as yet means that retrofit activity will also slow this year. Looking to next year, there is a strong link between property transactions and refurbishment activity within the first 6-9 months of purchasing a property. UK property transactions are likely to slow this year as they return to the long-term annual average of 1.2 million, which point towards a further slowdown in activity in the first half of next year. Overall, output is expected to fall by 3.0% this year and a further 4.0% next year although, as with new house building, if households continue to spend despite rising inflation and falling consumer confidence, this sector could surprise on the upside.



Construction Industry Forecasts - Spring 2022

	2020	2021	2022	2023	2024
% annual change	Actual	Actual	Estimate	Forecast	Projection
Housing					
Private	31,707	36,812	37,180	37,552	38,678
	-19.1%	16.1%	1.0%	1.0%	3.0%
Public	4,722	5,105	5,207	5,311	5,417
	-32.6%	8.1%	2.0%	2.0%	2.0%
Total	36,429	41,917	42,387	42,863	44,096
	-21.2%	15.1%	1.1%	1.1%	2.9%
Other New Work					
Public Non-Housing	9,569	9,669	9,785	10,609	10,996
	-8.2%	1.0%	1.2%	8.4%	3.7%
Infrastructure	21,758	28,373	30,881	32,316	33,118
	-4.9%	30.4%	8.8%	4.6%	2.5%
Industrial	4,668	4,801	5,272	5,763	6,049
	-18.5%	2.8%	9.8%	9.3%	5.0%
Commercial	23,511	21,919	23,069	23,722	24,856
	-22.2%	-6.8%	5.2%	2.8%	4.8%
Total other new work	59,506	64,762	69,008	72,409	75,019
	-14.1%	8.8%	6.6%	4.9%	3.6%
Total new work	95,935	106,679	111,395	115,272	119,115
	-16.9%	11.2%	4.4%	3.5%	3.3%
Repair and Maintenance					
Private Housing RM&I	19,927	23,955	23,236	22,307	22,753
	-12.4%	20.2%	-3.0%	-4.0%	2.0%
Public Housing RM&I	6,738	7,220	7,581	8,036	8,598
	-17.4%	7.2%	5.0%	6.0%	7.0%
Private Other R&M	12,387	14,453	14,742	15,036	15,337
	-15.1%	16.7%	2.0%	2.0%	2.0%
Public Other R&M	5,160	5,766	5,824	5,882	5,941
	-8.2%	11.7%	1.0%	1.0%	1.0%
Infrastructure R&M	10,085	11,314	11,314	11,314	11,314
	1.4%	12.2%	0.0%	0.0%	0.0%
Total R&M	54,298	62,708	62,697	62,576	63,944
	-11.1%	15.5%	0.0%	-0.2%	2.2%
TOTAL ALL WORK	150,233	169,387	174,092	177,848	183,059
	-14.9%	12.7%	2.8%	2.2%	2.9%

Source: ONS, Construction Products Association

Key Risks

UK Economic Growth and Inflation

UK economic growth prospects will be highly dependent upon the extent to which inflation across the economy rises and the length of time that inflation persists at a high rate (see [Economy](#)). The extent to which interest rates consequently rise, how wage inflation reacts to price inflation and the reaction of consumers and businesses in terms of confidence as well as spending and investment respectively. The CPA currently forecasts that CPI inflation will peak at 8.5% in 2022 Q1 but that inflation will remain stubbornly high in 2022 Q2 and it will stay above the Bank of England's target of 2.0% until 2024. If inflation peaks substantially higher than expected and persists at a higher rate for longer, this would be a key downside risk to the UK economic forecasts and, in particular, may adversely affect demand for private housing new build and rm&i.

The Availability and Cost of Materials and Products

UK construction materials prices in February 2022 were 20.2% higher than a year ago according to the Department for Business, Energy and Industrial Strategy ([BEIS](#)), marginally lower than the 21.0% annual rise in January and lower than the 23.7% peak in October 2021. However, the impacts of energy cost rises in 2021 H2 have not yet fully fed through and the energy cost and metals commodity price spikes since Russia's invasion of Ukraine have also not come through.

Clearly, materials inflation varies by product. The highest inflation in the year to February 2022 remained in timber-related products and steel-related products where prices had been falling since Autumn but started to rise again in February. Looking forward, construction materials inflation will be exacerbated by the impacts of energy cost and metals commodity price spikes, which will particularly affect steel (e.g. plates, rolled coil, reinforcing bars) due to potentially lower supply from Russia/Ukraine/Belarus and consequent higher demand from other sources as well as due to higher ore/steel prices and energy cost rises given that steel is energy-intensive. Going forward, there is also likely to be a significant but lesser impact on the price of timber-related products given that 6.5% of UK laminated wood imports and 5.1% of softwood imports came from Russia/Ukraine/Belarus in 2021 although clearly it is not as energy-intensive as steel. In addition, it is not only imported products that are likely to be affected but energy-intensive domestic products may be an issue such as bricks, cement and roofing products. In addition, as highlighted in previous forecast documents, the semi-conductor supply issue, which is not confined



to construction but also affects many other industries such as automotives, is likely to remain an issue over the next 12-18 months, and will also constrain supply in electrics, boiler and white goods sectors.

The Availability and Cost of Labour

There were 2.16 million people employed in UK construction in 2021 Q4, 1.9% lower than in Q3 (as activity slowed for the Christmas-New Year break) and 3.5% higher than a year ago according to the ONS. However, employment in Q4 was 6.6% lower than in 2019 Q4 (pre-pandemic) despite output returning to pre-pandemic levels in December due to the growth from (less labour-intensive) major infrastructure projects. The recent employment peak was in 2019 Q1 (prior to economic and political uncertainty), after which construction lost 269,000 workers.

Within the fall in UK construction workers since the recent peak in 2019 Q1, employment fell by 5.0% but self-employment fell 19.4% due to the loss of EU workers and domestic workers retiring early. Whilst near-term the focus in UK construction is on materials and products availability, the key constraint on construction output growth in the medium-term is likely to be skills availability and cost unless some of these workers return.

It is worth noting that EU construction employment in UK construction fell by 49% nationwide and 64% in London between 2017 Q4 and 2021 Q1 according to the detailed breakdown of the ONS LFS data despite strong construction demand as a consequence of EU workers returning to their home countries (or moving to other EU countries) and temporary EU workers that generally return to home countries not being replaced in the normal churn due to Brexit plus distortions due to the pandemic. However, EU construction employment in construction has been on an upward trend since 2021 Q1. Between 2021 Q1 and 2021 Q4 it rose by 51% in the UK and 40% in London (note from a low base), indicating that the loss of EU workers may have largely been temporary and may recover to pre-pandemic and pre-Brexit levels in the next couple of years but at this point EU construction employment in construction in 2021 Q4 remained 23% lower than four years earlier in the UK and 49% lower in London.

Margins

The sharp cost rises anticipated will inevitably have an adverse impact on house builder and contractor margins, particularly for firms that are working on fixed-price contracts signed over a year ago before the sharp cost inflation was apparent. Margins are also likely to be affected by sharp increases in Professional Indemnity (PI) insurance costs, IR35, reverse charge VAT, materials and products as well as rising labour costs for some



key trades. Previous experience has shown that when house builders and major contractors experience a potential significant hit to margins, issues are pushed down onto firms lower down in the supply chain. Smaller specialists and sub-contractors are the least able to cope with a cut in revenue and it may harm their financial viability despite it occurring at a time when workloads are rising. Construction output in January 2022 was above January 2020, pre-pandemic, levels so demand is not an issue but cost rises, particularly materials costs that are 27% higher than pre-pandemic, have meant that insolvencies were 18% higher than pre-pandemic. Given anticipated cost rises for energy-intensive products and/or products where significant proportions were previously coming in from Russia and Ukraine, this is likely to exacerbate issues for specialist sub-contractors that are already under pressure.

Brexit

UK construction products import volumes from the EU in 2021 Q4 fell by 10.2% compared with Q3 and were 15.3% lower than one year ago, which was immediately before the end of the Brexit implementation period whilst firms were stockpiling. UK imports of construction products from the EU remained 7.9% lower than in the same quarter two years ago, prior to the pandemic and 15.8% lower than the average level between 2015 and 2018, before any issues regarding Brexit deadlines or the pandemic. This is in line with indications the CPA has that, immediately after the end of the implementation period in 2021 Q1, large firms experienced some initial disruption but had largely sorted out processes to deal with import issues. However, small firms importing continue to report difficulties and additional costs importing despite full checks not being implemented on EU imports as yet (due to come in this year).

Initially after the end of the Brexit implementation period, the greater construction products trade issues were for firms from the UK exporting to the EU (which has implemented full checks). UK construction product export volumes to the EU fell by more than half during the first quarter of 2021. Exports have partially recovered but remain subdued compared with pre-Brexit and pre-pandemic levels. In 2021 Q4, exports to the EU were 22.1% lower than in Q3 and 32.2% lower than the same quarter one year earlier. In addition, exports in Q4 were 22.6% lower than the average level between 2016 and 2018.

Brexit still remains a risk for construction even though the implementation of full customs checks on EU imports, which was due to come in on 1 July 2022, has been postponed for a fourth time by the UK government until the end of 2023 due to concerns over disruptions to trade and exacerbating domestic inflation.





Greater issues may occur with the UKCA mark, set to now come in on 1 January 2023 but without sufficient testing house capacity in the UK and without the ability for manufacturers to merely transfer from the existing CE Mark to the UKCA mark.

In terms of UK Reach (Registration, Evaluation, Authorisation and Restriction of Chemicals), which recreates the EU version that industry estimates would cost £1.0 billion, in December 2021, the government extended the UK Reach registration deadline to 2025 and offered to explore a new model to reduce the need for replicating EU Reach data packages.

However, the assumption made in the forecasts is that either these will not be major issues or, more likely, if they would be a significant impediment to importing key materials and products then, closer to the deadlines, government would postpone their implementation once again.

Government Policy

The recovery in construction activity since Summer 2020 has been heavily reliant on government funding, policy and stimulus that have benefitted housing new build, rm&i and infrastructure.

Given that over 85% of house building is reliant on house builders, how the government balances its '300,000 net additional homes per year by the mid-2020s' target with increasing cost burdens on house builders is a key issue. The burdens include a £2 billion developers' levy for fire safety issues, provisions worth £2 billion to address issues on legacy buildings, increased costs of meeting stronger building regulations and the Future Homes Standard.

In addition, despite the frequent government announcements regarding net zero and decarbonisation, activity on the ground has not matched this. The government's Green Homes Grant was cancelled in March 2021 after policy implementation failures, similar to government policy failures on the Green Deal, Feed-in-Tariffs and CERT.

As a result, the forecasts will only fully take account of the impacts of the Government's [Heat and Buildings Strategy](#) and the Future Homes and Buildings Standards when the CPA has clearly seen whether activity on the ground matches ambitions in the strategies. At this point no new energy-efficiency retrofit programme has been announced by government after the failure of the Green Homes Grant despite the publication of its [Energy Security Strategy](#) in April 2022. If these policies, or new retrofit policies are announced that reverse the trend of poor policy implementation, are given adequate finance and incentives as well as time to build up momentum, then this could provide a significant upside risk to the private and public housing rm&i forecasts.

Upper Scenario

Assumptions

- UK economic growth rates are sustained above 0.5% per quarter despite the impacts of a spike in CPI inflation
- Unemployment falls slightly to historic lows despite slower economic growth due to the persistence of skills shortages in key industries
- Property transactions continue to remain above pre-Covid-19 levels and annual house price growth remains above the 6.0% anticipated in the forecast
- Consumer spending on non-essential and big-ticket items remains robust despite rising inflation as consumers utilise savings accumulated since the initial lockdown to offset price rises
- Lending to businesses continues to rise as firms respond to strong sales and medium-term economic growth prospects
- Business investment recovers sharply, boosted by large manufacturers using the 'super-deduction' before it ends and corporation tax rises to 25% on 1 April 2023



Key Effects

- Total construction output rises by 3.9% in 2022. In the near-term, catch-up on delayed projects in 2021 H2 also boosts activity this year. Output rises by 3.8% in 2023 as strong demand persists medium-term whilst labour, materials and products availability and cost issues ease
- Private housing output continues to be robust in 2022 and house price inflation remains strong albeit slower than the double-digit rates seen throughout 2021. House builders remain cautiously optimistic whilst demand remains high despite the high level of uncertainty and continue to increase supply. Private housing output rises by 2.0% in 2022 and 3.0% in 2023
- Commercial output rises by 6.0% in 2022 and 4.0% in 2023 due to rising demand for refurbished high-end grade A office space from tenants wishing to downsize to smaller, better quality office space as previous leases finish as well as rising demand for fit-out activity and changes in use from commercial to residential or warehouses/logistics. In addition, the return of new office towers and commercial developments boosts activity
- Private housing rm&i output is expected to continue to remain at historic highs due to the strong housing market although growth rates are likely to slow markedly. The 'race for space' sustains demand for renovations particularly for those office workers still partly working from home semi-permanently whilst wealth accumulated by rising house prices and savings built up over two years enable the activity. In addition, increased energy-efficiency retrofit and cladding remediation boosts activity in the sector in an optimistic scenario. Output rises by 1.0% in both 2022 and 2023 before growth of 2.0% in 2024, leaving activity at the end of 2024 4.1% higher than in 2021

Construction Industry Forecasts - Spring 2022 - Upper Scenario

	2020	2021	2022	2023	2024
% annual change	Actual	Actual	Scenario	Scenario	Scenario
Housing					
Private	31,707	36,812	37,548	38,675	40,222
	-19.1%	16.1%	2.0%	3.0%	4.0%
Public	4,722	5,105	5,207	5,311	5,471
	-32.6%	8.1%	2.0%	2.0%	3.0%
Total	36,429	41,917	42,755	43,986	45,692
	-21.2%	15.1%	2.0%	2.9%	3.9%
Other New Work					
Public Non-Housing	9,569	9,669	9,959	10,855	11,181
	-8.2%	1.0%	3.0%	9.0%	3.0%
Infrastructure	21,758	28,373	30,927	32,473	33,772
	-4.9%	30.4%	9.0%	5.0%	4.0%
Industrial	4,668	4,801	5,305	5,676	6,074
	-18.5%	2.8%	10.5%	7.0%	7.0%
Commercial	23,511	21,919	23,234	24,164	25,613
	-22.2%	-6.8%	6.0%	4.0%	6.0%
Total other new work	59,506	64,762	69,425	73,168	76,640
	-14.1%	8.8%	7.2%	5.4%	4.7%
Total new work	95,935	106,679	112,180	117,154	122,332
	-16.9%	11.2%	5.2%	4.4%	4.4%
Repair and Maintenance					
Private Housing RM&I	19,927	23,955	24,195	24,436	24,925
	-12.4%	20.2%	1.0%	1.0%	2.0%
Public Housing RM&I	6,738	7,220	7,725	8,266	8,845
	-17.4%	7.2%	7.0%	7.0%	7.0%
Private Other R&M	12,387	14,453	14,742	15,184	15,791
	-15.1%	16.7%	2.0%	3.0%	4.0%
Public Other R&M	5,160	5,766	5,882	5,999	6,119
	-8.2%	11.7%	2.0%	2.0%	2.0%
Infrastructure R&M	10,085	11,314	11,314	11,654	12,120
	1.4%	12.2%	0.0%	3.0%	4.0%
Total R&M	54,298	62,708	63,857	65,539	67,800
	-11.1%	15.5%	1.8%	2.6%	3.4%
TOTAL ALL WORK	150,233	169,387	176,038	182,694	190,132
	-14.9%	12.7%	3.9%	3.8%	4.1%

Source: ONS, Construction Products Association

Lower Scenario

Assumptions

- UK GDP contracts marginally in 2022 Q3 and Q4 in response to the sharp rise in the cost of living as energy and commodity price rises spread across the economy
- Unemployment rises in the customer-facing services sector where it is mainly non-essential spending due to the fall in consumer confidence
- Property transactions slow as unemployment rises and consumer confidence falls
- Consumer spending growth slows in 2022 H2 as rising inflation leads to falls in real household disposable income, confidence and spending
- Lending to businesses grows slowly over the next 18 months in response to slower economic activity and uncertainty over medium-term prospects
- The forecast recovery in business investment during 2022 is subdued as firms' concerns regarding the potential impacts of rising inflation on UK economic activity weigh on business decisions



Key Effects

- Construction output rises by only 1.4% in 2022 and 1.0% in 2023 as inflation affects private sector demand whilst availability and cost of materials and labour constrains supply
- Private housing output falls by 1.0% in 2022 and remains flat in 2023 despite high current demand. As slowing economic activity, falling consumer confidence and spending means that even those who have built up substantial savings remain risk averse leading to a fall in housing demand in 2022 Q4 and 2023 H1 before recovery
- Commercial output rises by 3.5% in 2022 due to projects already on the ground or due to start in the first half of the year but hesitancy and repricing of potential new towers projects this year leads to more subdued growth of only 1.0% in 2023 and 2.0% in 2024, leaving commercial activity at the end of the forecast still 22.7% lower than in 2019, pre-pandemic
- Private housing rm&i is likely to be the sector most affected by the rising energy and commodity prices, spike in inflation and hit to real household incomes and consumer confidence. Projects on the ground and already planned for the first three quarters of 2022 are likely to ensure output remains at historic high levels but activity is likely to slow in 2022 Q4 and into 2023. After reaching a record high in 2021, output in the lower scenario falls by 3.0% in 2022 and a further 5.0% in 2023

Construction Industry Forecasts - Spring 2022 - Lower Scenario

	2020	2021	2022	2023	2024
% annual change	Actual	Actual	Scenario	Scenario	Scenario
Housing					
Private	31,707	36,812	36,444	36,444	37,902
	-19.1%	16.1%	-1.0%	0.0%	4.0%
Public	4,722	5,105	5,105	5,105	5,207
	-32.6%	8.1%	0.0%	0.0%	2.0%
Total	36,429	41,917	41,549	41,549	43,109
	-21.2%	15.1%	-0.9%	0.0%	3.8%
Other New Work					
Public Non-Housing	9,569	9,669	9,669	10,394	10,810
	-8.2%	1.0%	0.0%	7.5%	4.0%
Infrastructure	21,758	28,373	30,501	32,026	32,987
	-4.9%	30.4%	7.5%	5.0%	3.0%
Industrial	4,668	4,801	5,185	5,548	5,881
	-18.5%	2.8%	8.0%	7.0%	6.0%
Commercial	23,511	21,919	22,686	22,913	23,371
	-22.2%	-6.8%	3.5%	1.0%	2.0%
Total other new work	59,506	64,762	68,041	70,881	73,049
	-14.1%	8.8%	5.1%	4.2%	3.1%
Total new work	95,935	106,679	109,590	112,430	116,158
	-16.9%	11.2%	2.7%	2.6%	3.3%
Repair and Maintenance					
Private Housing RM&I	19,927	23,955	23,236	22,075	22,737
	-12.4%	20.2%	-3.0%	-5.0%	3.0%
Public Housing RM&I	6,738	7,220	7,473	7,772	8,082
	-17.4%	7.2%	3.5%	4.0%	4.0%
Private Other R&M	12,387	14,453	14,453	14,308	14,737
	-15.1%	16.7%	0.0%	-1.0%	3.0%
Public Other R&M	5,160	5,766	5,766	5,766	5,882
	-8.2%	11.7%	0.0%	0.0%	2.0%
Infrastructure R&M	10,085	11,314	11,201	11,089	11,311
	1.4%	12.2%	-1.0%	-1.0%	2.0%
Total R&M	54,298	62,708	62,129	61,009	62,749
	-11.1%	15.5%	-0.9%	-1.8%	2.9%
TOTAL ALL WORK	150,233	169,387	171,719	173,440	178,907
	-14.9%	12.7%	1.4%	1.0%	3.2%

Source: ONS, Construction Products Association

Economy

UK economic prospects for 2022 have been revised down in the CPA's Spring forecast due to the impacts of rising energy costs, commodities prices and the general cost of living in the light of Russia's invasion of the Ukraine. The extent to which rising prices and falling consumer confidence translate into lower spending will determine the extent of the impact on growth this year.

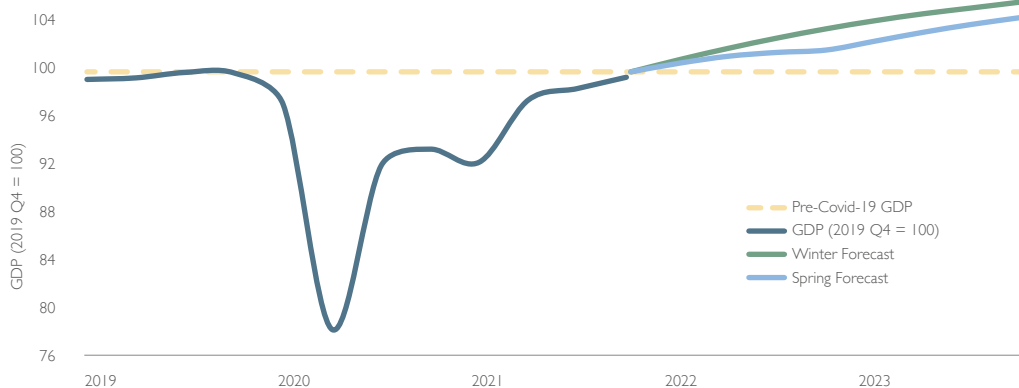
Overall, the CPA's UK GDP forecast has been revised down considerably compared with the Winter forecast with the UK economy now only anticipated to grow by 4.0% this year. Although a recession, with two consecutive contractions in quarterly GDP, is expected to be avoided, growth is still expected to slow considerably before growth rates recover in 2023.

The CPA anticipates that Russia's invasion of Ukraine will ensure that energy prices will remain higher and be more volatile than previously anticipated, increasing inflation and reducing growth prospects. The energy price cap for consumers will delay some of the direct impact of energy price rises until October and it also means that the largest hit to households is likely to be in 2022 Q4 before activity recovers. The weaker growth outlook and heightened uncertainty mean that only one further interest rate rise is expected, to 1.0%, rather than the two expected in the previous forecast.

As anticipated in the previous forecast, the impact of the Omicron variant of Covid-19 was relatively muted as UK GDP fell by just 0.2% in December 2021 compared with November. Whilst economic activity in customer-facing services fell significantly over the Winter period, this was offset by higher health spending due to increased testing and vaccinations, the effect of which is likely to have diminished considerably so far this year as the UK enters the endemic stage of Covid-19. So far, UK GDP grew by 0.8% in January before growth of only 0.1% in February.

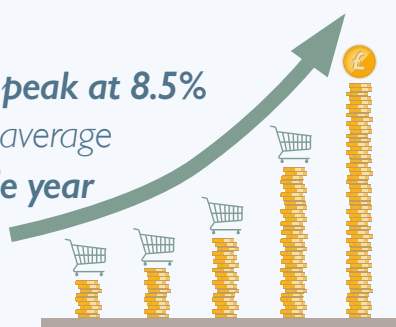


UK GDP Forecast and Scenarios



Source: ONS, CPA Estimates

CPI inflation set to peak at 8.5% in Spring 2022 and average 6.8% over the whole year



The greater risk to UK economic activity is clearly from the direct and indirect impacts of inflation spiking higher than previously anticipated and for longer than expected before Russia's invasion of Ukraine. Given the unprecedented nature of the conflict and with no clear sight of how and when there is likely to be a resolution, fully estimating the impacts on energy and commodity prices is difficult although the most likely scenario

at this point is that it is likely to be a medium-term conflict lasting many years but clearly there is a high degree of uncertainty around this. It points towards continued high and volatile energy and commodities prices in the first six months of the conflict before markets price in the full impacts and the 'new normal' supply and sanction effects into energy and commodities markets.

Energy prices for consumers and businesses have risen sharply as have commodity prices since the beginning of the conflict. It is worth noting, however, that energy prices were already rising sharply in the second half of 2021 but recent spikes drove the oil price to \$112.4 per barrel in March 2022 compared with \$72.9 per barrel in December 2021 at the time of the CPA Winter forecast and \$63.8 per barrel one year earlier. If the oil price averages \$120.0 per barrel and remains stubbornly high over the next 4-6 months, then this would suggest CPI inflation peaking at 8.5% in April and, overall this year, CPI inflation averaging 6.8% this year before slowing to 2.4% in 2023.

The higher inflation will mean that workers will increasingly demand higher pay rises, particularly in areas of the economy in which there are acute skill shortages, which may mean that firms may need to increase prices further. At this stage, however, the likelihood of this leading to a wage-price spiral is low given that slowing economic growth in the second half of the year is likely to ensure that firms do not implement larger price rises. However, with wage rises unlikely to match the sharp rise in inflation, household disposable incomes, and consequently, consumer confidence, will fall this year.

Economic Indicators

	2020	2021	2022	2023	2024
	Actual	Actual	Estimate	Forecast	Projection
GDP	-9.3%	7.4%	4.0%	2.4%	2.3%
Fixed Investment	-9.5%	5.9%	7.2%	4.0%	1.0%
Household Consumption	-10.5%	6.2%	4.6%	1.5%	3.0%
Real Household Disposable Income	0.0%	1.1%	-1.0%	2.7%	3.0%
Government Consumption	-5.9%	14.3%	1.2%	1.3%	1.4%
CPI Inflation	0.8%	2.7%	6.8%	2.4%	1.5%
RPI Inflation	1.5%	4.1%	8.9%	3.1%	2.2%
Bank Base Rates - June	0.10%	0.10%	0.75%	1.00%	1.00%
Bank Base Rates - December	0.10%	0.25%	1.00%	1.00%	1.00%


Source: ONS, Construction Products Association

UK GDP in 2021 Q4 was only 0.1% lower than in 2019 Q4, pre-pandemic, according to the Office for National Statistics (ONS), in line with previous CPA forecasts over the past 12 months that indicated that UK GDP would surpass pre-pandemic levels in 2022 Q1.

However, from that point the extent of the shock facing households due to price rises, which the Bank of England states is likely to be larger than at any time during the 1970s, will heavily depress growth rates. As a result, the CPA has cut its forecast for GDP growth in 2022 to 4.0% in Spring from 5.3% in Winter before 2.4% growth in 2023 compared with 2.0% in Winter as energy prices fall, annual inflation effects fall out and consumer spending partially rebounds next year. Previous CPA forecasts anticipated a 'W'-shaped economic recovery with dips in activity coinciding with Covid-19 lockdowns and the outturn, so far, has been in line with this. However, the UK economy may now see a plateauing in economic activity during 2022 H2 before sustained recovery next year.

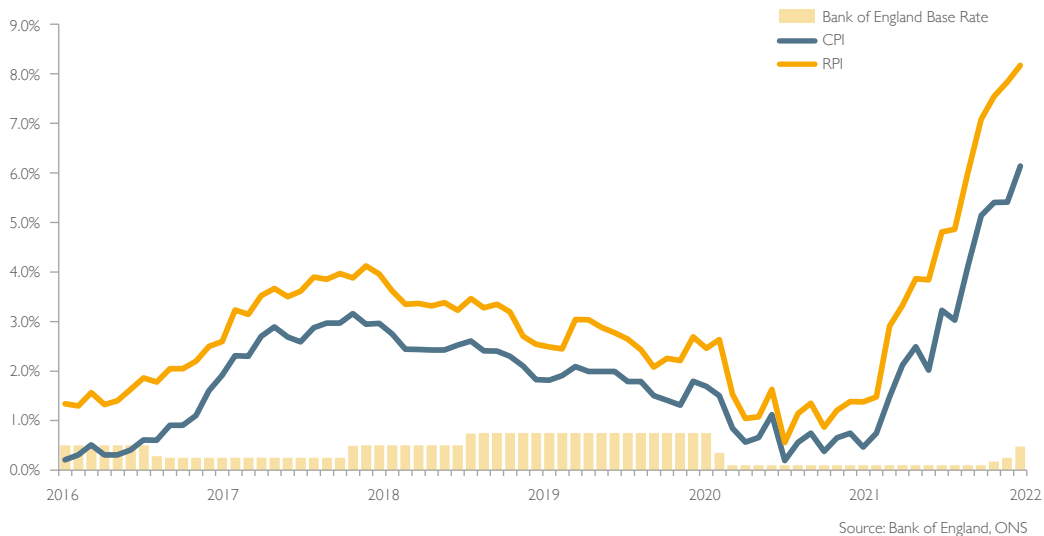
Looking at other UK GDP forecasts from the main macroeconomic forecasters compiled by [HM Treasury](#) in March, there is clearly a high degree of uncertainty reflected in the variation across the forecasters. Of the main City and non-City macroeconomic forecasters, the average (median) estimate for GDP growth in 2022 was 4.1% but within this the most pessimistic forecaster anticipated only 3.3% growth in 2022 whilst the most optimistic forecaster expected 5.7% growth this year. Furthermore, the average estimate for CPI inflation in 2022 Q4 was 5.1% but within this the most pessimistic forecaster anticipated CPI inflation of 8.3% in 2022 Q4 whilst the most optimistic forecaster expected 3.3% CPI inflation in the final quarter of this year.

The Bank of England's base rate is forecast to rise to **1.0%**



and then remain flat over the next 18 months

Interest Rates and Inflation



In terms of the key drivers of the UK economic forecast, high, rising inflation due to a combination of rising petrol prices, upward pressure on global goods prices from supply-chain bottlenecks and April's 54% rise in the energy price cap will diminish household real incomes. It is, however, worth noting that the rise in the energy price cap in April was primarily due to the energy price rises in the second half of last year and we will only see the full impacts of the Ukraine invasion and consequent market volatility in the October price cap rise.

The CPA forecasts CPI inflation to peak at 8.5% in April. Russia's invasion of Ukraine will likely keep oil, metals, food, and gas prices higher for longer. CPI inflation is now forecast to average 6.8% this year and 2.4% in 2023. As wage growth will not keep pace with inflation rises, 2022 will see the largest fall in real household income for over a decade. How this impacts on households' spending will depend heavily on the type of household. Many households, particularly those that have spent large parts of the past two years working from home, have accumulated savings. According to the Bank of England, UK households have accumulated over £200 billion of savings since the initial lockdown in March 2020. In addition, homeowners have also benefitted from the increased housing wealth after consistent double-digit annual house price rises due to the buoyant housing market.

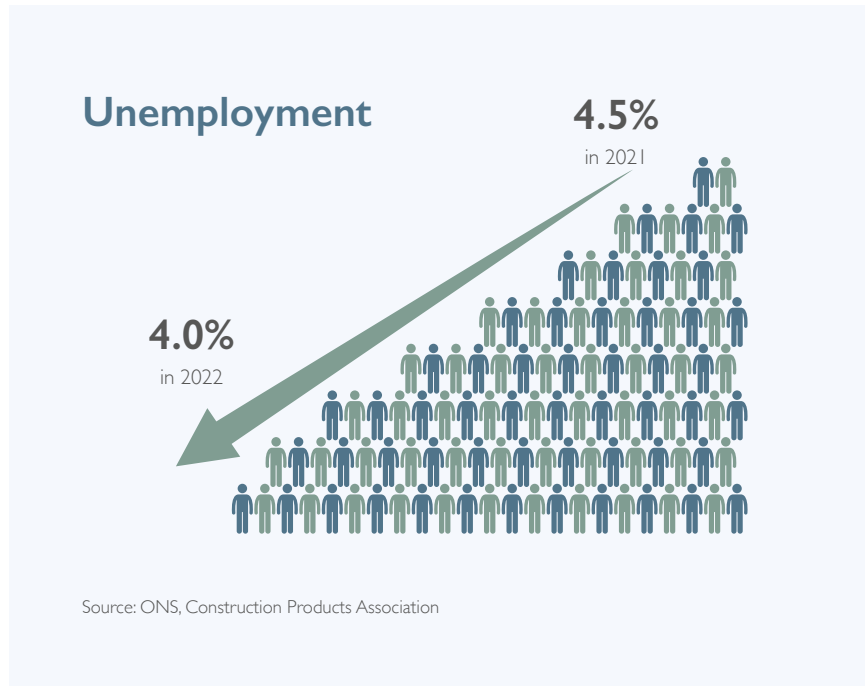
Household incomes will also come under pressure from tighter fiscal policy, as the government unwinds the support provided early in the pandemic and seeks to reduce the public deficit. In particular, a 1.25 percentage point rise in employees' National Insurance Contributions (NIC) took effect from April whilst most tax allowances and thresholds will be frozen in cash terms for the next four years. But, in the Spring Statement, the Chancellor announced an increase in the annual National Insurance Primary Threshold and the Lower Profits Limit from £9,880 to £12,570 from July 2022, to align with the income tax personal allowance so around 70% of NIC payers will pay less. In addition, the Chancellor announced a further increase in the Employment Allowance from April 2022 so eligible employers will be able to reduce their employer NICs bills by up to £5,000 per year so businesses will be able to employ four full-time employees on the National Living Wage without paying employer NICs. The [Spring Statement](#) also announced a reduction in the basic rate of income tax from 20% to 19% from April 2024, a general election year. However, this will clearly not help households in the near-term.

In addition to an overall tightening of government fiscal policy, monetary policy is also being tightened. The Bank of England raised interest rates from 0.1% to 0.25% in December 2021, to 0.5% in February 2022 and raised interest rates yet again to 0.75% in March. However, the recent increases in energy and commodity prices are likely to lead to fewer interest rate rises going forward than previously expected. Although the price rises will lead to a higher than expected spike in inflation near-term, further increases in interest rates would merely exacerbate issues for households that are already facing falling real incomes this year and slowing economic activity. In addition, given the uncertainty, the risks are clearly to the downside and, as a consequence, the Bank of England is likely to become more risk averse. The CPA anticipates one further interest rise in Summer before holding fire on further rises until the impacts of recent volatility on economic growth are clearer later in the year.

Households may spend some of the estimated £200 billion savings accumulated over the past two years to maintain spending in the light of falling real incomes and rising prices. However, it is worth noting it may be only a small proportion of the £200 billion is spent this year. This is because it is likely to be that the majority of the households that have accumulated savings over the past two years are homeowners some of whom have spent large portions of the last two years working from home and have a lower marginal propensity to consume. As a result, they may not need the savings to sustain spending. On the other hand, lower-income households, who tend to be renters and have not been able to work from home to the same extent, and have a considerably higher propensity to consume, have not been able to accumulate spending to the same extent. Consequently, these households will not be able to use savings to sustain spending to the same extent.

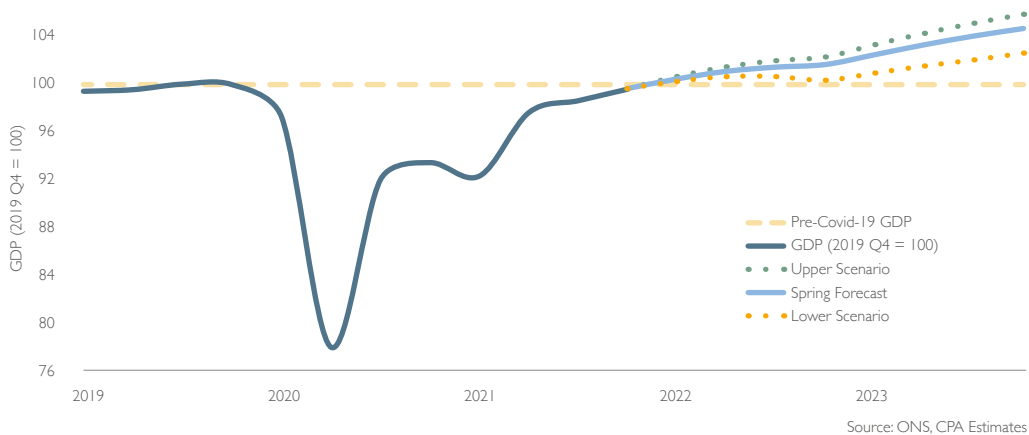
The CPA still anticipates that business investment will recover sharply during 2022. Clearly, business investment was hit badly during 2020, falling by 11.5% and only recovering by 0.8% during 2021 but the indications from business surveys are that investment intentions for many firms strengthened during 2021 and have led to investment decisions that will come through this year. This is particularly the case as many firms accumulated large cash piles over the past 18 months due to risk aversion whilst also encountering high demand and a lack of capacity over the last year. The government's 'super-deduction' tax incentive will also encourage firms, particularly large firms, to increase investment this year and early next year before it ends in March 2023.

From April 2023, not only does the 'super-deduction' end but also the main rate of corporation tax will rise from 19.0% to 25.0% from 2023, both of which are likely to lead to considerably slower growth in business investment. Overall, the CPA forecasts a 7.4% rise in business investment this year before a rise of 2.5% in 2023.



Despite the uncertainty and fears over the 'cost of living crisis', the UK labour market remains remarkably resilient. Between November 2021 and January 2022, the UK unemployment rate fell to 3.9% from 5.1% a year earlier. It was also the same rate as in November 2019 and January 2020, pre-Covid-19. Whilst the unemployment rate is unlikely to fall significantly further this year given its already low rate and slower economic growth prospects in the second half of the year, it is also unlikely to rise significantly given that many sectors are still finding capacity constraints and skills shortages in key areas. As a result, the unemployment rate is expected to remain at similar rates this year and in 2023.

UK GDP Forecast and Scenarios



Upper Scenario:

- Economic activity accelerates in 2022 H2
- Consumer confidence and spending continues to remain robust despite rising inflation
- Savings fall as households use savings to offset price rises
- Lending to business increases as resilient spending and economic growth leads to increased business optimism
- Business investment recovers sharply in response to increased business confidence, sustained economic activity and the 'super-deduction'

The upper scenario envisages that despite temporary disruptions from fuel and energy costs, households continue to increase spending and confidence remains strong. Robust demand continues to boost manufacturing and services whilst supply chain issues ease for the construction sector.

Lower Scenario:

- Economic activity contracts marginally during 2022 Q3 and Q4, a technical recession
- Consumer confidence and spending slow sharply from 2022 Q2
- Unemployment rises significantly in the light of rising prices and falling spending
- Savings remain high as higher-income households do not need to use their savings whilst lower-income households that are generally without savings are forced to reduce spending
- Business investment recovers slowly due to uncertainty regarding the sustainability of economic growth given increasing inflation and supply concerns

The lower scenario envisages that although inflation spikes in April, strong inflation persists throughout 2022, leading to lower consumer confidence and spending. Non-essential retail and leisure see increases in unemployment due to slower consumer spending. The increased uncertainty and fall in consumer spending also means that business investment, particularly from SMEs, remains subdued and UK economic activity falls during 2022 H2.



Private Housing

Current housing demand remains strong and is likely to remain so until at least 2022 Q3. House builders continue to face an increasing number of near-term and medium-term headwinds that are likely to hamper prospects but the remarkable resilience of the general housing market is likely to ensure house building growth over the forecast period.

The CPA anticipates that private housing starts will grow by 1.0% in both 2022 and 2023 before growth accelerates to 3.0% as uncertainty means that house builders focus slightly more on completions, which are expected to rise by 2.0% per year in 2022 and 2023 before rising by 3.0% in 2024. The forecast growth in starts during 2022 and 2023 is a revision down from the 5.0% in 2022 and 3.0% in 2023 that was forecast in Winter, reflecting the range of issues and uncertainties that will affect both housing demand and supply over the next 12 months. Last year, demand was not an issue despite the end of the stamp duty holiday and the more constrained version of Help to Buy. Issues during 2021 focused primarily on the supply side with the availability of materials, products and labour affecting many construction sectors. However, most major house builders were able to navigate issues and reported build cost inflation of around 5.0%, which was eminently manageable given the substantial uplift in house prices and land values last year. Major house builder statements this year still anticipate 5%-10% growth in house building on the assumption that build costs rise less than selling prices although given the potential impacts of supply side issues ahead that appears optimistic. In addition, whilst major house builders have been able to minimise cost inflation by planning and purchasing well in advance or loading inflation issues on to sub-contractors, smaller house builders have not been able to do this.

Currently, demand in the general housing market and for new homes remains robust with the Office for National Statistics (ONS) reporting that UK house price inflation in the year to February 2022 was 10.9% and private housing output in February 2022 was 6.1% higher than a

Private Housing Starts and Completions Great Britain

	2020	2021	2022	2023	2024
	Estimate*	Estimate*	Estimate	Forecast	Projection
Starts	117,777	164,917	166,566	168,232	173,279
	-19.3%	40.0%	1.0%	1.0%	3.0%
Completions	135,414	161,306	164,532	167,823	172,857
	-18.0%	19.1%	2.0%	2.0%	3.0%
Output (£m)	31,707	36,812	37,180	37,552	38,678
	-19.1%	16.1%	1.0%	1.0%	3.0%
RM&I Output (£m)	19,927	23,955	23,236	22,307	22,753
	-12.4%	20.2%	-3.0%	-4.0%	2.0%

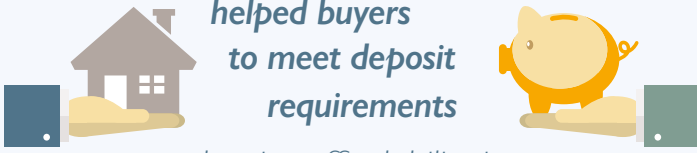
* Data from 2020 onwards for Wales is yet to be published

Source: DLUHC, ONS, Construction Products Association

Savings accrued during lockdowns have

**helped buyers
to meet deposit
requirements**

despite affordability issues

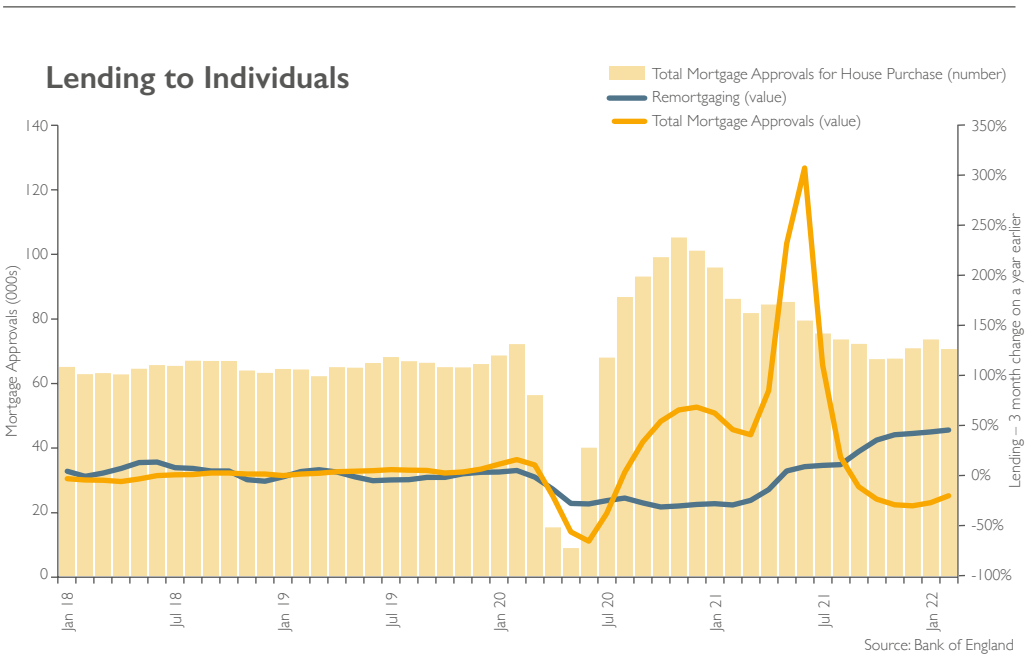


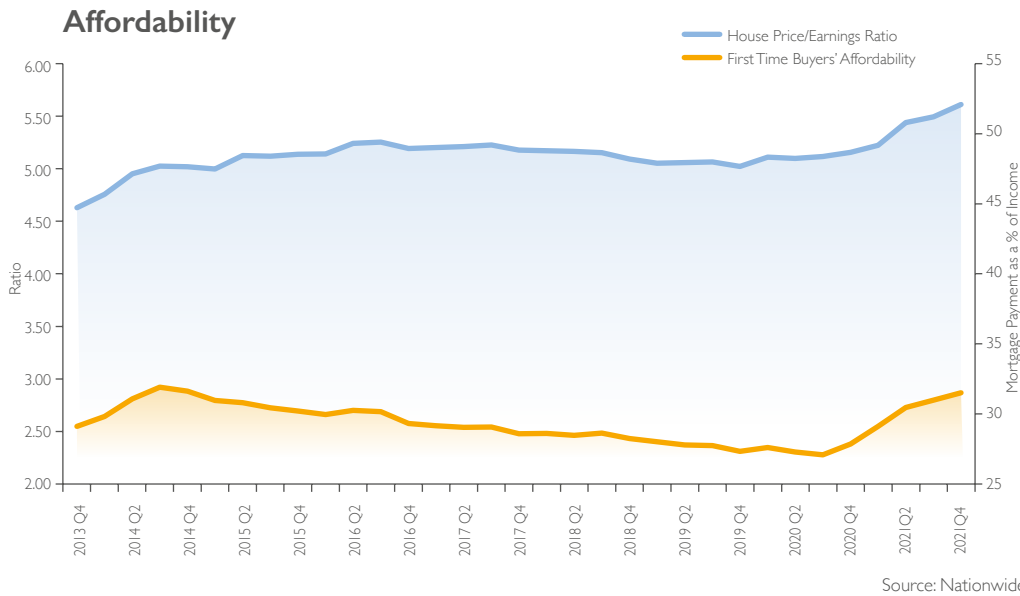
year earlier, despite the adverse effects of three major national storms affecting on-site activity in mid-February. In addition, supply issues for most materials and products eased in 2021 Q4 and in 2022 Q1.

Looking forward, however, it is difficult to see demand and supply issues being so amenable. In the near-term, energy costs for construction product

manufacturers rose sharply during the second half of last year and that is starting to feed through into energy-intensive products such as bricks, steel and cement. Furthermore, Russia's invasion of Ukraine has already led to spikes in energy costs and commodity prices, which will particularly impact on steel and aluminium products as they are metal commodities and also energy-intensive products but, clearly, there will be an impact on all energy-intensive product prices this year given that energy costs account for around 25%-33% of total costs for energy-intensive product manufacturers. In addition, the invasion may have an impact on UK imports of products that would previously have come from Russia or Ukraine such as steel and timber.

On the demand side, near-term, the sharp rise in energy prices, commodity prices and general inflation means that the extent of the shock facing households due to price rises is likely to be larger than at any time during the 1970s according to the Bank of England (see [Economy](#)). Clearly, real household incomes will fall this year and consumer confidence indices have fallen sharply in February and March. What is difficult to assess at this point is the extent to which this will impact on demand in the housing market and for new homes. Intuitively, the drop in household incomes and consumer confidence would point towards a sharp fall in housing demand. However, the inflation rises will disproportionately affect poorer households that tend to spend a higher proportion of their disposable incomes on energy and food. These households are more likely to be renters and are more likely to have less savings to rely on. Conversely, households that are better off spend a lower proportion of their disposable

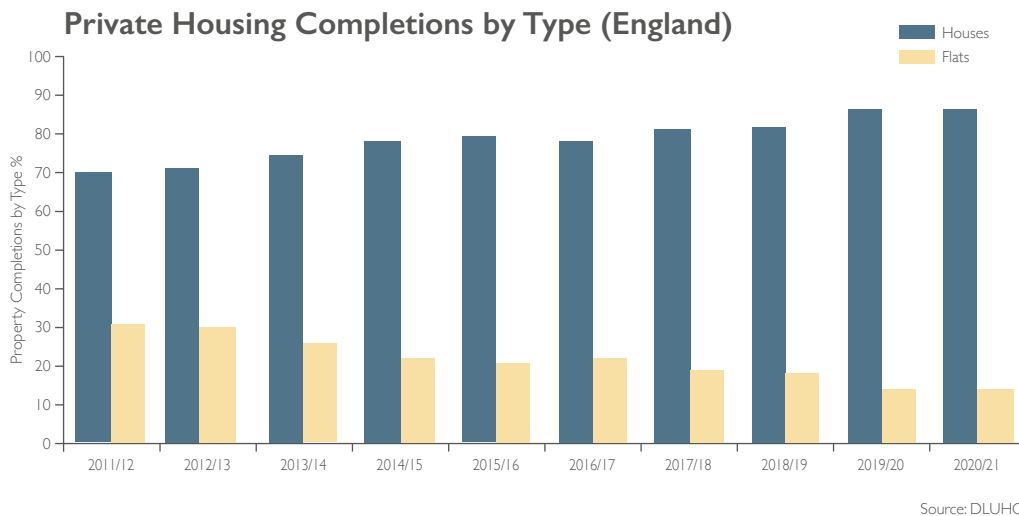




incomes on energy and food, are more likely to already be homeowners and consequently have benefitted from rising prices in recent years and are more likely to have built up savings over the past two years. As a result, these households may be able to maintain spending by using savings and sustain home purchases, particularly if they already have a home to sell.

Also on the demand side, the end of the Help to Buy equity loan in March 2023, may also lead to a slowdown in demand for new build homes. However, it is worth noting that similar fears were expressed prior to the end of both the stamp duty holiday and the unconstrained version of Help to Buy in September 2021 yet demand has still been resilient since then. The key to demand remaining strong is likely to be whether mortgage lending conditions continue to be favourable and whether new alternatives to the Help to Buy equity loan such as Deposit Unlock prove to be a success. Deposit Unlock is a scheme set up by lenders and the house building industry enabling first-time buyers and existing homeowners to purchase a new build home with a 5% deposit. At present the majority of the major house builders are a part of the scheme although currently only two lenders are; the Nationwide and Newcastle Building Society.





Overall, mortgage lending remains historically high, reflecting the strong general housing market. There were 70,993 mortgage approvals in the UK in February 2022 according to the Bank of England; 3.9% higher than in January but 18.3% lower than a year ago, when the housing market was approaching the end of the original Stamp Duty holiday and unconstrained Help to Buy deadlines. UK mortgage approvals in February 2022 were also 3.0% higher than in January 2020, pre-pandemic and 8.6% higher than the average between 2018 and 2019 as mortgage approvals remained higher than the pre-pandemic average following the major distortions to the UK housing market from shutting the housing market down during the initial lockdown, the consequent pent-up demand coming through, the 'race for space' and policy distortions such as the stamp duty holiday and initial version of Help to Buy.

Demand for flats and the connected demand in London, however, remains subdued according to registrations from NHBC in early 2022. Demand for new flats in England historically reached a peak in 2008/09 with flats accounting for 46.0% of total completions according to DLUHC from which it steadily fell to 22.0% between 2014/15 and 2016/17, prior to the Grenfell Tower fire. After this, the proportion of flats fell further to 14.0% in 2020/21 and from which it has not recovered.

A part of this demand is due to the 'race for space'. According to [Bank of England research](#) in December 2021, the 'race for space' explains around half of the increase in UK house prices since the initial lockdown in March 2020. The 'race for space' has led to three types of

distortion that have increased house prices. Firstly, there has been a shift in the types of properties traded e.g. transactions of detached homes increased whilst transactions of flats decreased, which explains nearly 11% of the house price growth since January 2020. Secondly, there has been an increase in the price that buyers were willing to pay for a house compared to a flat with similar characteristics (e.g. located in a similar area, with a similar number

Most major house builders signed up to the **Government's Building Safety Pledge** in April 2022 to address **issues on legacy buildings up to 30 years old**



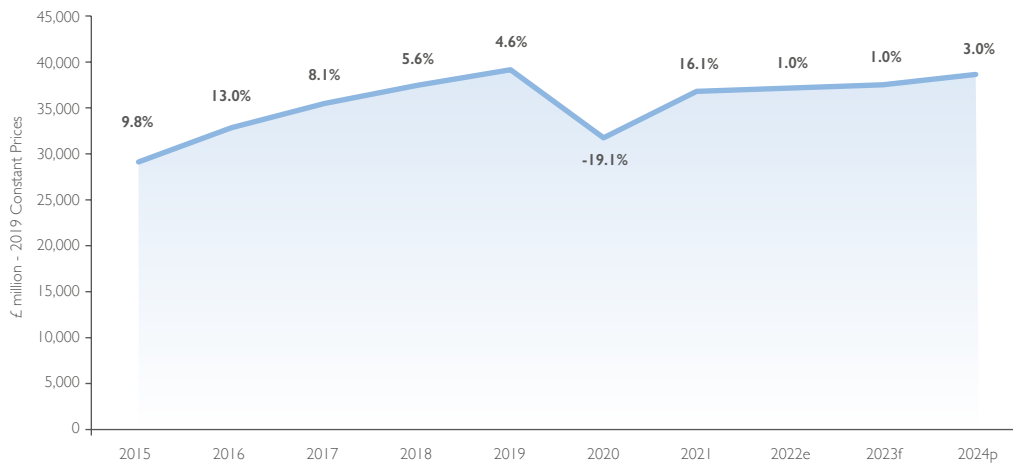
of bedrooms), which accounts for around 21% of the price growth. Thirdly, there has been a reduction in the price gap between identical properties in London and outside of London since the start of 2021. This accounts for around 15% of the overall house price strength.

However, a part of the subdued demand for flats is also due to the impact of the fire safety concerns and issues. On the developer side, increasing resource and provisions are having to be assigned to deal with legacy issues on buildings as a consequence of the fallout of the Secretary of State's demands in January 2022 to contribute to a £4.0 billion fund to deal with additional cladding remediation and his demand in April 2022 to sign up to a Building Safety Pledge ensuring that developers' provisions for legacy issues now extend to 30 years. As a result, housebuilders now have a total of almost £2.0 billion of provisions. This would



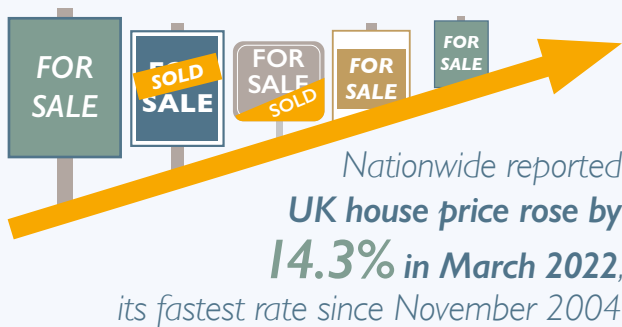
be in addition to the government's Residential Property Developer Tax (RPDT). This came into effect in April 2022 on annual profits in excess of £25.0 million at a rate of 4% and from which government anticipates raising £2.0 billion within 10 years. It is worth noting RPDT is outside of government's request for £4.0 billion in contributions from industry. Given that the developers' £2.0 billion provisions do not account for orphan buildings, where the developer does not exist anymore or where the developer cannot be traced, another levy on developers cannot be ruled out, which would clearly mean more house builder resource devoted to fire safety issues and potentially less towards increasing housing supply. On the homebuyer side, there have been increasing concerns over the past two years regarding the ability to sell flats given issues around existing flat owners and the External Wall System 1 (EWS1) process, which was brought in by the Royal Institution of Chartered Surveyors (RICS) in 2020. The

Private Housing Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association



majority of buildings that have received EWS1 assessments have been given B2 or A3 ratings, which lenders refused to lend under until full cladding remediation had been carried out. A B2 rating indicates that combustible materials are present in a building's external wall and need to be removed whilst an A3 rating is generally given when attachments to the external walls, such as balconies, are present and need to be removed. In April 2022, however, UK Finance and the Building Societies Association (BSA) stated that several lenders have agreed new guidance that states banks could

now lend on blocks that have received a B2 or A3 rating if a costed and funded remediation plan is agreed with committed dates for starting and finishing all specified/required work. As a result, this should directly help transactions and indirectly help wider demand for flats.

Prices in the general housing continue to show remarkable strength despite the end of the government policy stimulus, which is partly accounted for by high demand but also as a result of a persistent lack of supply of properties coming on to the market according to both the RICS and lenders such as Nationwide.

The average UK house price was £276,755 in February 2022, which is 0.5% higher than in January and 10.9% higher than a year earlier compared with 10.2% annual growth in January according to the ONS/Land Registry. Looking across the regions/nations the fastest house price growth in the year to February 2022 was in Wales (14.2%), East of England (12.5%), South West (12.5%) and South East (12.0%). The slowest house price growth in the year to February 2022 was in Northern Ireland (6.8%) and London (8.1%) according to the ONS/Land Registry. In value rather than percentage terms, however, the average UK house price rose by £27,169 in the year to February 2022 with the fastest increases in house price in the South East (£40,741), London (£39,498) and East of England (£38,350) according to the ONS/Land Registry and in the two years since Covid-19, the average UK house price has risen by £46,146 with the fastest house price growth in the South East (£62,346), East of England (£56,634), South West (£56,489) and London (£55,401).

More recently, March 2022 saw a further acceleration in annual house price growth to 14.3%, the strongest pace of increase since November 2004, according to lender Nationwide. On a monthly basis, house prices rose by 1.1%, the eighth consecutive monthly increase but slower than the previous month's 1.7%. The price of a UK home rose to a new record high of £265,312, with prices increasing by over £33,000 in the past year. Prices are now 21% higher than before the pandemic struck in early 2020. Nationwide reported that the continued buoyancy of housing demand may in part be explained by strong labour market conditions. The unemployment rate has continued to trend down in recent months (to 3.8% in the three months to February) from already low levels. Wage growth has accelerated but is running below inflation. Savings accrued in lockdowns are also likely to have helped prospective homebuyers raise a deposit. Nationwide still thinks that the housing market is likely to slow with the squeeze on household incomes set to intensify, with inflation expected to rise further, perhaps reaching double-digits if global energy prices remain high.

By nation, according to Nationwide, Wales remained the strongest region with house prices up 15.3% year-on-year in 2022 Q1, down slightly from 15.8% in the previous quarter. Northern Ireland also saw a slight slowing in annual growth to 11.1%. Scotland saw a 12.0%

year-on-year rise in house prices, the strongest rate of growth since 2007 Q3. England saw annual price growth increase to 11.6%, from 9.0% in 2021 Q4. All English regions saw an acceleration, with the South West remaining the strongest, with growth of 14.4%, the highest since 2004, closely followed by East Anglia with growth of 14.2%, up from 10.4% in the last quarter. London was again the weakest performer in the UK but growth did noticeably pick up to 7.4% in Q1 compared with 4.2% in 2021 Q4. Looking forward, the CPA anticipates UK house price inflation on the ONS measure slowing to 6.0% in 2022 and then 2.5% in 2023 although it is worth noting that UK house price inflation has consistently surprised on the upside over the past two years. In addition, a further lack of supply of homes on to the market could help sustain house price growth further even if demand slows.



Large and small house builders continue to report that planning remains a key issue in the medium-term. This has been a consistent problem for house builders due to a lack of resource in local authorities but house builders report that this has been exacerbated by staff in planning departments working from home, which has led decision-making to become slower. In addition, a 30% increase in applications, in part due to applications for housing renovation and extensions, has meant there are greater demands on constrained planning department resource.

In the medium-term, house builders will also have to deal with government's intention to replace the current Section 106 agreements, which provide for affordable homes and local infrastructure, with an infrastructure levy. This was first proposed during planning reforms in 2020 and a consultation into it is expected later this year. Theoretically, government hopes that this would enable local authorities to have additional finance to build more social and affordable homes although it would still have to finance the local infrastructure and it is questionable whether this would be enough to offset the consequent reduction in private house builders' affordable homes provision. In addition, given that local authorities are currently highly financially constrained, additional finance may be used to fund general operations and not necessarily be devoted to additional housing provision. This is particularly the case given that local authorities already suffer from a lack of knowledge, experience and resource that means it has been difficult for them to ramp-up social housing provision in recent years.

The sector will also have to deal with government's focus on its legally bound targets for net zero by 2050 and the increasing regulations imposed on house builders. The majority of the UK housing stock (around 80%) that will be there in 2050 has already been built and new build accounts for less than 1.0% of the housing stock in any given year. However, in the absence of an effective energy-efficiency retrofit policy, the regulation moving the housing sector towards net zero will fall heavily on new build, at least initially, in the form of the Future Homes Standard and the Heat and Buildings Strategy. As the [Heat and Buildings Strategy](#) states, "it is significantly cheaper and easier to install energy efficiency and low-carbon heating measures as buildings are constructed, rather than retrofitting them afterwards. This also reduces disruption to consumers". The Future Homes and Buildings Standards aim to ensure that new homes built from 2025 produce 75%-80% less carbon emissions than homes delivered under current regulations. However, the more pressing deadline for house

builders will be the uplift to Part L, Part F and overheating regulations that takes effect in June 2022. In addition, the Prime Minister announced in November 2021 that new homes would be required to install electric vehicle charging points from this year. All of these will provide additional challenges and cost to house builders going forward. On the positive side, it may be that new build homes that increasingly meet the trajectory for net zero help to re-establish the new build margin, which has been diminishing in recent years. This is particularly the case given that, if government is serious regarding net zero and housing, the existing housing stock will have to be addressed and the extensive cost of doing this will mean that the burden of this falls on the homeowner rather than government. Even with government stating that homes that are EPC rating C will be sufficient for existing homes to meet net zero housing needs in the Heat and Buildings Strategy, this still means that 56.0% of the housing stock will need to be retrofitted (see [Private Housing RM&I](#)).

The Build to Rent sector covers new build developments for private rent that aim to generate a long-term return on investment and is typically financed by institutional investors. Given the long-term nature of the investment and returns, institutional investment in Build to Rent has the potential to provide an uplift to house building activity, although despite strong growth in recent years, Build to Rent still only accounts for a small proportion of the 5.0 million privately-rented housing stock in Great Britain. According to the British Property Federation, there were 212,177 Build to Rent homes in the UK in 2021 Q4, including both London and the regions, which is a 13.0% increase compared with a year earlier. Of this 70,785 are complete, a 26.0% increase compared with a year earlier. 42,119 Build to Rent homes were under construction, an 8.0% rise compared with a year earlier, and 99,273 units were in planning, a 8.0% rise compared with a year earlier. In London, there were a total of 89,678 units in 2021 Q4, a 10.0% annual rise although it is worth noting that whilst 33,835 were complete, a 25.0% annual increase, there was a 15.0% fall in the number under construction compared with a year earlier. Outside London, there were 122,499 units in 2021 Q4 with 36,950 complete, a 27.0% increase whilst there was a 27.0% annual rise in the number under construction to 26,820.

Upper Scenario:

- Strong consumer confidence despite rising inflation
- Strong labour market
- A higher proportion of office workers continuing to work from home long-term

If consumers continue to spend despite rising inflation, using savings built up since the start of the pandemic and homeowners also use wealth accumulated from rising house prices, combined with a strong labour market, this could see continued buoyancy in the housing market. With many office workers primarily working from home long-term, the 'search for space' also boosts demand for houses with additional indoor and outdoor space outside cities where affordability is still highest.

Lower Scenario:

- Inflation concerns suppress consumer confidence and spending
- Weakness in the labour market after government support

A scenario of lower growth due to higher inflation hitting real household disposable incomes as well as lower consumer confidence and spending would lead households to become more risk averse, focusing on saving rather than investment and home moves. In addition, increases in unemployment, after government support and with slower UK economic growth, could lead to a higher rate of forced sellers in 2022 H2 and 2023 H1, leading to subdued house prices and falls in private housing output.

Private Housing RM&I

Private housing repair, maintenance and improvement (rm&i) activity on the ground is currently at historically high levels but prospects are more uncertain towards the end of the year and into 2023 as slower growth in the housing market and the rising cost of living affects households whilst the cost of labour, materials and products affects renovation projects. In addition, the current hiatus in ECO activity will also hit energy-efficiency activity this year.

Of all the construction sectors, private housing rm&i is the most exposed to real household incomes and consumer confidence on the client side and supply issues on the small contractor side.

From the supply side perspective, major house builders in private housing were able to maintain build cost inflation of around 5.0% in 2021 by planning and purchasing materials and products in advance as well as loading inflation issues onto sub-contractors. However, it has been more challenging for SME renovation contractors that can't operate this way due to a lack of visibility of demand and a lack of resource. It has meant smaller contractors revising prices substantially during projects and availability issues have caused delays to projects, which have also had knock-on effects onto subsequent projects and, consequently, revenue streams. Building materials inflation in the year to February 2022 was 20.2%, which is lower than at peak in October when it was 23.7%, but clearly historically high and, in addition, average weekly earnings in UK construction in the year to February 2022 were 5.9%.

In addition to materials, products and labour inflation, smaller renovation contractors are also more at risk of issues such as rising Personal Indemnity (PI) insurance and reverse charge VAT. The high level of demand and the high profile nature of these issues meant that contractors appeared, and still appear, able to pass these costs rises onto households without too much fuss and manage householder expectations in terms of delays to projects. The key question is whether this will still be the case as rising energy and commodity prices feed through directly into households' bills and then indirectly as these price rises feed through the rest of the economy and hit households again.

Private Housing RM&I Output



CPI inflation is expected to peak at 8.5% in April following Russia's invasion of Ukraine and inflation is anticipated to remain stubbornly high throughout the year, leading to falling real household incomes and further falls in consumer confidence. It is worth noting that consumer confidence was already falling in February, prior to Russia's invasion of Ukraine and the consequent spikes in energy and commodity prices, due to rising inflation as a result of energy cost rises in the second half of last year.

Near-term, the sharp rise in energy prices, commodity prices and general inflation means that the extent of the shock facing households due to price rises is likely to be larger than at any time during the 1970s according to the Bank of England. The key will be the extent to which falling real household incomes and consumer confidence translate into falls in spending. Within the wider UK economy, it is highly likely that there will be a fall in non-essential retail sales during this year. The extent to which it affects private housing rm&i is more difficult to determine, however. Essential repair and maintenance projects are likely to be maintained as they cannot be delayed indefinitely. Non-essential repairs and maintenance could be postponed and may consequently suffer a dip in the second half of the year and in the first half of next year but will still need to be addressed in the medium-term. The improvements or renovation part of rm&i appears most exposed to the financial hit that UK households will take this year. However, the level of higher value activity should be broadly maintained in 2022 as this activity has been planned in by households already and the pipeline of projects points towards activity until 2022 Q3 already. The greater risk revolves around lower-value renovation work, where lower real incomes, higher costs and potentially households' preferences returning back towards pre-pandemic holiday spending may dominate rather than spending on their homes. Even here, however, the fall may not be as great as the real household income forecasts and consumer confidence indices would point towards. However, the inflation rises will disproportionately affect poorer households that tend to spend a higher proportion of their disposable incomes on energy and food. These households are more likely to be renters and are less likely to have savings



The Bank of England estimates that households have accumulated over **£200 billion** of savings since the initial national lockdown in March 2020



to rely on. Conversely, households that are better off spend a lower proportion of their disposable incomes, are more likely to already be homeowners and consequently have benefitted from rising prices in recent years and are more likely to have built up savings over the past two years. As a result, these households may be able to sustain renovation spending by using savings and using wealth accumulation from their home. As highlighted in previous forecasts, the Bank of England estimates that UK households have accumulated over £200 billion of savings and, as a result, households may be able to take the hit of rising inflation and still have finance available for improvements works.



Historically, the majority of general activity levels in private housing $rm\&i$ (60%-65%) is covered by either basic repairs that cannot be delayed or non-essential maintenance that can be postponed but not indefinitely. As a result, activity in the sector tends to be less volatile than new build sectors. However, the improvements part of the sector tends to provide the volatility around the general stable levels. Whilst it was the construction sector worst affected by the initial Covid-19 lockdown back in Spring 2020, it has also been the quickest to recover and most buoyant. Private housing $rm\&i$ output in February 2022 was 1.1% lower than in January, although it is worth noting that output in February was affected by three major national storms, and output in February was still 6.8% higher than a year earlier and 21.9% higher than in January 2020, pre-pandemic. Clearly, the 'race for space', through purchasing a new home and/or renovating existing properties has been the key driver of this activity. The main interest for households since the initial lockdown has been in achieving more, and better quality, space. This demand has been for additional loft conversions, indoor home/office space, and extensions for many office workers that have increased the proportion of time medium-term that they will be working from home, as well as demand for greater storage space. Furthermore, the demand for improvements works has also been boosted by demand for greater outdoor space through, for instance, decking and garage conversions as well as driveway improvements.

One of the key drivers for the improvements element of private housing $rm\&i$ in the CPA's model is property transactions. Within 6-9 months of purchasing a property, there is often improvements when the purchased property is an existing property, as opposed to new build. In addition, the relationship is stronger when the existing property is a house rather than a flat given that the average age of the housing stock compared with flats and the amount of refurbishment work that can be conducted on the property. The 'race for space' since the pandemic has meant that not only has there been a sharp rise in property transactions in the last 18 months but that this demand has been skewed towards houses, with space outside cities, rather than smaller flats in city centres.

Assessing the impacts of property transactions on the general housing market and, consequently, the $rm\&i$ market has been increasingly difficult since Covid-19 as transactions have been particularly volatile due to distortions caused by government policy. The introduction of the stamp duty holiday, its extension in March from 31 March to 30 June before continuing from 1 July in a tapered form before finally ending in September 2021 has meant that on a monthly basis transactions have bounced around more than historically would be the case usually. With these major distortions now out of the way, UK property transactions in March 2022 were 2.6% higher than in February but 35.7% lower than a year



ago, which was just before the end of the initial stamp duty holiday and Help to Buy deadlines according to the HM Revenue and Customs (HMRC). UK property transactions in March 2022 were also 16.2% higher than the average number of transactions between 2018 and 2019, which points towards continued strong demand and price growth.

Over the long-term, UK property transactions in March were 18.4% higher than the average between 2005 and 2019 despite short-term boosts such as the stamp duty holiday and Help to Buy being curtailed. Looking forward, it would be expected that the sharp rise in energy costs and general inflation, with the consequent falls in confidence and spending, have a significant negative impact on property transactions and house price growth.

However, even without this, it is likely that transactions slow to the long-term average. Given the lags between transactions and rm&i activity, this still means that the high current demand is likely to ensure strong renovation demand for the first three quarters of 2022 before it falls away.

In addition, the incentive for improvements work has been boosted by double-digit house price inflation, given the increased rate of return on investing in the home, particularly at a time of historic low interest rates. This has made it particularly favourable compared with saving or other, more risky, investments. However, slowing house price inflation and rising interest rates make this less of an attractive proposition albeit still clearly worthwhile compared with other investments.

A key feature of the recovery in rm&i since the initial lockdown has been the buoyancy of the labour market and strong employment rates with, conversely, low unemployment rates. This tends to have a strong relationship with consumer spending, particularly on big-ticket items such as renovation. The high employment rates and the lack of a significant rise in unemployment (see [Economy](#)) will be key going forward to ensuring stability in the housing market and maintaining rm&i spending. At present, the CPA does not anticipate a significant rise in unemployment despite forecasting that UK economic growth rates will slow over the course of this year. This is primarily because economic activity in the forecast is still expected to grow rather than contract and whilst some parts of the economy may be adversely affected by rises in unemployment, this may be offset by areas of the economy in which skills shortages persist.

[GfK's overall consumer confidence index](#) in March 2022 fell by five points to -31, its lowest levels since November 2020 during the second Covid-19 wave. GfK attribute the fall in consumer confidence to "daily news of unimaginable suffering from a horrifying war in Europe and rising Covid numbers at home" although that suggests it is measuring people's self-reported sentiment rather than actual intention to spend, which are not always the same thing. It is also worth noting that in February 2022 GfK's consumer confidence index fell by seven points when the survey was taken prior to Russia's invasion of Ukraine, which points to domestic inflation concerns also being important for consumers' sentiment.

The GfK index measuring changes in personal finances over the last 12 months decreased two points to -13 in March 2022, which is 11 points worse than March 2021. The forecast for personal finances over the next 12 months decreased by four points to -18, which is 28 points

lower than this time last year. The measure for the general economic situation of the country during the last 12 months is one point lower at -51 and this is nine points higher than in March 2021, during the third national Covid-19 lockdown. Expectations for the general economic situation over the coming 12 months dropped by six points to -49 in March 2022, which is 32 points lower than January 2021.

The GfK Major Purchase Index decreased by nine points to -24 in March 2022, which is 11 points lower than it was this month last year. It is worth noting, as highlighted in previous CPA forecasts, that this index is more reflective of large purchases such as a new car rather than homeowner investment in their home. The Savings Index has gone up by four points to +18 in March 2022, which is three points lower than this time last year, which points towards recent increases in saving as households become more risk averse on non-essential spending given heightened uncertainty regarding UK economic prospects near-term and expected sharp rises in the cost of living. The index being lower than a year earlier highlights that a year ago households were building up savings due to an inability or reluctance to spend on customer-facing services during the third national lockdown.

Outside of the main drivers of private housing rm&i activity, government funds activity in private sector energy-efficiency improvements of the private housing stock.

Over the last decade, publicly-funded schemes for energy-efficiency improvements on the private housing stock have either been heavily revised (CERT), cancelled (the Green Deal) or significantly narrowed in coverage (ECO, to ECO: Help to Heat and ECO3). The focus of the ECO scheme has shifted from improving energy efficiency under the first two phases of the scheme to reducing fuel poverty in the current iteration. The annual funding for the scheme has also been cut from £870 million to £640 million. Between its introduction in October 2018 and February 2022, the number of measures installed under ECO3 has averaged 24,658 per month according to the Department of Business, Energy and Industrial Strategy (BEIS) Household Energy Efficiency Statistics published in April 2022. This was 40.4% below the 41,375 monthly average for ECO1 and ECO2 between January 2013 and March 2017. The greater issue for energy-efficiency retrofit is that ECO3 ended in March 2022 with ECO4 supposed to start in April 2022. Although government consulted on ECO4 in Summer 2021



Energy-efficiency activity will slow
between April and June 2022
due to a hiatus between



and published its response in April, legislation enabling it has not gone through UK Parliament. Given the purdah prior to the local elections in May, it will now only go through in June at the earliest with consequent work from it in July or August. Given a lack of 'catch-up' due to lack of spare capacity, it points towards a dip in ECO-related measures that focus on boilers and insulation over the Spring/Summer period this year.

There has been a lack of energy-efficiency retrofit activity in the housing rm&i sectors due to programmes such as ECO and, more recently, ECO3 providing less activity than CERT plus the ineffective Green Homes Grant (GHG) providing little additional activity before it was quickly cancelled in its first year. However, the funding for the GHG second year was shifted to the Social Housing Decarbonisation Fund and boosted that sector (see [Public Housing RM&I](#)).

Theoretically, given the government's legally-bound target of net zero by 2050, there would be expected to be an exponential increase in activity on decarbonising private homes. The government's [Heat and Buildings Strategy](#), which was published in October 2021, highlights that government views Energy Performance Certificate rating C as sufficient for net zero. However, at this point there is a lack of an energy-efficiency retrofit scheme in place to replace previous failures of the Green Deal and Green Homes Grant, which does not indicate the majority of this activity will take place anytime soon. This is particularly the case given that government's Energy Security Strategy, published in April 2022 focused on energy supply rather than on incentivising lower demand. Activity may be generated by government stating that from 31 December 2025 all newly rented properties will need an EPC rating C at least and from 31 December 2028 this will also apply to all existing tenancies although at this stage it is difficult to determine what the monitoring and enforcement of this will be like and, as a result, how keen landlords will be to either do the work or sell their properties closer to the deadlines.

Near-term, a larger driver of activity is likely to be the stream of urgent cladding remediation work on privately-owned residential towers that are taller than 18 metres, which is progressing at a slower rate than for public residential buildings.

At the end of March 2022, the Department for Levelling Up, Housing and Communities (DLUHC) reported that there were 228 private sector buildings with ACM cladding systems that are unlikely to meet current Building Regulations, which is two more since January and six more than in November. Work has completed on only 133 of these, an increase of only 27 towers since November, despite the initial deadline of 31 December 2019 more than two years ago. Works are complete on 26 other towers that are awaiting sign-off and remediation has started on 21 leaving 48 yet to be remediated.

Concern continues to be raised regarding the finance available. A £1.0 billion Building Safety Fund was launched in March 2020 by the Chancellor, with an additional £3.5 billion announced by the Secretary of State for MHCLG (now DLUHC) in February 2021, to be used to remediate all cladding beyond ACM systems. However, the fund has failed to hit a number of its targets regarding approving funds. It initially pledged to commit £1.0 billion by the end of March 2021 but it only achieved this in December 2021. Currently, only £269 million has been given for residential towers to start work on and work has completed on only 19 buildings.



Going forward, after cladding remediation issues on private residential blocks, fire safety activity will begin to extend work to buildings above 11 metres with ACM cladding as well as buildings above 18 metres with other types of cladding in addition to addressing other key safety issues such as fire stops and fire doors plus other non-essential general issues discovered during remediation. As a result, addressing fire safety issues will provide a long pipeline of activity in the sector over the next decade. However, as highlighted in previous forecasts, even with finance, skills shortages for essential remediation works as well as availability and cost inflation issues for some products, such as pre-coated aluminium and steel, which will constrain the rate of growth of activity in the medium-term.

Private housing rm&i output is forecast to fall by 3.0% from a historically high level in 2021 due to a slowdown in renovations activity towards the end of the year and early next year. In addition, the near-term hiatus in ECO activity will hinder activity this year and the slowdown in property transactions this year is likely to see more subdued activity in the first half of next year as output fall by a further 4.0% before activity picks up and rises by 2.0% in 2024.

Upper Scenario:

- Housing market strength continues throughout 2022
- Big-ticket spending picks up quicker

A stronger economic recovery in 2022 despite sharply increasing inflation may occur if consumer spending remains strong due to high sustained employment rates and consumers utilising savings to offset price rises. This would firm up confidence for property transactions in 2022, producing a larger stream of potential improvements work in both 2022 and 2023.

Lower Scenario:

- Further falls in consumer confidence
- Households take a precautionary savings stance in 2022 H1

If the slowdown in economic recovery in late 2021 continues throughout the first half of 2022 due to increasing inflation hitting consumer confidence, this may prompt households to continue their precautionary savings stance and cut non-essential spending in 2022. This may also make homeowners risk averse on new renovations projects, particularly in the light of uncertainty provided by further expected rises in the cost of living and consequent interest rate rises. Cost and availability issues affecting small contractors the most may also put off households from new projects.



Public Housing

Public housing activity will grow over the forecast period and housing associations will benefit from the inflation plus rises in social rent but increasingly housing associations' need to fund safety measures and decarbonisation on existing buildings will skew activity towards repair, maintenance and improvement at the expense of new build.

The key drivers of the CPA's public housing forecast remain the same as in previous forecasts; public funding for housing associations and local authorities, rental income for housing associations and the increasing need for housing associations to refocus spending towards addressing legacy fire safety measures on their existing stock. In addition, given both private house builders meeting

Section 106 agreement obligations and building for the affordable housing market as well as housing associations building for the private market to fund affordable units means that there is a strong link between the private and public housing markets. Social housing providers, however, have increasingly found that the cost and availability of labour and products has slowed the rate of activity. Overall, public housing output growth in 2021 was slightly higher than in previous forecasts due to a strong run rate during the first half of the year in both the private and public house building sectors. But, the potential for further growth in the next two years beyond current rates is likely to be constrained by finance issues plus supply issues such as materials and products cost and availability, which could also potentially constrain the volume of

Housing associations are increasingly having to devote constrained finance to address fire safety and other quality issues



Public Housing Starts and Completions Great Britain

	2020	2021	2022	2023	2024
	Estimate*	Estimate*	Estimate	Forecast	Projection
Starts	33,832	38,167	38,930	39,319	40,499
	-10.8%	12.8%	2.0%	1.0%	3.0%
Completions	31,855	40,219	41,023	41,023	41,023
	-23.3%	26.3%	2.0%	0.0%	0.0%
Output (£m)	4,722	5,105	5,207	5,311	5,417
	-32.6%	8.1%	2.0%	2.0%	2.0%
RM&I Output (£m)	6,738	7,220	7,581	8,036	8,598
	-17.4%	7.2%	5.0%	6.0%	7.0%

* Data from 2020 onwards for Wales is yet to be published

Source: DLUHC, ONS, Construction Products Association

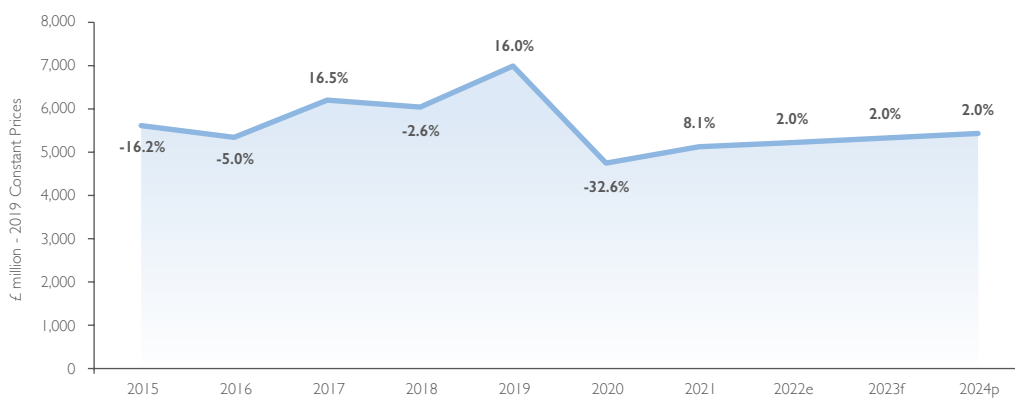
activity as project progress is delayed and has knock-on impacts onto subsequent projects. Cost inflation also means that budgets are spread more thinly leading to fewer projects.

In terms of publicly-funded housing activity, the Affordable Homes Programme will continue to fund new house building activity as the Shared Ownership and Affordable Homes Programme (SOAHP) for 2016 to 2021 was adjusted so that funding could be used for starts until March 2023 to help deal with delays relating to Covid-19. Government policy continues to prioritise home ownership in the private housing market rather than directly raising the new housing supply. As a result, there has been a greater focus on the delivery of housing such as shared ownership and private sale by housing associations and private house builders rather than more traditional affordable and, in particular, social rent homes.



Data from Homes England published in March 2022 highlighted that under the SOAHP £2 billion was allocated between 2016 and 2021 for spending on new homes that does not include London or spending via partnerships. Less than 10% of the grant finance was spent on social rent and only 5,374 homes were built for social rent. Of the 60,905 homes that were built over the period using grant money, 26,194 were for affordable homeownership, whilst 29,337 were for affordable rent. Homes England allocated finance on the basis of the '80/20 rule', which directed 80% of government funding for housing supply at what it refers to as maximum affordability areas, which disproportionately skewed funding for social housing to the South East of England. Across all tenures, the North West received the most funding (£606 million) and built 16,000 homes across all tenures, followed by the West Midlands (£297 million) and the South East (£275 million). The South East allocated 1,262 homes for social rent whilst the North East allocated only 82 social rent homes, the lowest number across all regions despite £219 million overall in affordable housing funding.

Public Housing Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

This public funding now continues under the Affordable Homes Programme (AHP), in which funding covers the 2021 to 2026 period. Crucially, however, the affordability formula has been removed as part of the Government's Levelling Up White Paper, published in February 2022. This will see redistribution of funding away from the South East and East of England towards other parts of the country.

Funding for the five-year programme was set at £12.2 billion at Budget 2020, but the launch of the programme in September confirmed that £700 million of this funding was being assigned to the current SOAHP. As a consequence, the revised AHP budget is now £11.5 billion and will be expected to provide 180,000 homes (130,000 outside London and 50,000 in the capital) over the duration of the programme. The funding profile indicates £2.0 billion of funding for the financial year 2021/22, £2.5 billion for 2022/23 and then £2.6 billion per year for 2023/24 and 2024/25.

England, excluding London, has been allocated £7.5 billion of the total and half of the homes are intended to be for affordable home ownership, with the minimum initial share being reduced to 10%. Given the focus on this tenure in the current SOAHP, affordable home ownership has increased as a proportion of starts and completions since the programme began. 50% of the funding for the Affordable Homes Programme has been allocated to homeownership units, predominantly shared ownership, with an aim of building 57,000 homes for affordable ownership. The Government expects that the programme will also deliver around 30,000 new homes for social rent.

The £11.5 billion of funding for the AHP compares to £9.0 billion for the five-year SOAHP, but is lower on a per-year basis than the £8.9 billion committed to the three-year Affordable Homes Programme 2008-2011. It also does not take into account the shifting focus towards remediation and fire safety work. The NHF highlighted that this may affect development plans directly as funding is diverted to improvements and remediation work meaning that more than 1 in 10 (11%) new affordable homes to rent and buy in England can no longer be built due to the costs of making buildings safe following the Grenfell Tower fire. Its survey of 106 housing associations in October 2021 reported that 61 associations have discovered dangerous materials on their buildings since the fire despite having been signed off as meeting building requirements at the time they were built. Without additional funding for safety work, these not-for-profit organisations are having to cut plans to build 12,900 new affordable homes over the next five years, in order to prioritise spending on building safety. According to the NHF, these associations had been planning on building 116,777 affordable homes over the five-year period. Housing associations built 25% of all new homes in England last year, including the majority of new affordable homes.



The increase in building safety costs is also affecting housing associations' ability to invest in the general upkeep of the homes they already own, where social housing residents live. Those associations surveyed reported that they are having to divert £730 million away from routine maintenance work, such as upgrading bathrooms or kitchens, to pay for essential building safety work. Overall, housing associations estimate that they will have to spend over £10.0 billion over the next decade to ensure that their buildings are safe. Given that they are non-profit organisations, this means that resource that is dependent primarily on rent from social tenants will have to be diverted away from investment in new affordable housing.



It is worth noting that L&Q, the largest housing association house builder last year, which covers 105,000 existing homes, cut its optimistic house building target by 70%. The group highlighted that it was cutting its annual housebuilding target of 10,000 homes to just 3,000 in order to deal with growing fire safety costs. L&Q has already spent more than £100 million on fire safety in four years and anticipates that the overall figure could rise to £450 million. In March 2022, it announced that it would be looking for contractors to carry out £2.7 billion of work covering upgrades, fire safety and decarbonisation measures that are intended to start in April 2023 (see [Public Housing RM&I](#)).

In addition, the Platform Housing Group, which has 46,745 homes, now expects to build between 1,300 and 1,400 homes in the year to March 2022, compared with its previous plan for 1,500 properties. It reported that its homebuilding programme last year was affected by an increase in global demand for materials, the impact of Brexit and the third national lockdown in the UK, which has resulted in sharp increases in materials costs and extended supply times.

More recently, the Great Places Housing Group, which has 24,000 homes, announced in April 2022 that it had completed 557 homes in 2021/22, which is 35% fewer than the 858 units originally targeted. This was due to the ongoing challenges around labour, materials, expedience of planning approvals and land registration. These are all issues still facing housing associations and it would be expected that other associations also report significant falls in affordable housing provision over the past year. It did, however, maintain its target to build 9,000 homes by 2028 and meet a corporate plan target of 11,000 over the next decade although whether this is likely given that materials, products and labour issues that may be sustained in 2022 and 2023 is a key question for this and other housing associations that have not revised their long-term targets.

Credit ratings agency Standard & Poor's (S&P) forecasts from April 2022 anticipate that housing associations will deliver about 105,000 new homes over the next two years, which is about 5.0% lower than in the two years prior to the pandemic and that the main challenge facing housing associations over the next few years will be balancing debt-funded development of new homes with the need to invest in existing stock. It anticipates that housing associations will need to borrow £21 billion for capital expenditure and refinancing over the next two years leading to a total debt of over £116 billion by the end of 2023/24, up from the £100 billion that it estimated for 2021/22. S&P reported that the need to invest in the existing stock to fix building safety issues, alongside the government's net zero agenda will weaken profitability as the debt funding for the development of new homes will steadily increase debt. The increase will be greatest in England, where grant funding is significantly lower and, consequently, the need for debt funding is greater than in Scotland, Wales and Northern Ireland.

Landlords in England were able to raise social rents by up to 4.1% in April 2022 with 91% of landlords expecting to do so



Housing associations will be able to benefit from the rise in social rents in April 2022. Currently, social rents can be increased by up to CPI plus one percentage point each year, which means that housing associations can raise social rents by 4.1% from 1 April should they wish to. Of the top 50 housing associations by revenue, all English housing associations reported they will apply the full increase of 4.1% whilst English councils will be raising social rents by 3.75% on average and the three largest Scottish housing associations would apply increases of between 1.9% and 3.9%. In Wales, around half of stock-owning councils increased rent by 3.1%, the maximum allowed by the Welsh Government whilst the remainder increased social rents by between 2.0%

and 3.0%. Given that CPI inflation is set to spike in April 2022 and remain stubbornly high throughout this year, a substantially larger rise in social rents may be in prospect but housing associations and councils will need to balance the potential gains in revenue with wider concern regarding the ability to pay from social tenants given the 'cost of living crisis', which particularly impacts on poorer households given that they spend a higher proportion of their incomes on energy and food, where the cost increases are likely to be most prevalent over the next year.

The reduced grant per year under the AHP may indirectly lead to reduced interest cover ratios (the ability to cover interest payments with revenues) that, in turn, affects housing associations' capacity to borrow to supplement grant funding for new build. Furthermore, housing associations have raised concern that viability and cross-subsidisation of rental tenures will be affected by the reduced 10% initial stake for shared ownership purchases under the new programme, as well as the switch to allowing further 'staircasing' share purchases in increments of 1% (10% currently). This is likely to be of particular concern in higher-value areas such as London and the South East, as well as lower-value areas such as the North East.

Given the various concerns of housing associations, many have looked towards merging in order to benefit from increased size, lower unit costs across various areas and enable greater funding and lending options. Housing associations Peabody and Catalyst completed a merger in April 2022, forming a new association with 104,000 homes. BPHA, Futures Housing Group (FHG) and Flagship Group were also in discussions in April to form a 60,000 housing association whilst Optivo and Southern Housing Group reported in April that they were in discussions to form a 77,000 home association that is expected to complete by the end of the 2022.

The Regulator of Social Housing [quarterly survey](#) for 2021 Q4, published in February 2022, reported that the pipeline of Affordable Home Ownership (AHO) completions expected in the next 18 months stands at 37,208 units, a 1.0% increase compared with 36,855 reported in November. Of the 37,208 units in the pipeline, 32,501 units are contractually committed.

The Greater London Authority (GLA) will receive £4.0 billion of the £11.5 billion funding for the Affordable Homes Programme 2021-2026. In contrast to the requirements for the rest of England, over half of units will be for social rent. The tenure has accounted for a rising proportion of GLA-funded starts, from 22.4% in 2017/18 to 27.4% in 2018/19, 41.5% in 2019/20, 46.3% in 2020/21 and 53.3% in the first nine months of 2021/22. This has been slower to filter through to completions, however. GLA-funded social rent completions as a proportion of affordable home completions were 6.5% in 2017/18 before rising to 13.9% in 2018/19, 24.9% in 2019/20, falling briefly to 24.4% in 2020/21 but then rising once again to 26.6% in the first

nine months of 2021/22 so it remains considerably lower than the social housing proportion of starts. The level of GLA housing starts also appears to consistently be considerably higher than completions, particularly on social rent, as well as the proportion. This points towards significant lags between social rent starts and completions plus units initially assigned as social rent shifting towards other tenures as they are built out. As developing for social rent requires a higher grant than for other tenures, it may be impacted more by issues affecting overall affordable housing delivery. The 2021-2026



programme is expected to deliver 82,000 homes, although this combines two years of overlap with the existing 2016-2023 programme.

Government's focus on shared ownership rather than solely social housing means that the public housing sector is closely linked to the general housing market. This is particularly the case in London, where almost half of starts are under affordable home ownership tenures. It is worth noting, however, that sales of these units have been reported as slowing by housing associations in the last couple of years, particularly where there is increased uncertainty regarding future demand and price gains from flats in city centres and there are also increased concerns from those who have invested in shared ownership flats where there are cladding issues and purchasers with a minority stake in the property are still subject to 100% of the remediation costs. Overall, the slower growth in the private housing market in 2022 and in 2023 would be expected to be aligned with growth in the public housing market.

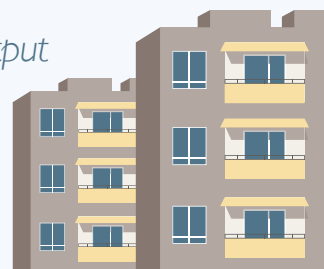
In Scotland, the Scottish Budget for 2022/23, announced in December 2021 that £831.6 million would be allocated for affordable housing as part of its target for 110,000 affordable, energy-efficient homes over the next 10 years although this is heavily reliant on leveraging private sector investment and remains unchanged in the light of materials, products and labour cost increases. The £831.6 million figure is the same as the previous year but a £174.0 million increase on the Scottish Government's previous Capital Spending Review commitments.

In Wales, a five-year rent-setting policy was implemented from April 2020. It also announced that a further £35.0 million would be spent over the next three years on the Welsh Government's Land for Housing scheme, which aims to help housing associations buy land.

The Welsh government confirmed in March 2022 that it will spend more than £1.0 billion on building new social housing over the next three years. The Welsh government has an aim to build 20,000 low-carbon social homes by the end of this parliament. In its final Budget, the Welsh government confirmed it will spend £310 million in Social Housing Grant in 2022/23, up from £250 million in 2021/22. The Budget also confirmed plans to spend £330 million on Social Housing Grant in 2023/24 and £325 million in 2024/25. The spending was first announced in the draft Budget in December 2021 and highlighted in the CPA Winter forecasts but it was confirmed in March after consultation.

Overall, public housing output rose by 8.1% in 2021 according to the Office for National Statistics (ONS). Going forward, public housing output is forecast to rise by 2.0% per year as increased social rent and ambitious housing association targets for new build need to be balanced against the increasing need to channel finance towards cladding remediation, other fire safety measures and decarbonisation. In addition, supply issues are likely to constrain the ability of house building to rise significantly further despite high demand for new affordable and social homes.

Public housing output
expected to rise by
2.0%
in both
2022 and 2023



Joint ventures and partnerships between housing associations and private sector house builders increased from 2019 and such partnerships would be expected to increase in the near-term, as an insurance against the uncertain outlook for the private market. However, given the crossovers between private and public provision, in particular partnerships of this nature and the acquisition of affordable units by housing associations from private developers during the building process, ONS statistical classification of private and public sector activity may also change across starts, output and completions. From April 2020, the methodology for the Department for Levelling Up, Housing and Communities (DLUHC), formerly the Ministry of Housing, Communities and Local Government (MHCLG), house building data was changed to source completions from affordable housing supply data, rather than building control. In April 2020, the ONS also began classifying housing association house building as private sector output. This implies a structural break in the ONS split of housing output data, but given that this also coincides with the sharp declines in output due to the impacts of the social distancing restrictions imposed following the pandemic, the impact of this change is currently unclear. As with all sectors, the CPA is forecasting activity on the ground rather than matching the ONS data.

Upper Scenario:

- A stronger housing market underpins a focus on market-linked products
- Activity to complete at the end of the SOAHP is increased

Stronger market fundamentals and continued house price growth would support confidence to proceed with market-linked products, underpinning completions under the current SOAHP and starts under the 2021-2026 programme.

Lower Scenario:

- A weakening in the housing market undermines the focus on market-linked products
- Activity to complete at the end of the SOAHP is reduced

By contrast, a slower economic recovery due to rising inflation and interest rates would be likely to reduce demand for market-linked products already under construction on the current SOAHP, as well as reduce appetite for development of these tenures on the 2021-2026 programme.

Public Housing RM&I

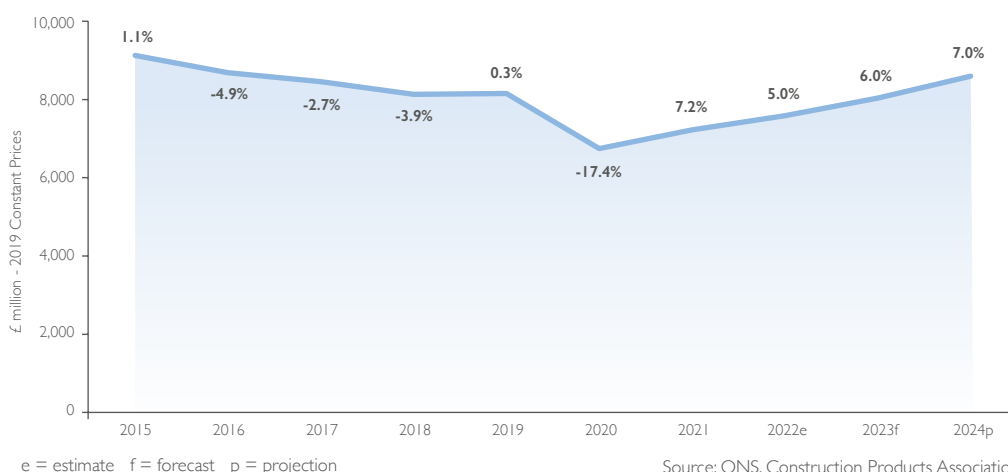
Public housing repair, maintenance and improvement (rm&i) output is set to grow consistently throughout the forecast period due to housing associations focusing on addressing legacy safety issues and decarbonisation on their existing stock.

Output in the public housing rm&i sector has three key areas of activity. General maintenance of the social housing stock provides the consistent levels of activity within the sectors whilst addressing fire safety legacy issues and publicly-funded energy-efficiency retrofit of council and housing association housing generates the growth above general levels.

Public housing rm&i output fell by 17.4% during 2020 according to the Office for National Statistics (ONS) and, despite a 7.2% recovery last year, output at the end of 2021 remained 11.5% lower than in 2019, pre-pandemic.

Whilst an urgent need for cladding remediation combined with the general level of maintenance work and improvements to the existing stock that tend to occur point towards double-digit growth rates and activity levels considerably higher than before cladding remediation activity and funding, this has not occurred as yet. Clearly, the initial lockdown in Spring 2020 had a substantial impact and output in 2020 Q2 was 45.9% lower than a year earlier. Theoretically, sufficient time has elapsed for a 'catch-up' in this work but the experience of the CPA is that rather than 'catch-up', this activity tends to merely be pushed-back due to a lack of additional capacity. In addition, in many other construction sectors such as private housing and private housing rm&i activity recovered quickly after the initial lockdown, but public housing rm&i output was considerably slower to recover. This was primarily because local authorities have found that decision-making has taken more time with departments working from home and they were also more hesitant to sign off projects that involved going into social tenants' homes to work on properties than private clients during and after lockdowns.

Public Housing RM&I Output



Given that even with public housing rm&i activity remaining considerably lower than pre-pandemic and pre-Grenfell despite cladding remediation activity by housing associations and local authorities, this suggests that firstly, cladding remediation activity is not occurring at the pace expected and secondly, that some cladding remediation activity has been at the expense of other non-urgent general works on existing properties that can be delayed. Whilst the level of demand remains high and the nature of the work is urgent, activity continues to be constrained by long lead times for key materials and products as well as skilled labour.

In addition, the sharp rises in the cost of key materials and products as well as uncertainty regarding future increases in costs are making the cladding remediation projects more difficult for contractors to quote for and more expensive respectively. As a result, despite funding being available for cladding remediation on the local authority housing stock, this finance is not likely to go as far as initially expected so we may see the value of activity coming through but not the volume. In addition, it also means that housing associations are going to have to increasingly devote more finance towards fire safety issues, not just cladding remediation, particularly given that the more inspections are conducted on their stock, the more issues (fire safety issues such as fire stops and fire doors as well as other general issues) they are likely to find.

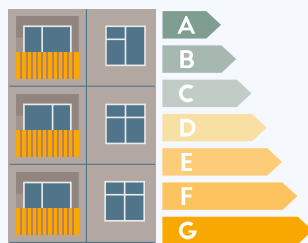
There has been a lack of energy-efficiency retrofit activity in the housing rm&i sectors due to programmes such as ECO and, more recently, ECO3 providing less activity than CERT plus the ineffective Green Homes Grant (GHG) providing little additional activity before it was quickly cancelled in its first year. However, the funding for the GHG second year was shifted to the Social Housing Decarbonisation Fund and boosted the sector, albeit more in value than in volume. For the first wave of the fund, £179 million was allocated on the somewhat optimistic basis of retrofitting 38,000 homes. However, the responses to the

Steel price inflation and supply issues are expected to lead to



tender pointed toward the cost of retrofitting being twice the initial expected cost that the government was expecting so it is likely to only see 20,000 homes. The government also announced in the [Heat and Buildings Strategy](#) in October 2021 that it was providing a further £800 million for the second wave of the Social Housing Decarbonisation Fund between 2022/23 and 2024/25, which will be used by housing associations to carry out energy efficiency upgrades. However, as with the original Green Homes

Social Housing Decarbonisation Fund Wave 2 is expected to be approved by government with



£800 million funding over 3 years for energy-efficiency retrofit



Grant, all registered installers must be registered with Trustmark and, where applicable, with the Microgeneration Certification Scheme (MCS). In addition, all projects must be compliant with PAS 2035:2019. As a consequence, the constraints on installers may mean that despite the finance available, the lack of eligible installers may hinder progress on projects.

L&Q, one of the largest housing associations, which covers 105,000 homes announced in March 2022 that it would be looking for contractors to carry out £2.7 billion of work over seven years covering upgrades, fire safety and decarbonisation measures that are intended to start in April 2023. The primary areas of the work will be cladding and external wall system renewals, fire risk assessment works including fire door set upgrades, timber decking renewal, sprinkler installations and fire alarms. This is at the expense of its new housing development and L&Q announced last year that its long-term annual housebuilding target of 10,000 homes per year has fallen to 3,000 homes per year.

In the longer-term, a key issue for housing associations is that it may not be financially viable to energy-efficient retrofit. In April 2022, Notting Hill Genesis, stated that housing associations may need to sell some older properties given the extensive retrofit cost. It highlighted that 15% of its 44,000 homes are currently Victorian terraces that are around 100 years old and have the lowest Energy Performance Certificate (EPC) rating. Getting such properties up to EPC C may cost up to £100,000 per property.

The near-term drivers of social housing remediation activity will remain focused on urgent fire safety work and remediation on towers with ACM cladding systems. This activity, which has progressed considerably quicker than in the private sector, has almost reached completion and, as a consequence, fire safety activity will begin to extend work to buildings above 11 metres with ACM cladding as well as buildings above 18 metres with other types of cladding in addition to addressing other key safety issues such as fire stops and fire doors plus other non-essential general issues discovered during remediation.

Activity on remediating cladding on social housing towers above 18 metres fell sharply during the second quarter of 2020 but it has recovered since then. The government had previously announced, in May 2018, that it would be providing £400 million to fund the removal and replacement of ACM cladding by housing associations and local authorities in England, which has been diverted from the existing Shared Ownership and Affordable Homes Programme (SOAHP) funding pot. The Department for Levelling Up, Housing, Communities (DLUHC) Building Safety Programme statistics indicated that at the end of March 2022, there were 160 social housing buildings taller than 18 metres that had ACM cladding unlikely to meet current Building Regulations.

Remediation work has started on all 160 buildings. It has completed on 107 of these, three more than in November 2021. 53 social sector residential buildings had yet to be remediated in March, unchanged compared to November 2021. Of these, cladding has been removed on 52 buildings, of which 26 have had work completed and are awaiting sign-off from building control whilst another 26 buildings have cladding removed and remediation has started on a further building.

All of the towers above 18 metres with ACM cladding in the public sector have at least started remediation works and almost two-thirds have completed work whilst only 133 of 228 affected towers have had ACM cladding remediation work completed (see [Private Housing RM&I](#)).

The DLUHC estimates that 28% of social sector dwellings are estimated to be leasehold, under shared ownership or market sale or rental tenures. The National Housing Federation has estimated that for all housing associations, the total cost of safety remediation could run above £10.0 billion. The Regulator also highlighted that cost inflation resulting from the increased demand for rm&i work could outpace growth in rental revenues under the previous rent-setting agreement (CPI inflation +1.0%) that began in April 2020 and this could even be the case with the latest rent-setting agreement that began in April 2022, which allowed for a 4.1% rise in social rents that all housing associations in England have chosen to apply. Housing associations have raised concern over the availability of labour, products and plant for the volumes of work expected, which may be worsened by a backlog of work that has built up due to social distancing restrictions.

The Regulator of Social Housing quarterly surveys, which are based on responses from private registered providers of social housing that own or manage more than 1,000 homes, reported that housing associations' repair and maintenance (r&m) expenditure unsurprisingly decreased sharply in 2020 Q2 due to a reduced ability to carry out work in homes as a result of Covid-19 concerns but it also fell sharply during 2020 Q3 at a time when activity in most private construction sectors was picking up, primarily due to housing association risk-aversion given the uncertainty and pause to all non-essential activity. As a result, routine work from 2020/21 was reported as having been pushed back into 2021/22 and, given a lack of a high degree of 'catch-up' activity even in the long-term, is likely to mean that some activity from 2021 is pushed back into 2022/23.

The Social Housing Quarterly Survey for 2021 Q4, published in February 2022, reported

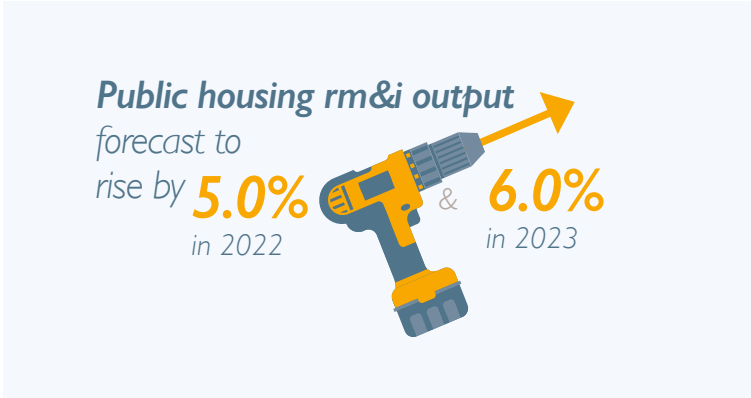


that actual expenditure on capitalised repairs and maintenance amounted to £561 million during the quarter. This is 25.0% lower than the amount that housing associations had initially forecast once again although this was still 17.0% more than the amount spent in the previous quarter and over 20.0% higher than average quarterly spend over the previous pandemic-affected three years.

The majority (79%) of providers reported an underspend against previous forecasts, with many citing the main reason continuing to be material and labour shortages causing delays. In addition, a small number of providers also reported that reprioritising responsive repairs over major works programmes to ensure that resources are available for urgent works and to catch-up on backlogs of repair works also led to underspends.

Over the last decade, publicly-funded schemes for energy-efficiency improvements on the social housing stock have either been heavily revised (CERT), cancelled (the Green Deal) or significantly narrowed in coverage (ECO, to ECO: Help to Heat and ECO3). The focus of the ECO scheme has shifted from improving energy efficiency under the first two phases of the scheme to reducing fuel poverty in the current iteration. The annual funding for the scheme has also been cut from £870 million to £640 million. Between its introduction in October 2018 and February 2022, the number of measures installed under ECO3 has averaged 24,658 per month according to the Department of Business, Energy and Industrial Strategy (BEIS) Household Energy Efficiency Statistics published in April 2022. This was 40.4% below the 41,375 monthly average for ECO1 and ECO2 between January 2013 and March 2017. The greater issue for energy-efficiency retrofit is that ECO3 ended in March 2022 with ECO4 supposed to start in April 2022. Although government consulted on ECO4 in Summer 2021 and published its response in April, legislation enabling it has not gone through UK Parliament. Given purdah prior to the local elections in May, it will now only go through in June at the earliest with consequent work from it in July or August. Given a lack of 'catch-up' due to lack of spare capacity, it points towards a dip in ECO-related measures that focus on boilers and insulation over the Spring/Summer period this year.

Across the other nations, in addition to the Social Housing Grant, the Welsh Government Budget also confirmed £580 million for the decarbonisation of social housing in Wales up to 2024/25. A total of £72 million in general capital will also be used to help accelerate the scale and pace of the decarbonisation of Welsh homes. Of this, £35 million will be used to test the use of new funding models. A total of £375 million in capital and £6.5 million in revenue has been allocated to building safety. This will pay for a second phase of the Welsh Building Safety Fund, alongside supporting delivery of the Building Safety Passport Scheme. The latter is part of a Welsh government initiative to fund fire safety surveys on all buildings taller than 11 metres in order to produce 'passports' that will set out any remediation work required. In Scotland, the government set a Budget for 2022/23 that has allocated £194.3 million compared with £187.7 million in 2021/22, a 3.5% increase. The Energy Efficiency Standard for Social Housing 2 (EESH2) in Scotland targets a minimum EPC rating of D for social housing to be let from 2025. Only 6.0% of the 597,000 social sector dwellings in Scotland had an EPC rating below D in 2019 so with sufficient finance this may be achievable. It also sets a deadline of December 2023 for all social housing meeting EPC rating B 'or is as energy efficient as practically possible... within the limits of cost, technology and necessary consent'. As in Wales, this is considerably higher than in England, where BEIS states that EPC rating C by 2035 is required to meet the net zero target. In



November 2021, the Scottish Government announced an additional £18.0 million for the current financial year for householders to install energy efficient measures. Looking forward, the Scottish Government's Budget for 2022 to 2023 announced energy efficiency retrofit under its Home Energy Efficiency Programme (HEEPS) would have funding of £64.0 million for 2022/23, which is 10.3% higher than the £58.0 million allocated for the current year.

After falling by 17.4% in 2020, public housing rm&i output in 2021 rose by 7.2% as capacity constraints restricted the extent to which both cladding remediation and energy-efficiency retrofit could increase. Looking forward, this is still likely to be the case and growth this year will be slightly dented by the hiatus in between ECO3 and ECO4. As a result, public housing rm&i is forecast to rise by 5.0% in 2022 before growth accelerates to 6.0% in 2023 and 7.0% in 2024 as decarbonisation activity increases under ECO4 and the Social Housing Decarbonisation Fund Wave 2 as well as increased activity from housing associations addressing the fire safety of legacy buildings.

Upper Scenario:

- Housing associations focus on remediation and fire safety measures

A greater need to address issues on the existing stock may mean that housing associations have to devote further finances towards urgent cladding remediation and fire safety work on their buildings at the expense of focusing on new build as was previously the case.

Lower Scenario:

- Lack of key skills and products supply continues to hinder cladding remediation

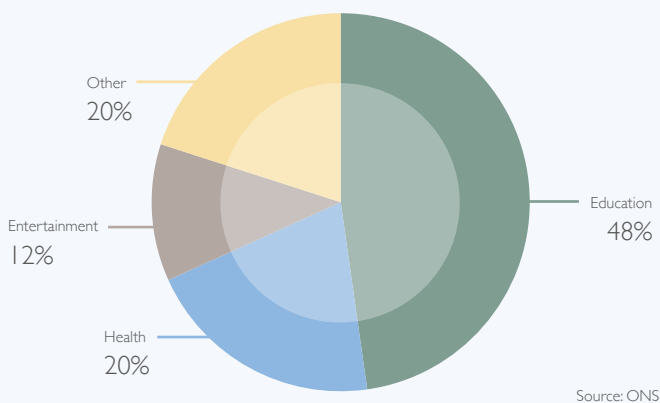
If lead times for key products critical for cladding remediation continue to be pushed out further and if skills shortages continue to be a greater issue then growth may be slower than anticipated.



Public Non-housing

Modest output growth of 1.2% is anticipated in the public non-housing sector this year, as a drop off in activity after the completion of major hospital schemes and projects relating to the Commonwealth Games due to take place in Birmingham this Summer would be partially offset by a pickup in activity under school building programmes across the UK. As a result, output is not expected to return to its pre-Covid-19 level until 2023.

Public Non-housing Output by Sub-sector 2021 (%)

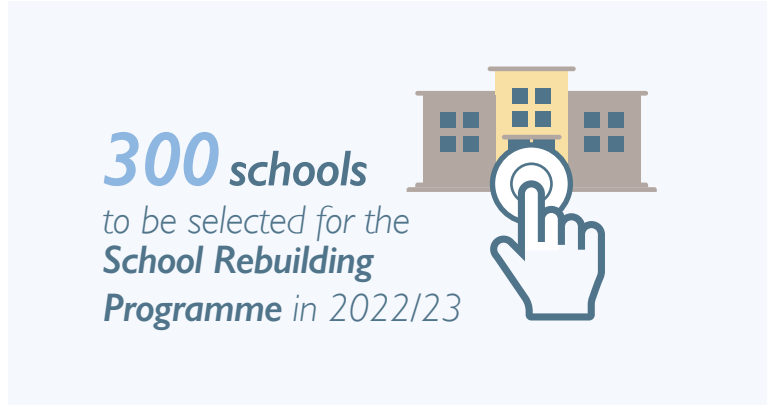


Sector output is largely determined by capital funding allocated to departmental budgets by central government and, therefore, is less affected by uncertainties than other sectors that depend on private sector business and investor confidence. Despite this, public non-housing output has been on a downward trend since 2017 and, in 2020, fell to its lowest level in nearly two decades due to the impact of the pandemic and associated restrictions. Official data shows that output remained at this low level in 2021, with marginal growth of 1.0%, which is likely to reflect the

slow start on the new School Rebuilding Programme in England and the impact of supply chain constraints and cost inflation on existing projects. As activity picks up under school building programmes across the UK and offsets work completing on a few major hospitals and projects relating to the Commonwealth Games in Birmingham, similar growth of 1.2% is expected in 2022. This is a downward revision from 2.8% in the Winter forecasts reflecting the impact of the material shortages and associated price increases on school projects. As planned hospital schemes under the government's New Hospital Programme move into construction and progress is made on building, expanding and refurbishing prisons in England, Scotland and Wales, growth is forecast to accelerate to 8.4% in 2023, and at £10.6 billion, output would rise 1.7% above its pre-Covid-19 level for the first time. Output is then projected to rise by 3.7% in 2024.

Output in the publicly-funded **education** sub-sector has largely remained on a downward trajectory since the second half of 2016, and in 2021 Q4, declined 14.0% compared with a year ago and was 7.3% lower for the whole of 2021. This marked the sixth consecutive year of falling output, which in part is likely to reflect slow progress at the start of the new ten-year [School Rebuilding Programme](#) in England. New orders rose 26.6% in 2021 from a low base in 2020. A better comparison with data prior to the pandemic in 2019 shows that new orders fell 20.6% and, given the impact of material shortages and associated price increases on school projects, output in the sub-sector is now expected to rise by 9.0% in 2022, down

from 10.4% in the Winter. Similarly, the output growth forecast for 2023 has been revised down from 14.0% to 11.0% but still signals a pick-up as progress is made under the School Rebuilding Programme in England and in delivering the outstanding PSBP2 and free school projects. Thereafter, output growth is projected to slow to 5.0% in 2024 as the long-term capital investment programme for Welsh schools and colleges draws to a close.

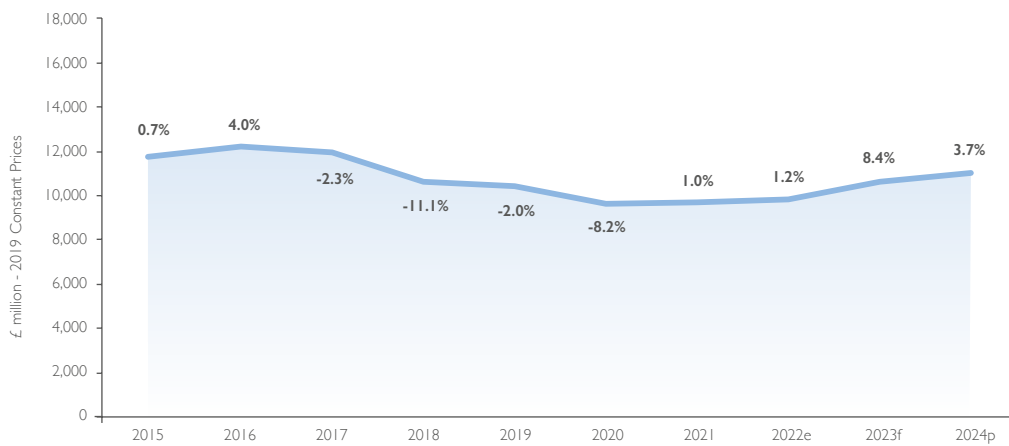


300 schools
to be selected for the
School Rebuilding
Programme in 2022/23

Activity in the sub-sector will primarily be driven by the ten-year School Rebuilding Programme that aims to deliver 500 rebuilding and refurbishment projects across England over a ten-year period from 2020/21. So far, 100 school projects have been selected for the first two rounds of the programme. The first round, which was announced in February 2021 includes £1.0 billion of funding for 50 projects such as primary, secondary and special schools, as well as a sixth form college in West Yorkshire, with more than 70% of the schools in the North and Midlands. Construction has begun on the first sites and the majority of the rebuild projects are expected to be completed within three to five years, although delays cannot be ruled out. For the second round, a further 50 schools were confirmed in July 2021 but detail on the funding allocation and delivery timeline for this part of the programme is yet to emerge. In February, the Department for Education announced that up to 300 further schools would provisionally be selected for the programme in 2022/23, although the projects are planned to enter delivery at a rate of 50 per year.

The £1.5 billion Further Education Capital Transformation Programme also aims to upgrade and refurbish further education colleges across England between 2020/21 and 2025/26. The first phase was assigned £200 million for 180 colleges, leaving £1.3 billion in the funding pot for the remaining two phases. For the second phase, colleges and designated institutions were invited to bid for additional funding to upgrade their campuses via a two-stage process. Projects are scheduled to reach contract award by December 2022 and complete by December 2024. For the third and final phase, 16 colleges across England have been earmarked for improvements, although details on delivery and funding allocation

Public Non-housing Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association



for this phase is not yet clear. The Department for Education's capital expenditure limit was £5.2 billion in 2021/22 and Spring Statement 2022 confirmed that it is set to increase to £6.3 billion in 2022/23 and £7.0 billion in 2023/24, before falling to £6.1 billion in 2024/25. This is in line with Spending Review 2021, which earmarked £2.8 billion for improvements to the condition of the post-16 estate, new places in post-16 education, more specialist equipment and facilities for T-levels, as well as the delivery of 20 previously announced Institutes of Technology across England over the next three years.

Given projects still outstanding, the second phase of the Priority School Building Programme (PSBP2)

and the Free Schools Programme will also continue to support sub-sector activity. The £2.0 billion PSBP2 aims to rebuild and refurbish individual blocks at 277 schools by 2025, four years later than initially planned as progress has been slow on some projects. The National Infrastructure and Construction Pipeline 2021, published in September, reported that contracts for five projects, totalling £62.0 million, are to be awarded by the end of 2022. The Infrastructure and Projects Authority (IPA) 2021 annual report revealed that 90% of school projects in contract were to be handed over by the end of 2021, whilst the remaining 10% are to be handed after the programme's scheduled completion date of December 2021. Although the IPA stated that the pandemic did not affect the schedule of the programme, the government's focus on scaling up the adoption of modern methods of construction for publicly-funded projects may be delaying the procurement process.

The Free Schools Programme, which was allocated a budget of £1.4 billion per year between 2016/17 and 2020/21 to open 500 new schools by the end of the period, is also behind schedule. The National Infrastructure and Construction Pipeline 2021 reported that contracts for 95 schemes are expected to be awarded by the end of 2022. However, it is not clear at this stage whether these are delayed schemes or part of a new programme altogether. The National Audit Office previously stated that the low availability of sites is a major constraint on the new build element of the programme and the Department for Education will need to spend £2.5 billion to purchase land for the Free Schools in the current pipeline to 2022, but bidding has exceeded official valuations by 60% on 20 sites so far. The Public Accounts Committee has also cited concerns over value for money with the Free Schools Programme.

In Scotland, the £2.0 billion [Learning Estate Investment Programme](#) plans to rebuild or refurbish schools from 2021 to 2026. The Scottish Government has committed funding of between £220 million and £275 million for 11 projects that include the replacement of 26 schools across the country, as part of the first phase of the programme. The projects in this phase are expected to be completed by Summer 2024. For the second phase, £800 million has been announced for the construction or refurbishment of 25 new schools and campuses. The majority of projects in this phase are expected to be completed by December 2025. Projects for the third phase of the programme are due to be announced by the Scottish government within the next 12 months.

In Wales, the £2.3 billion [Sustainable Communities for Learning](#) programme (previously named the 21st Century Schools and Colleges programme) aims to support an estimated 200 projects to rebuild and refurbish schools and colleges between April 2019 and March 2024. From January, all new school and college buildings, major refurbishment and extension projects are required to meet net zero targets plus a 20% reduction in carbon emissions from construction materials and processes. This requirement is expected to apply to all business case proposals that did not receive approval at outline business case stage by 1 January and any additional costs as a result of the net zero carbon specification under the current wave of investment are expected to be covered by the Welsh government. So far, 57 projects have been approved, of which nine have been completed and 27 are under construction. A further 43 projects are working their way through the business case process.

Upper Scenario:

- Activity accelerates under new school building programmes

The upper scenario assumes activity ramps up under new school building programmes across the UK, notably the ten-year School Rebuilding Programme to transform schools across England. This, alongside work on the remaining projects under existing school building programmes in England, would result in higher activity over the forecast period.

Lower Scenario:

- Increased costs and a lack of contractor interest delays work under school building programmes

If contractors are reluctant to sign contracts for new school projects out for tender this year due to cost inflation and increased uncertainties, this may push back start dates of planned developments under school building programmes across the UK and further hinder progress on the already delayed PSBP2 and Free Schools programme in England. In this scenario, the recovery of sub-sector output to pre-Covid-19 levels would be delayed beyond 2022.

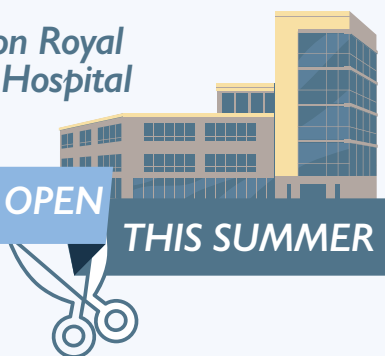
The post-pandemic recovery of the **health** sub-sector, which covers publicly-funded work on hospitals, health centres and clinics, is expected to be short-lived, with output forecast to fall by 7.6% this year. This follows strong growth of 49.0% in 2021 and reflects a narrowing of the current project pipeline as some major hospital building schemes reach completion, notably the ex-Carillion PFI Royal Liverpool Hospital. As construction work begins on major hospital schemes that are part of the government's New Hospital Programme, output is then forecast to return to growth and increase by 5.4% in 2023 and a further 5.6% in 2024.

The Midland Metropolitan Hospital and the Royal Liverpool Hospital still remain the largest projects in current pipeline. Construction and remediation works continue on the £663 million Midland Metropolitan Hospital as highlighted in previous forecasts. But, given that materials and workforce availability, as well as new fire regulations relating to the external cladding of the building, have impacted the build programme, the opening date has been delayed by a year to 2023, five years later than originally planned. Construction work on the £724 million Royal Liverpool Hospital, which was originally a £350 million project, is also underway for a

**Ex-Carillion Royal
Liverpool Hospital**

DUE TO OPEN

THIS SUMMER



completion this Summer, five years later than initially planned. Further delays and cost overruns on both hospital projects, however, cannot be ruled out given consistent problems and delays throughout the projects.

Fit-out and mechanical and electrical works are ongoing on the £150 million redevelopment of Springfield Hospital, which comprises two new mental health facilities in South London and forms part of the first phase of South West London and St George's Mental Health NHS Trust's Estate Modernisation Programme. Both facilities are due to open later this year. The second phase of the programme includes the redevelopment of Tolworth Hospital in Kingston, where works are planned to begin in early 2023 and complete in 2025. Fit-out works are also underway on the Stage 1 building of the Royal Sussex County Hospital's 3Ts redevelopment programme for a completion by the end of this year instead of Summer, which is likely due to the impact of both Covid-19 and the availability of materials and workforce. Detail on the delivery timeline for the remaining two stages of the programme is yet to emerge. Construction work is also underway on the second phase of the Golden Jubilee Hospital expansion programme in Clydebank, valued at £81 million, and the Baird Family Hospital and Anchor Centre in Aberdeen, which is expected to cost £233 million, £70 million higher than the original budget of £164 million due to a number of factors including the impact of the Covid-19. All three facilities are due to open in 2023. The £350 million Moorfields Eye Hospital in London will also be entering the pipeline, with construction on the project planned to start this year subject to approval by the GLA and planning conditions being met. The new centre is scheduled to open by 2026.



In August 2019, the government announced £850 million for 20 hospital upgrades that will cover new blocks, as well as IT and equipment upgrades over a five-year period. Work is underway on fewer than half of these projects, however. Furthermore, the government has pledged to deliver 48 new hospitals across the country by 2030 but details of the New Hospital Programme (NHP) show that this includes eight pre-existing schemes and 40 new schemes that are merely refurbishments or new wings to existing hospitals. In March, the Department of Health and Social Care (DHSC) published the first commercial pipeline of work, outlining £2.5 billion worth of future contract opportunities for the programme. This includes an alliance framework valued at more than £1.0 billion for the development of eight 'pathfinders' – schemes that are larger, more complex and whose plans are relatively advanced. Although the DHSC expects these schemes to be completed between 2026 and 2028, uncertainty still remains about the start dates of many, with only two projects for Leeds Teaching Hospitals NHS Trust and West Hertfordshire Hospitals NHS Trust expected to start by 2024. The government has also announced that funding of £3.7 billion will be available to deliver the 40 new hospitals, which suggests funding of around £90 million per hospital. However, given that the estimated cost of one pathfinder project (Watford General Hospital) has now risen from an initial £400 million to £940 million, partly due to inflation, and two others estimated to cost around £600 million (Leeds General Infirmary) and £700 million (Whipps Cross University Hospital), this raises questions over the adequacy of the funding to deliver the full pipeline of work. Given this,



concerns remain as to whether some schemes will be scaled back or delivered at a lower cost, especially after previous board meeting papers and anecdotal evidence indicated that government funding for a few schemes has been capped at £400 million. Meanwhile, the bidding process for eight further new schemes in England is underway and a final decision is expected this Spring.

In [Spring Statement](#) 2022, the DHSC capital expenditure budget for 2022/23 was left unchanged at £10.6 billion from Spending Review 2021 (SR21). However, for 2023/24 and 2024/25, its capital expenditure budget was raised marginally to £10.5 billion and £11.3 billion respectively, from £10.4 billion and £11.2 billion previously. SR21 confirmed that £4.2 billion would be made available over the next three years to make progress on building the 40 new hospitals by 2030 and to upgrade more than 70 hospitals, which was previously announced in Spending Review 2020. However, it is not clear at this stage whether the £4.2 billion includes new money for the 40 hospitals on top of the £3.7 billion already announced. A further £1.5 billion has been earmarked for new surgical hubs, increased bed capacity and equipment over the next three years, whilst £150 million will be invested in NHS mental health facilities linked to A&E and to enhance safety in mental health units. Around £300 million will also be made available

over the same period to complete the programme to replace all mental health dormitories with single *en suite* rooms. Nine schemes were completed and 28 were under construction at the end of March 2021. Despite this, a National Audit Office report revealed that since 2014/15 the DHSC has transferred a total of £4.3 billion from its capital budget to its revenue budget as it prioritised day-to-day spending over longer-term investment in buildings and other assets. This is a pattern that is unlikely to change in the near-term and may also be exacerbated by the pandemic. Moreover, the DHSC underspent its capital budget by a total of £807 million between 2016/17 and 2020/21.

The NHS smaller works framework, the £4.0 billion ProCure22, began in October 2016 and continues to provide a stream of work near-term. Since its start date, 142 major works schemes and 37 small works packages have started under ProCure22, at a value of £5.0 billion. The current framework was due to expire in September 2020, but has been extended until the end of June, when its successor, ProCure23 (P23) will become available. The new four-year P23 framework, worth £9.0 billion, will be split into three lots, covering different values ranging from under £20 million to over £70 million. Although Crown Commercial Services stated that the New Hospital Programme will not be included in the framework, it reserves the right to use P23 in the future. Meanwhile, the new framework for NHS Scotland, Frameworks Scotland 3 that is expected to deliver new build, refurbishment and backlog maintenance projects worth up to £650 million over a five-year period was launched in March 2021. This is higher than the £630 million worth of projects that have been delivered or are in delivery in the previous framework, Frameworks Scotland 2.

Upper Scenario:

- Further detail and contracts for hospital projects

Funding detail for the remaining pathfinder projects in the government's New Hospital Programme, as well as final approval for the large-scale projects already in the pipeline that allows activity to get off the ground quickly would lead to stronger growth rates over the next three years.

Lower Scenario:

- Cost rises delay health projects
- Schemes under the New Hospital Programme delayed by public funding cuts or limits



Supply constraints on products and on-site labour may lead to delays, particularly if rising costs lead to projects being paused to renegotiate contracts, as occurred on the former two PFI projects, the Midland Metropolitan and the Royal Liverpool Hospitals. If government funding for the remaining projects, notably pathfinders, in the New Hospital Programme is cut or capped, projects are likely to be scaled back or paused to review costs. In both instances, delays to publicly-funded schemes would lead to lower activity in the near-term.

Public non-housing **other** covers construction work on publicly-funded facilities such as prisons and defence projects. Output fell by double-digits for a second year in a row in 2021, by 22.0%, due to the impact of supply chain issues on the development of custodial facilities and a lack of major new work. This marked the sharpest decline on record, leaving output at its lowest level since 2001. From this low base, output is expected to increase by 4.0% in 2022, driven by work to build new prisons and expand or refurbish existing prisons across England and Wales as part of the government's New Prison Programme. As progress continues to be made under this programme and work commences on Scotland's largest prison project, output growth is forecast to accelerate to 13.0% in 2023. The growth forecasts for 2022 and 2023, however, have been revised down slightly from 5.0% and 15.0% respectively, in the Winter, as plans for one prison project have been rejected by local councillors.

The £4.0 billion New Prisons Programme aims to deliver 18,000 prison places across England and Wales by the mid-2020s, through a combination of building new prisons, as well as extending, refurbishing and maintaining existing prisons. In Spending Review 2021, the government earmarked £3.5 billion over the next three years to deliver these 18,000 places and announced a further £250 million to fund an extra 2,000 temporary prison places, which is on top of the 2,000 temporary units previously announced in 2020 in response to the pandemic. The funding profile for delivering the 18,000 prison places shows that spending is set to peak in 2023/24.

New build prison projects include the £253 million HMP Five Wells in Wellingborough, which has been completed and the £286 million HMP Fosse Way (previously known as Glen Parva) in Leicestershire, which is underway for a completion in Spring 2023. Both projects, which will create 3,360 places were previously part of the Prison Estate Transformation Programme (PETP). Four new prisons that would provide 10,000 additional places are also set to be built across England over the six years. So far, outline planning permission has only been granted for one, a 1,400-capacity prison at Full Sutton in Yorkshire, and enabling works are underway with an

opening scheduled for 2025. Planning applications have been submitted for the remaining three new build prisons, but one that would create 1,715 places in Lancashire was rejected due to concerns over the damage to the greenbelt, road safety and the impact of increased traffic on local residents. A public consultation on plans to build two more 1,715-capacity prisons at RAF Wethersfield in Braintree also concluded in November 2021.

A total of 16 sites across the country are also being expanded and refurbished as part of the programme. Of this, eight are due to receive new houseblocks, one a new workshop at High Down in Surrey and seven are to receive comprehensive refurbishments as part of wider £150 million investment in the estate, although work has completed on four of these projects. Of the remaining plans to refurbish and expand existing prisons, five have received planning permission; HMPs Stocken, Guys Marsh, High Down, Birmingham and Liverpool.

In June 2021, the Ministry of Justice (MoJ) announced plans for a Constructor Services Framework that would be used to procure new build, refurbishment, maintenance and minor works in projects worth up to £30.0 million. The framework is expected to be worth £2.5 billion over a five-year period, which could be extended by another two years if an additional £1.0 billion is committed.

In Scotland, the government abandoned plans to build five community prisons for women in June 2018 and pledged to build five new residential centres instead, and whilst these represent small volumes of work, it signals a direction of policy away from prison sentencing towards community sentences in an effort to reduce the size of the prison population that may weaken sector prospects in the longer-term. Activity in Scotland will be supported by the Scottish Prison Service (SPS) Estate Development Programme, which includes the construction of a £74 million national women's prison at HMP Cornton Vale and the development of two of the five community-based custody units for women in Glasgow and Dundee, which are all due to be operational this year. It also includes the delayed and over budget HMP Highland redevelopment project, where enabling works have begun and the operational date is 2024, as well as HMP Glasgow, the largest project in the SPS programme, where construction is planned to start on site in Autumn 2023.



Spring Statement 2022 showed that the Ministry of Defence's capital expenditure limits for 2022/23, 2023/24 and 2024/25 were raised to £15.8 billion, £15.9 billion and £16.3 billion respectively, from £15.6 billion, £15.8 billion and £16.2 billion in Spending Review 2021, although this is likely to reflect funding for strategic defence and research and development (R&D) spending rather than construction work. As a result, there is little in terms of defence work at present, but the Crown Commercial Services published the contract notice for its £30.0 billion Construction Works and Associated Services Framework 2 in July 2021 that will run for four years from February 2022 to October 2026. It will be split into five lots, with the fourth one covering airfield works across the UK. Contracts were due to be awarded by March.

In terms of public office buildings, the Government Hubs Programme aims to reorganise public sector offices into 20 regional hubs by the end of this Parliament. So far, 17 office hubs have been announced, three of which are part of the second phase of the programme. Work has completed on one of these (Birmingham hub), whilst construction is underway on the remaining two for completion in 2022 (Peterborough hub) and 2024 (Croydon hub). Delays to these projects cannot be ruled out due to the pandemic, however. In its 10-year strategy published in May 2021, the Government Property Agency reported that it aims to establish a total of 30 hubs by March 2025.

Meanwhile, the Northern Estate Programme, which involves refurbishing and redeveloping buildings on the northern part of the Parliamentary Estate ahead of the Restoration and Renewal of the Palace of Westminster (R&R) programme, was shut down in November 2020 and packaged into smaller phases within a framework. Although some preparatory works have been carried out, this is likely to have been captured in the public non-housing r&m sector. The Strategic Review of the R&R programme published in March 2021 concluded that a full vacation of the Palace is the best option in terms of cost and timescale. Detailed restoration plans are due to be put to Parliament for approval in Summer 2023, although there is a high risk of this date being pushed back further, and major works are expected to occur well beyond the forecast period.

Upper Scenario:

- Further detail and contracts for new prisons

Further detail and full planning approval for the remaining new prisons that are part of the government's programme to create 18,000 prison places would increase certainty for the sub-sector and, in turn, ensure a pipeline of activity that would improve growth prospects over the next three years.

Lower Scenario:

- Prison projects delayed

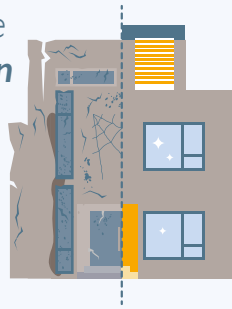
Rising costs and lack of availability of materials and labour slows progress on current new build and/or redevelopment projects under prison building programmes in England, Wales and Scotland, whilst plans for future prison projects are delayed further in the planning system.



Public Non-housing R&M

As government focus shifts back to new build due to major hospital, school and prison building programmes across the UK, public non-housing repair and maintenance (r&m) output is expected to deliver normal rates of growth over the next three years.

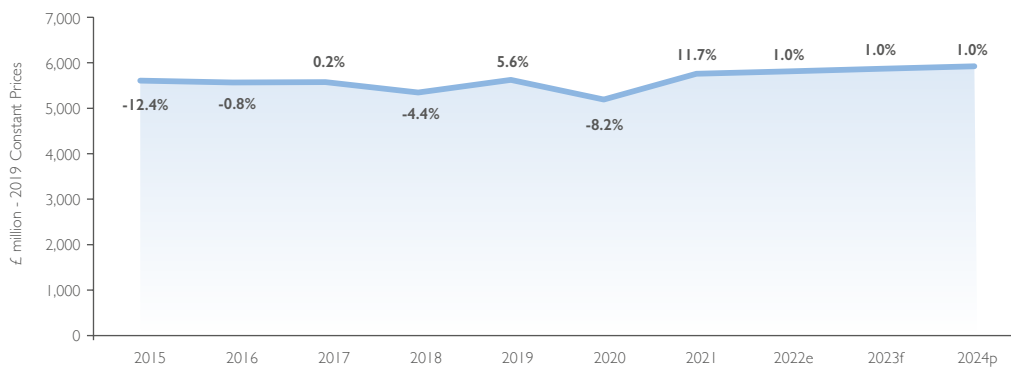
£1.8bn will be invested to maintain and improve the condition of school buildings in 2022/23



Output in the public non-housing r&m sector consists of basic repairs and maintenance carried out on schools, hospitals, prisons, as well as other government and local authority buildings. Basic repairs and maintenance cannot be cancelled or postponed significantly, which has helped keep output less volatile than in new build, in spite of cuts to departmental funding since 2010. Furthermore, essential repairs and maintenance of hospitals, schools and other public services were allowed to take place under government guidelines on social distancing throughout the pandemic, although activity in Scotland was restricted to repairs of health facilities or repurposing of facilities

during the first national lockdown in March 2020. As slow progress under the new School Rebuilding Programme and a lack of major prison projects in the pipeline shifted the focus towards r&m work, output rose by 11.7% in 2021 to exceed its pre-pandemic level by 2.6%. The strong recovery was also driven by catch-up and retrofit activity under Phase 1 of the government's Public Sector Decarbonisation Scheme. Although Phases 2 and 3 of the scheme will continue to provide a stream of work in the near-term and spending by key government departments is planned to remain above 2019/20 levels, a return to normal growth of 1.0% is expected in each year of the forecast period, as new build projects under major hospital, school and prison building programmes across the UK get underway.

Public Non-housing R&M Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

The Public Sector Decarbonisation Scheme offers grants to public sector bodies in England, including schools and hospitals to fund low carbon heating and energy efficiency measures. The scheme is currently split into three phases. For the first phase, £1.0 billion was awarded to 461 projects that were to be delivered by the end of March 2022, although an extension may be granted to the end of June for those that were unable to meet this deadline subject to certain conditions being met. For the second phase, which has a greater focus on heat decarbonisation, the government has allocated £75 million of funding for 54 projects that also must have been completed by the end of March 2022. While the third phase will also focus on heat decarbonisation, the priority will be to provide funding for projects where the heating systems are at the end of their working lives and there is imminent need for replacement. The [Net Zero Strategy](#) and [Heat and Buildings Strategy](#), which were published in October 2021, revealed that Phase 3 will receive £1.4 billion of funding over the period 2022/23 to 2024/25. Of this, around £404 million of grant funding will be allocated to clients delivering projects during 2022 that will complete by the end of March 2023, and around £71 million will be allocated to clients delivering projects over the next two to three years. Further detail on the allocation of the remaining funding is yet to emerge. However, given the government's consistent poor track record in delivering energy efficiency retrofit schemes within the housing sector, delays on all three phases cannot be ruled out.

Provisional figures from the Department for Education (DfE) show that an estimated £1.8 billion of funding will be allocated to maintain and improve the condition of schools buildings in 2022/23, which is around same level as in 2021/22 and £300 million higher than the average of £1.5 billion allocated each year between 2015/16 and 2021/22. Despite this, findings from the Condition of School Buildings Survey, which ran between 2017 and 2019 and covered 22,031 schools across England revealed that the total cost to repair or replace defective elements in the school estate is £11.4 billion, almost double the £6.7 billion previously estimated by the DfE in 2017. Schools in the South East and West Midlands have the highest condition need, with both regions requiring £1.7 billion, whilst schools in the North East have the lowest total condition need, estimated at below £600 million. Data from the survey also showed that electrical services have the highest condition need, with an estimated £2.5 billion required to fully repair or replace elements such as main switch panels, lighting and IT infrastructure across the whole estate, followed by mechanical services (£2.1 billion) and external walls, windows & doors (£1.8 billion), roofs and site area & externals (both estimated to cost £1.6 billion). In contrast to England, the proportion of schools in Scotland reported as being in good or satisfactory condition rose to 90.2% in 2020/21, from 89.9% in 2019/20, according to the 2021 School Estate Statistics. The statistics also showed that 42 schools were built or refurbished in 2020/21, up from 30 in 2019/20. Overall, 1,000 schools have been built or substantially refurbished since 2007/08 and further upgrades are set to take place through the Scottish government's £2.0 billion Learning Estate Investment Programme (see [Public Non-Housing](#)).

In Spring Statement 2022, the Department of Health and Social Care's (DHSC) capital expenditure budget for 2022/23 was left unchanged at £10.6 billion from Spending Review 2021 (SR21). However, for 2023/24 and 2024/25, its capital expenditure budget was raised marginally to £10.5 billion and £11.3 billion respectively, from £10.4 billion and £11.2 billion previously. Although this is a cumulative increase of £4.3 billion from 2019/20 levels, it largely reflects funding to make progress on the New Hospital Programme and upgrades to over 70 hospitals that have been previously announced, as well as funding for digital innovation, equipment and new surgical hubs. At SR21, the government announced that £300 million will also be made available to complete the programme to replace mental health dormitories with single *en suite* rooms over the next three years, although it is not clear whether this is on top of the £400 million funding commitment made in October 2020. Despite these funding commitments, the cost to eradicate NHS's estate maintenance backlog rose to £9.2 billion in 2020/21, from £9.0 billion in 2019/20. A breakdown of the total cost showed that £1.6 billion is classed as high risk and requires immediate attention, which is 4.8% higher than in 2019/20,

whilst £3.0 billion has been classified as significant risk and should be addressed in the short-term. Furthermore, the National Audit Office has previously stated that the top 20 NHS providers account for 45% of all backlog maintenance.

Spring Statement 2022 reconfirmed that the Ministry of Justice's capital budget is set to increase from £1.5 billion in 2021/22 to £1.7 billion in 2022/23 and £2.2 in 2023/24, before falling to £1.4 billion in 2024/25. This funding profile remains unchanged from SR21 and largely reflects funding to deliver the government's 20,000 new prison places by the mid-2020s. It is also unlikely to fully address the backlog of maintenance work within the prison estate, which is estimated to cost £916 million according to the HM Prison & Probation Service (HMPPS).

The Department for Levelling Up, Housing and Communities (DLUHC) has identified eight high-rise publicly owned buildings (over 18 metres) with unsafe Aluminium Composite Material (ACM), and data from March shows that remediation work has completed on seven of these and has started on the remaining one. The majority of buildings affected are residential buildings (see [Private Housing RM&I](#)). Although further fire risk assessments may reveal a potential pipeline of high-rise publicly owned buildings affected by non-ACM, pauses in activity over cladding liability issues on the PFI-funded Papworth Hospital in Cambridge and the originally PFI-funded Royal Liverpool and Midland Metropolitan Hospitals highlight the potential issues for public non-housing buildings, in addition to the high-profile examples in the housing sector. While the government has allocated £5.1 billion of funding for cladding remediation, it is only available for high-rise buildings in the residential sector. Please note that the repair and maintenance work on the Royal Liverpool Hospital is likely to be incorporated in a broader package including new build works and, consequently, will most likely be classified in the public non-housing health sub-sector.

The Government Hubs Programme aims to reduce the government estate from around 800 buildings to 200 by 2023 by creating shared regional hubs across government departments. The programme is expected to save approximately £2.5 billion over 10 years. Since 2010, the government estate has been reduced by 28.0% with 94.0% of this resulting from the disposal of public sector office space. Further reductions in the size of the government estate are expected to exert a downward impact on r&m activity in the sector over the longer-term.

Upper Scenario:

- Local authorities shift priorities to focus on r&m work

Stronger than expected economic growth, alongside higher capital expenditure across key government departments would allow local authorities to revise their priorities to refocusing on routine and scheduled non-essential maintenance of existing buildings.

Lower Scenario:

- Funding and spending of local authorities is reduced
- New build projects overshadow routine r&m

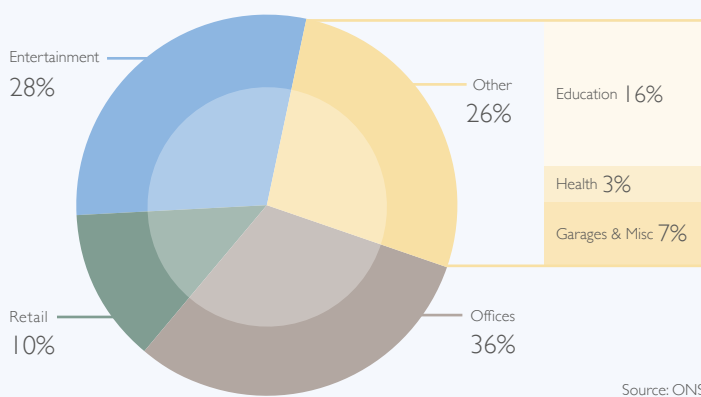
A reduction in local authorities' spending power due to budget tightening by councils and cuts in central government funding would result in lower public non-housing r&m output over the forecast period. Routine and scheduled maintenance of existing buildings is also expected to be displaced by increased focus on new build projects coming through the pipeline.



Commercial

In the near-term the focus remains on fit-out and refurbishment of existing commercial units to adapt office space to changing occupier demand and refit vacant retail space for new tenants. Construction on large office towers is set to restart towards the end of the forecast period, adding to a pipeline of leisure, entertainment and university projects.

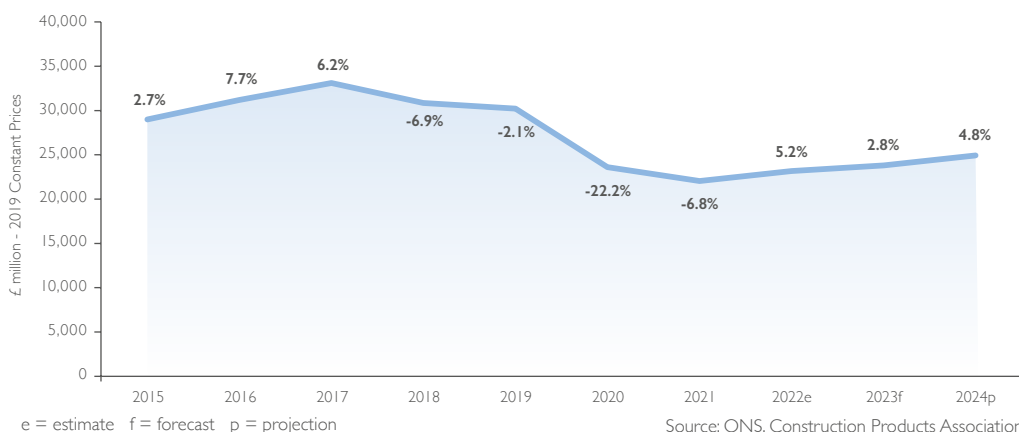
Commercial Output by Sub-sector 2021 (%)



The commercial construction sector was one of the worst-affected by the initial Covid-19 disruption in 2020, and was the only sector which posted a second contraction in output in 2021 despite buoyant fit-out, changes in use and high-end refurbishment activity on existing commercial buildings. This was primarily due to a lack of new commercial towers projects coming through as ones started pre-Covid-19 finished. Even as the economy has recovered to a level above its pre-pandemic size, decision-making on new major

commercial projects has been beset by questions over future demand for new office towers, in-store retail, travel and leisure facilities. In particular, this has been the case as office working moves towards remote working or hybrid models, and as retail contends with quieter high streets and city centres, increased online shopping and, most recently, household disposable incomes being eroded by rising living costs. As a result, despite a return to growth over the forecast period, commercial activity is set to remain below its pre-pandemic level even in 2024.

Commercial Output



The key area of activity carrying over from 2021 centres around the refurbishment or repurposing of existing space to meet evolving requirements for office and retail space. This involves renewing office space to attract in new tenants and increase space per worker given fewer expected workers on site simultaneously as working from home continues. Energy efficiency improvements and net zero considerations are also an emerging driver for offices refurbishment. In retail, permanent closures of outlets due to administrations or estate consolidation are leading to refit activity on stores that will be taking over the floor space. In addition, activity remains strong on converting commercial developments into residential, leisure and warehouses/logistics, where demand, and consequently, returns on investment, are now stronger than on offices and retail in many areas.

Leisure and entertainment, the second largest commercial sub-sector, displayed some of the strongest growth rates between 2017 and 2019 despite the climate of uncertainty holding back developer confidence elsewhere in the commercial sector. However, like other commercial sub-sectors, it has not managed to avoid the two years of contraction in 2020 and 2021 experienced by the other commercial sub-sectors.

Its growth in previous years was driven by hotel chains, which were benefiting from an increase in domestic and business visitors, as well as a move towards hotel or leisure-led redevelopments of existing shopping centres or store premises vacated as part of Company Voluntary Arrangements (CVAs) or administrations. For example, vacant units left by the closure of department stores in town and city centres have been approved for conversion to hotels by different providers in Exeter, Lincoln, Guildford and Hull. In Bristol, plans have also been announced to transform a disused site into a new urban quarter that will include a 345-room hotel. The redevelopments of retail districts in Leeds and Bolton are also set to be led by hotel and leisure facilities, whilst plans for mixed-use developments in Salford (Middlewood Locks), Birmingham (Three Chamberlain Square and Digbeth cultural quarter) and London (King's Cross hospital) also incorporate a hotel. However, given the collapse in travel and tourism since the start of the first national lockdown in March 2020, hotel chains and developers have embarked on cost-cutting measures and planned expansions for the near-term have suffered. Hotels have been removed from the £100 million redevelopment of the Bargate shopping centre in Southampton and the Exeter Harlequins shopping centre redevelopment, whilst plans for a £1.0 billion luxury hotel and serviced apartments complex in Kensington, London have been scrapped. However, in anticipation of a longer-term recovery in international tourism, a £230 million luxury hotel in Marylebone, London, secured development finance in June 2020, based on expectations of tourism recovering by its opening in 2023, a 16-storey hotel in Salford was approved in February 2021 and plans for a £300 million five-storey basement extension at London's Ritz Hotel were approved in September 2021.



Expectations that leisure, travel and tourism will recover more broadly from 2022 have led to an increase in project starts and approvals on planned schemes. Main construction work is underway on the £1.3 billion Olympia regeneration project in West London, the £505 million stadium for Everton Football Club and the £350 million Rosewood hotel on the former US embassy site in London's Grosvenor Square. All projects are expected to be completed in 2024. Construction is also underway on the £350 million Manchester arena project for a completion in 2023, the £260 million Gateshead Arena, and a £300 million leisure scheme in Blackpool that includes three indoor entertainment centres, a hotel and restaurants. In terms of planned projects, the expansion of Old Trafford cricket ground was approved in 2021 and the £150 million Cardiff Arena plan was approved in March. Decisions on plans for expanding Leicester City's football stadium and Center Parcs' sixth £400 million holiday village in West Sussex are due in Q2, whilst plans for an 800,000 sq. ft. extension to the British Library in London were submitted in April. Subject to approval, construction is not expected to start until beyond the forecast period in 2025, however.

The new build commercial sector is dependent on investor and consumer confidence and output in the past four years has been affected by Brexit-related uncertainty stalling investment in offices towers that typically drive activity in the largest sub-sector of commercial construction, and the sharp decline in all sectors related to the coronavirus pandemic. This is particularly the case for office projects in London and whilst major cities such as Manchester, Birmingham, Leeds and Sheffield have seen strong levels of activity, they are unlikely to offset the falls and overall dominance of London in the sub-sector, particularly given that larger new build projects have only started entering the pipeline in 2022, as well as a broader reassessment of workplace and space requirements. This combines with the financial woes of the high street, where cash flow has been severely affected by large-scale and lengthy shutdowns for non-essential retail over the last two years, and continuation of the longer-term trend of rising e-commerce that shifts demand away from traditional retail space towards distribution and storage facilities. Niche areas of growth exist in retail, such as food retailing, larger stores in retail parks and multi-use redevelopments of town centres, but these will only support modest growth rates, particularly as confidence and new major investment may take a while to return as inflationary pressures persist for consumers and contractors. Universities across the country are also in the midst of multi-year investments in new buildings for teaching and research, with the largest-value projects for student accommodation. In a similar vein to the rest of the commercial sector, confidence to proceed with projects and financial viability may suffer as construction costs rise, after progress on capital spending programmes has already been slowed by coronavirus-related costs and delays.



Commercial new orders fell 14.2% in 2020 and increased 32.6% in 2021. Whilst this strong growth can be partially explained by base effects, it also reflects the contract award for the £1.3 billion Olympia regeneration project in West London and the return of central London office towers. Across the sector, pauses in existing work that occurred during the first national lockdown in 2020 Q2 are likely to lengthen the typical 12-18 month lag

between new orders and construction output occurring in most sub-sectors, and further delays relating to risk and issues around rising construction costs cannot be disregarded. As a result, growth of 5.2% is estimated for 2022, followed by a 2.8% rise in 2023 and 4.8% growth in 2024.

Offices is the largest commercial sub-sector and accounts for over one-third of total sector output. Activity is particularly sensitive to prevailing economic conditions that affect business confidence and investment and decision-making during the Covid-19 pandemic has been complicated by repeated episodes of work from home guidance, and uncertainty over the extent of changes to offices and workspace demand as remote and hybrid working become more engrained. The fundamental drivers of sub-sector activity will remain mixed over the forecast period, balancing improved macroeconomic conditions with lingering business uncertainty, which has been worsened by the situation in Ukraine, rising costs for labour and materials, and the current focus on office fit-outs and refurbishments rather than large towers. The drive to update existing space is partly being driven by requirements for lower capacity and flexibility for occupiers, and partly by energy efficiency considerations as part of net zero and corporate Environmental, Social, and Governance (ESG) requirements. As a result, output is forecast to rise 5.0% in 2022, albeit from a low base, and by 1.0% in 2023. As larger new build projects progress through the pipeline, output is projected to increase 10.0% in 2024. Nevertheless, the sub-sector will remain 8.7% smaller than it was in 2019.

Since national lockdown restrictions were eased, offices take-up and floor space requirements increased in each quarter in 2021, according to commercial estate agents, whilst availability and vacancy rates decreased. However, all these indicators remained worse than their long-term averages. This is unsurprising given that many employers and investors are still likely to be delaying decisions on new leases or new space in order to reassess requirements in the light of increased homeworking or hybrid working patterns that combine homeworking with part-time office attendance. Major companies in the professional services sector, such as Deloitte, BDO and Grant Thornton have already vacated their secondary London office space, amounting to 250,000 sq. ft. in the case of the former. JLL reported that in central London, 21.0% of offices deals in 2021 were from companies consolidating space, compared to a five-year average of 18.0%. In addition, the average floor space in offices transactions was one-third lower. It is worth noting that firms downsizing or changing office requirements have boosted demand for smaller, high quality grade A office space, particularly through refurbishment of existing space. JLL noted that refurbishment projects accounted for 98.0% of speculative floor space started in central London in 2021 Q4.

Speculative development and large towers projects returned to the London offices pipeline more broadly during 2021, which suggests that developers had assumed a more stable

Over 1.0 billion sq. ft. of UK office space is below the proposed minimum EPC 'B' rating for the Non-domestic Private Rented Sector minimum energy efficiency standards

Source: Savills



economic backdrop and clearer signals on final demand for space given completion dates at the end of or beyond the forecast horizon. The Deloitte London Crane Survey for Winter 2021 (April to September 2021) counted seven towers schemes approved for the City of London, including a two-tower development at 2 Finsbury Square, a 13-storey 320,500 sq. ft. office building, known as 2 Aldermanbury Square, and a 720,000 sq. ft., 24-storey tower at 115-123 Houndsditch in December. All anticipate a construction period of at least three years that aims to capture a more settled period of demand. In addition, a contractor was appointed for the £235 million 105 Victoria Street redevelopment in March 2022. It is the largest ever speculative commercial project for the West End, with construction scheduled from Summer 2022 until 2026. These add to large projects with committed tenants approved earlier in the year, including a £202 million contract to build a new Chinese Embassy on the former Royal Mint site.

Office markets outside London also saw a rise in take-up and a fall in vacancy rates in 2021, particularly for grade A space. Like the London market, take-up remained below its long-term average and vacancy rates remained above long-term averages. In Birmingham, the Deloitte Birmingham Crane Survey 2022 found that office space under construction fell for a sixth consecutive year as major redevelopment projects completed. There were only two new starts on large projects in 2021: Enterprise Wharf (120,000 sq. ft. of new build) and 10 Brindleyplace (210,000 sq. ft. of refurbishment). In Manchester, Deloitte reported 1.34 million sq. ft. of offices space under construction in 2021, with more than half due to complete this year. Five new schemes started in 2021, but average floor space per development was lower than in previous surveys. There are eight schemes of over 200,000 sq. ft. each that received planning approval in 2021 and will drive output in 2023 and 2024, including 2 and 3 Angel Square and Number 3 Circle Square. Similar to Manchester, new build accounts for the majority of speculative space under construction in Leeds and Bristol.

Uncertainty over current and future demand may increase the role of flexible offices providers. Initially during lockdowns and widespread homeworking, the potential for cost-cutting or rent defaults by tenants emphasised concerns over the sustainability and financial viability of the flexible leasing model but the government's deal with IWG in April 2021 to provide flexible office space for civil servants in ten cities outside London echoes estate agents' views that demand for flexible offices space may increase in the near-term as businesses assess their accommodation needs. Furthermore, those working from home but without the appropriate space and facilities, or firms opting for a hybrid pattern of combining home and office working may also increasingly take advantage of flexible office space. Canary Wharf Group and infinitSpace both launched flexible offerings in high-profile London locations in early 2022.



As well as a focus on changing space requirements, sustainability, energy efficiency and ESG considerations are likely to increase the role of office refurbishment projects. Currently new commercial property leases, or renewals of existing ones, must be above an EPC rating of 'E', but it is proposed that all non-domestic rented buildings should achieve a minimum 'B' rating by 2030. An analysis by Savills estimated that 87% of the office stock in major UK cities has an EPC rating of 'C' or below, and over 1.0 billion sq. ft. across the UK is below the proposed minimum EPC 'B' rating.

New orders rose 28.7% in 2021 and whilst this reflects the low base in 2020, it also marks the highest level since 2016 as large-value contracts returned, including a £135 million refurbishment scheme in Canary Wharf and a £110 million mixed-use scheme in Piccadilly Circus, London. In 2022 Q1, the £110 million refurbishment of Space House in Covent Garden and the £300 million refurbishment of the Citi Tower in Canary Wharf were also awarded contracts. For large projects such as these, and the new build towers approved in 2021, where the expected rate of return is over a longer period and, consequently, riskier, the lag between orders and output is longest. A CPA analysis of new orders and output indicates a lag of around 12-18 months on average for commercial new build. However, it is likely that large projects will now take longer than 18 months to filter through to starts in activity, given delays to projects during Covid-19 lockdowns, renewed weakness in confidence as the Ukraine invasion affects UK economic performance and ongoing cost and materials issues on projects currently underway. The rise in energy costs is greatest for energy-intensive materials such as heavy steel plates and concrete rebar, both in large-scale use in commercial construction projects. In addition, concrete rebar and flat glass are among the top five imported construction products from Russia and Ukraine, suggesting supply issues may emerge on top of current price rises and skills shortages (see [Key Risks](#)). Starts on large office towers projects that are due in 2023 and 2024 may, therefore, be pushed further out if there are delays to refurbishment projects currently on the ground due to product or labour availability issues, or delays related to contractor risk appetite or contract negotiations.

Upper Scenario:

- A widespread return to offices
- Business confidence improves as Ukraine and Russia uncertainty lifts quickly

The CPA assumes in the forecast that office workers work from home two to three days a week, on average. However, if office workers end up in offices more frequently than this on a consistent basis, it would lead to a higher degree of business confidence in the near-term, with firms committing to existing space or moving to new premises. A resolution to the Ukraine-Russia conflict may also help stabilise commodity prices and ease concern over materials supply and costs. Both would improve investor and developer confidence for developments underway and new starts.

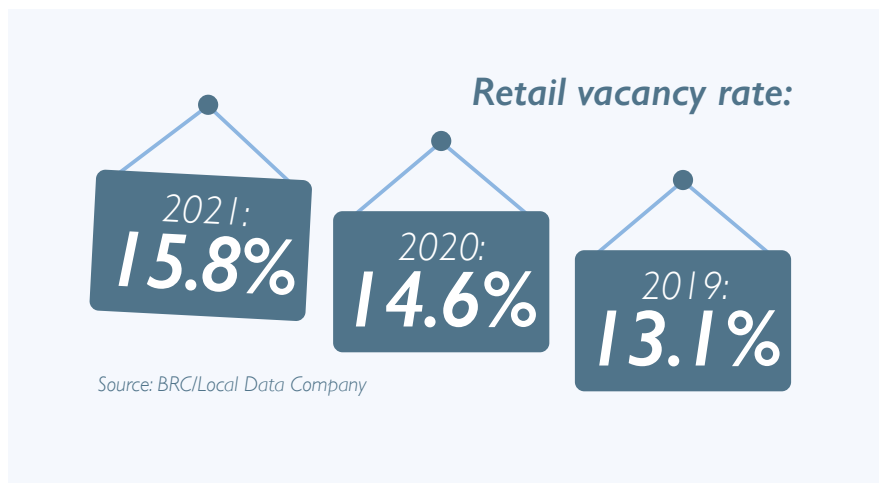
Lower Scenario:

- Volatility in the UK's economic recovery prolongs the period of uncertainty and constrained business investment
- Projects paused or cancelled due to cost rises

Business investment experienced contractions even before the coronavirus pandemic and any lingering uncertainty over the economic recovery, particularly related to Ukraine and energy prices, is likely to restrict business investment in the near-term and lead to reticence on contract awards and project starts on the construction side. Continued increases in costs that cannot be absorbed by contractors and sub-contractors may threaten the viability of projects where fluctuation clauses or risk sharing arrangements cannot be agreed.

The **retail** sub-sector will have to contend with a fall in household disposable incomes in 2022 and 2023, on top of the existing headwinds. Even pre-pandemic, investor appetite and construction activity had been adversely affected by broad increases in the retail cost base, as a result of the business rates revaluation in 2017 and annual rises in the national living wage. In addition, as the CPA has been highlighting over the past decade, retail is also experiencing a longer-term structural shift in demand away from retail premises towards industrial space for storage, logistics and distribution, as well as the redevelopment of retail centres into offices and leisure-led schemes. The impact of three national lockdowns and homeworking for many office workers since early 2020 has been to accelerate these structural changes and, as a result, output is expected to remain well below its pre-pandemic level throughout the forecast period.

Given the combined difficulties in the retail sector, it is unsurprising that investor appetite towards investment in new build retail premises has remained weak even as the economy has reopened and retail sales volumes have surpassed their pre-pandemic levels. Shopping centres have been the worst performing retail asset, part of a long-term trend for which Savills has recorded falls in investment in this category in every year since 2014. Shopping centre owners URW (Westfield) and Hammerson reported that rent collection rates improved since restrictions on non-essential retail were relaxed from 2020 Q2, rising to around 90% for 2021. This is still lower than for developers that focus on warehousing space and benefit from the rise in e-commerce such as Tritax Big Box, which had collected all of its rent due in 2021. Meanwhile, [BRC and the Local Data Company](#) reported that the overall retail vacancy rate stabilised in 2021 H2, moderating to 15.7% from a recent peak of 15.8% in H1. The vacancy rate for shopping centres also decreased, but still stands higher than general retail at 19.1%.



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Following national lockdowns in 2020 and the subsequent fall in rental values, writedowns to the value of retail portfolios initially meant that lenders, landlords and private equity firms were actively trying to reduce their exposure to the shopping centre category. However, Savills and Knight Frank reported that the volume of shopping centre investment improved in 2021 with volumes at the highest since 2014 as local authorities, developers and private investors attempt to capitalise on counter-cycle buying opportunities, largely for repurposing and regeneration reasons. For example, Hammerson is selling non-core parts of its retail portfolio, most recently the Silverburn shopping centre near Glasgow for £140 million and Victoria Gate in Leeds for £120 million, with both sales below original purchase prices. The IPF (International Property Forum) consensus forecast from March suggests that retail assets will remain unattractive in the medium-term. A 2.7% fall in capital values is forecast for shopping centres in 2022, followed by further declines of 1.2% in 2023 and 0.6% in 2024. Falls in rental values were also forecast for each year of the forecast period for shopping centres. As a result, outside of property bargain-hunting, there is little in the pipeline for new shopping centre development. The two £1.4 billion major shopping centre redevelopments that were due have either been put on hold (Brent Cross extension) or cancelled (Croydon Partnership) for viability reasons, whilst plans for a £300 million extension of Meadowhall in Sheffield have

been scaled back and revised to include the conversion of retail space and car parks into warehouses. In November 2021, British Land announced plans to buy car parks and empty retail centres to convert into logistics and distribution centres.

Within retail, niche areas of growth exist, however. In contrast to shopping centres, retail parks have fared well throughout the pandemic due to the presence of supermarkets and larger stores such as homewares and DIY that can facilitate click-and-collect or click-and-deliver operations. As a result, the retail park vacancy rate was 11.3% in 2021 H2, compared to 15.7% for overall retail. The drive-to-convenience, outdoor setting and fulfilment of online orders are expected to underpin the strong performance in retail parks going forward. Cushman & Wakefield reported that annual investment in retail parks was £3.8 billion in 2021, the highest since 2015.

Supermarkets represent another segment of retail growth, with investment volumes above the long-term average in both 2020 and 2021, according to Savills. Savills also reported that out-of-town supermarket openings exceeded the long-term average by 23.0% in 2021, with two-thirds of openings by discounters. Expansion plans in recent years have been led by chains such as Aldi and Lidl, who are potentially benefiting from a value offering against a backdrop of rising household costs. Aldi and Lidl have both also confirmed they will be maintaining a focus on physical stores with no, or very limited, online presence for groceries. Aldi, the UK's fifth largest supermarket, plans to reach 1,200 stores by 2025, from 920 currently, including 100 new stores planned across 2022 and 2023 as part of a £1.3 billion investment plan. Lidl, the seventh largest supermarket retailer, is planning to invest £1.3 billion in new store openings in 2021 and 2022 and updated its plans to increase its total UK estate to 1,100 by 2025, by adding 50 new stores per year. Both discount chains' plans include smaller convenience-style stores in the South East, including central London locations. As highlighted in previous forecasts, this signals a dual approach that combines purpose-built out-of-town sites and central locations where the margins are higher and where they can potentially take over sites from distressed retailers and focus on fit-out rather than new build. The move to smaller, central locations was also echoed in previous expansion plans from the Co-op and Sainsbury's, whilst Amazon has announced it is moving away from its goods stores to focus on groceries. It plans to open 260 cashierless grocery convenience stores by the end of 2024, with a target of 60 openings this year. However, supermarkets' plans may be reassessed if town and city centre footfall remains lower than pre-pandemic. The BRC reported that total UK footfall in February was still 14.9% below levels in February 2020, whilst analysis by the Local Data





Company and PwC reported a net decline of 10,059 stores in 2021, with closures particularly acute in city centres. Given the assumed structural change towards people working from home permanently and using the office less then this may force supermarkets to move away from their long-term plans to focus on city centre developments. In addition, increased working from home may lead to growth in retail activity in local communities, particularly within commuter belts, at the expense of commercial retail in urban metropolises, in particular central London. This activity is likely to focus on fit-out work within existing units that become vacant, rather than major new developments.

Before the pandemic, one way shopping centre owners mitigated the risk of retail-led assets was through plans to diversify by reducing retail floor space and increasing residential, leisure and hotel space. As the economy returns to pre-pandemic levels of activity, approvals for these types of projects have increased and spread beyond shopping centres to high streets. Ikea's redevelopment of the Kings Mall in west London into a mixed-use development around one of its urban stores opened in February 2022, forming part of its strategy to move away from out-of-town sites. It plans to spend £1.0 billion on expansion in London over the next three years, including a redevelopment on Oxford Street. Hammerson and John Lewis both intend to convert vacant or consolidated retail space into Build to Rent residential property. John Lewis anticipates that 40% of its revenue over the next ten years will be from its non-retail operations, including housing. Plans for changes of use have been particularly prevalent for formerly-prime department stores on London Oxford Street. In 2021, alongside the John Lewis redevelopment, Marks & Spencer had plans approved to redevelop its Marble Arch store to mixed-use, House of Fraser plans to convert to offices and Debenhams to an offices-led mixed-use scheme. Outside of London, plans for the Victoria Gate shopping centre in Leeds and the Martineau Galleries redevelopment in Birmingham are anchored by a 14-storey hotel and residential flats, respectively. Similarly, plans have either been announced, submitted or approved to convert former department stores such as Debenhams and House of Fraser into student accommodation (Northampton), a boutique hotel (Edinburgh) and mixed-use space (Manchester and Altrincham) since March 2021. Signalling that this is a further structural change within retail, Land Securities estimates that 17% of current UK retail space is not needed and predicts this proportion will rise to 25% by 2025.

Town and city centre regeneration schemes will also provide retail work over the forecast period, although such projects are following the trend for mixed-use, rather than solely retail developments. Projects in the current pipeline include the £300 million Borough Yards redevelopment around London Bridge (that is expected to complete in 2022), as well as the £250 million multi-use redevelopment of the Whiteleys shopping centre in Bayswater, west London that is anticipated to be completed in 2023. In addition, a £500 million mixed-use redevelopment of Maidenhead's Nicholson shopping centre led by residential was approved in March 2021, and the planning application for the £130 million redevelopment of Wigan town centre led by leisure and entertainment facilities was approved in November, with

work expected to run from 2022 to 2025. Also in the planning pipeline is the £100 million redevelopment of an underground car park in Cavendish Square in London and the £250 million Victoria Square scheme in Bolton, where work was expected to start 12 months later than initially planned in late 2021. As these mixed-use projects get underway, although the reduced element of retail construction will exacerbate the falls in the sub-sector, it is likely to provide a boost to the commercial entertainment sub-sector, which overtook retail as the second-largest commercial sub-sector in 2015. A loosening in permitted development rights for changes of use from vacant commercial buildings to residential may also divert some activity to the housing sector, particularly as retail is likely to be the slowest sub-sector of construction to recover. The government brought forward the implementation of the policy by six months to 21 April 2021, as part of its measures to help high streets and town centres recover after lockdown.

The ongoing structural trend of rising e-commerce that shifts demand for retail premises towards distribution and logistics space has also been accelerated by the pandemic. During each lockdown period since March 2020, data from the ONS has shown that non-store retail outperformed all other retail sectors, as the closure of non-essential retail stores forced consumers to turn towards online platforms. The proportion spent online peaked at 37.1% in February 2021 and although this had steadily declined to 26.0% in March 2022, online sales remain a much higher proportion of total retail than in 2019 (19.2% on average) and suggests that warehouses and logistics demand is likely to remain significantly higher than pre-pandemic levels, at the expense of traditional retail premises.

As in previous CPA forecasts, the UK retail sector continues to face headwinds due to longer-term structural changes, which have been worsened by rising costs for high street retailers, and new and redevelopment work focused towards mixed-use led by offices, residential or leisure. These effects have been exacerbated by lockdowns, volatility in consumer confidence and UK retail is yet to discover the effect of the end of the commercial eviction moratorium from March 2022, which may lead to further administrations and vacancies. In addition, the rise in living costs in 2022 Q1 is expected to lead to a reduction in disposable incomes throughout the remainder of 2022 and into 2023 (see [Economy](#)). Consumer confidence had already fallen sharply in February and March 2022, according to GfK, which may further worsen retailer and investor appetite for expansion as inflation is yet to peak. New orders for retail construction rose 14.5% in 2021, albeit from the record low levels signed in 2020. A muted recovery is expected throughout the forecast period, with a 4.0% rise in output in 2022, a 5.0% rise in 2023 and a 3.0% increase in 2024.

Upper Scenario:

- Consumer spending remains strong in spite of inflation concerns

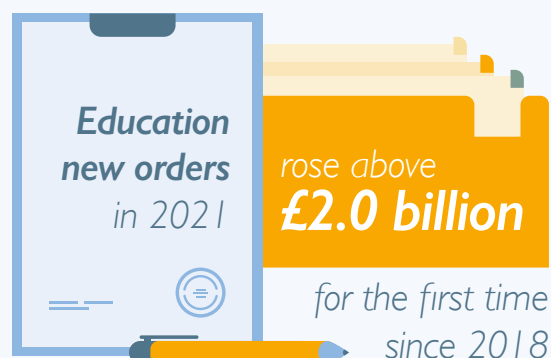
Households accumulated £200 billion in savings since the first national lockdown in 2020, which may sustain consumer spending during the period of high inflation, helping to maintain investor and developer confidence.

Lower Scenario:

- Falling disposable incomes restrict household spending from all demographics
- Rising construction costs lead to delays or cancellations

If consumers continue to hold on to most of their accumulated savings as a precaution during a period of falling disposable incomes, investor and developer confidence is unlikely to improve, particularly if it affects rental revenues. Rising construction costs pose a risk to viability and could delay projects or see them cancelled if existing contracts cannot be renegotiated or new contracts cannot reach agreement on risks associated with rising costs.

In the **commercial education** sub-sector, changing government policy on UK exam results and rising costs related to lockdowns meant universities took a cautious approach on finances, with pauses to capital spending or delays to construction projects underway in 2020 and 2021. The Russell Group estimates that a total of £2.0 billion of projects were on hold at its 24 universities, but most are now assumed to have resumed or started. This includes the £280 million UCL Institute of Neurology and UK Dementia Research Institute in central London, which began in May 2021, for completion in 2024. UCAS data following the January deadline for 2022/23 university entry showed a 0.9% annual decrease in applications from the record high in 2021. By student domicile, this included a fall of 0.3% from UK students and 19.1% from EU students, but a 5.5% increase from non-EU students. Total applications were still 7.5% higher than at the January 2020 deadline.



Sub-sector output averaged £1.2 billion per quarter between 2015 and 2020, compared to an average of £801 million per quarter in the previous five years. Activity has been driven by major capital investments by universities attempting to compete at a global level by improving accommodation, teaching and research facilities. Multi-million pound capital investment plans are underway across universities in the UK but there have been increasing questions about the sustainability of these large capital investment programmes, particularly regarding the ability of universities to contract out and manage large investment plans, real estate development and expansion into the residential sector, particularly given their reliance on rising student fee income when EU student numbers have declined sharply post-Brexit. Capital spending was one of the first areas to be suspended as a means of controlling finances and cutting costs during the initial lockdown period in 2020 Q2, and quarterly output has averaged only £866 million since then. Individual projects such as a £55 million postgraduate teaching facility at the University of Exeter and Anglia Ruskin University's new campus in Chelmsford had been delayed until 2021 but further updates have not been announced.

Large projects continue to enter the pipeline, with construction underway on the £100 million School of Public Health building at Imperial College London and the £82 million science and engineering building for Manchester Metropolitan University, which are both expected to be completed in 2023. Work is also underway on the University of Hertfordshire's 165,000 sq. ft. physics, engineering and computer science building, as well as three projects at the University of Glasgow through its Campus Development Programme, of which two (Clarice Pears building and Advanced Research Centre) were scheduled for completion in 2022 Q1. At the University of Oxford, construction on the £200 million life sciences building began in 2021 for a completion in 2024 and plans were announced to redevelop the existing Begbroke building as part of a wider £4.0 billion development partnership with Legal & General in July 2021. Further large-scale projects are expected to return in the longer-term pipeline, including phased work on the University of Birmingham's £500 million ten-year investment framework, as well as the University of Bristol's new £300 million campus and the University of Portsmouth's £135 million 12-storey faculty building, which are both expected to see main construction work start on site this year. In June 2021, the University of Manchester confirmed its £1.5 billion, 15-year science and innovation quarter, which includes both university and commercial, mixed-use facilities, by 2025. Furthermore, plans for a ten-storey landmark building at Aston University were approved in September 2021, three new buildings on

Sheffield Hallam's £220 million campus were approved in October and Exeter University's £185 million accommodation redevelopment is at procurement stage. However, a new university in Milton Keynes has been paused as the government's portion of funding (£100 million out of the £300 million to £400 million cost estimate) has not been committed.

Alongside education facilities, purpose-built student accommodation will also provide a pipeline of work, and new schemes from private developers are entering the pipeline as confidence returns. Student accommodation developer Unite has reported bookings back at pre-pandemic levels and has recommenced construction on two of its developments in London and Bristol and both are now expected to be completed in 2022 instead of 2021. In the last 18 months, Unite has acquired three sites for a 300-bed scheme in Edinburgh, an 800-bed scheme in Paddington, central London and a 1,000-bed scheme in Stratford, east London, and received planning approval for a £57 million 700-bed development in Nottingham. Planning permission was refused for its Paddington scheme in March 2022, however. Going forward, its strategy will focus on increasing exposure to high and mid-ranked universities, where demand is viewed to be strongest. Empiric has also announced a focus on higher-ranked universities where international student numbers are expected to increase. It has work underway on developments in Bristol and Edinburgh, which are now due to be completed in time for the 2022/23 academic year instead of 2021/22 after Covid-19 delays. Work on its Canterbury scheme is still on hold, however and the developer has warned that rising costs are threatening viability on its projects. Unite has stated that build costs account for 50% to 70% of total development costs.

There are signs that confidence for private sector student accommodation projects has improved markedly. During 2021, plans for a 692-unit student scheme at Nottingham's former Royal Mail sorting office, a 496-bed twin tower scheme in Coventry and a £130 million 55-storey skyscraper that would provide 850 student rooms in Manchester were all approved. Planning approval was also granted for a 713-bed development in Hammersmith, on a site previously approved for a hotel. In Leeds, plans for a 24-storey student accommodation tower were approved in December 2021, as part of the £270 million mixed-use redevelopment of Lisbon Square, and plans for a 38-storey tower next to Leeds Arena were submitted in 2022 Q1. Further on in the pipeline contracts were awarded for a £130 million student village at Royal Holloway University, and a £98 million 1,262-bed scheme at the University of Essex in 2021, whilst a £160 million development in Southwark was awarded contracts in 2022 Q1.



Commercial education output declined 28.6% to a seven-year low of £3.4 billion in 2020, reflecting a widespread pause in activity from late March, whilst longer pauses in activity to assess finances and post-lockdown demand meant activity remained flat in 2021. New orders returned to pre-pandemic levels in 2021 and as construction work accelerates, output growth of 8.0% is expected in 2022, followed by another increase of 8.0% in 2023 and 5.0% growth projected for 2024. Nevertheless, at the end of the forecast, output is still projected to be 12.4% below its 2019 level.

Upper Scenario:

- A rise in student numbers and stronger economic backdrop improves confidence

Amid record-high student numbers and a full return to campus increasing revenues, stronger economic recovery should raise confidence to progress any student accommodation schemes and university capital expenditure programmes that remain paused. Fewer travel restrictions may also increase applications from international (non-EU) students in future years.

Lower Scenario:

- Deterioration in university finances and cost rises hinder the viability of university projects

In recent years, universities have had an increasing reliance on private sector borrowing such as private and public bond issuance to finance work. Appetite for bond issuance will be limited if economic recovery falters, which worsens investor risk aversion. Questions also remain over the impact of the sharp decline in EU students post-Brexit. In the lower scenario, higher build costs due to labour and material shortages, rising energy costs and materials price inflation also delay delivery timelines of projects in the pipeline. Developer Unite has warned that build costs account for 50% to 70% of its development costs.

The **commercial health** sub-sector is half the size it was a decade ago, when PFI was the preferred method of financing for the government and a hospital new build programme existed. The sole driver of activity in recent years has been the construction of new facilities by private healthcare providers or privately-funded redevelopments of NHS hospitals. In general, private healthcare providers' appetite for expansion has been reduced in recent years, due to a fall in revenue, reduced referrals from the NHS and lower numbers of overseas patients coming to the UK for private treatment. This is likely to have been exacerbated by the coronavirus pandemic and continued restrictions on international travel.

There are only a handful of private healthcare projects currently underway in the pipeline, including the Vaccines Manufacturing and Innovation Centre at the Harwell Campus in Oxfordshire, which is due to open in Q2. Funding is split between the government and the pharmaceuticals industry. Work is also underway on the £70 million Royal Marsden Oak Cancer Centre in south London, which is due to open in Summer. All funding has been raised from private donations.

The first large project on the £500 million Private Investment Construction Framework for healthcare began in April 2019, for a £100 million acute care hospital in Birmingham, which is also due to be completed in mid-2022. It is a partnership between HCA Healthcare and M&G Investments. The Framework

Only 3 projects
have come through the
**Private Investment
Construction Framework**
since April 2019





was initially a four-year programme, but has been extended by 12 months to July 2022, despite only procuring two other projects under £10 million each. Healthcare developer, Assura, currently has 16 developments on site in the UK, totalling £128 million, including a £25 million training academy in Northumberland, to complete in 2023 Q4. A further 20 schemes are expected to start on site within the next 12 months. The £190 million phase 4 of Great Ormond Street's expansion, where work is due start in 2022 and run to 2025, also adds to the future pipeline. Alongside this, the pipeline of larger projects has been bolstered by a £376 million extension to the Evelina London Children's Hospital, which was approved in October 2021. Construction is set to run from 2022 until 2027. It will be funded through a combination of public funding and private donations. Further out, but highlighting a longer-term pipeline is emerging, at the G7 meeting in June 2021, plans were announced for a new £40 million UK Animal Vaccine Manufacturing and Innovation Centre at the existing Pirbright Institute campus in Surrey. The UK government is set to commit £18.5 million of funding to the project, whilst the Bill & Melinda Gates Foundation will provide £14.5 million. Updates on the construction schedule are yet to be announced, however. In addition, a 22-storey life sciences wet lab is planned for Canary Wharf, for expected completion in 2026.

Since 2010, annual new orders have averaged only £580 million, but were £710 million in 2021, the highest since 2012. Despite the sharp rise in orders, the construction activity would be spread over two or three years and so would lead to smaller rises in output. As existing projects reach completion and activity is offset by new work entering the pipeline, growth over the forecast period is expected to be muted. Following estimated growth of 3.0% in 2022, the start of the two major projects in London will sustain this growth rate in 2023 and 2024, but output will fail to return to levels seen in the previous decade.

Upper Scenario:

- Demand for private healthcare increases

Hospital backlogs since 2020 may increase demand for private healthcare, whilst the easing of travel restrictions would also increase demand from overseas health tourists. This would improve investor confidence, but any commitment to expansion plans would take longer to filter through to activity from 2022.

Lower Scenario:

- Hospital projects paused as NHS and private sector demand falls
- Rising construction costs lead to delays

Any resurgence in coronavirus infections linked to new variants would be expected to lead to reduced capacity and reduce both NHS referrals and privately-funded elective procedures. This would result in pauses to projects underway and delays to those yet to start. Delays may also be brought about by rising construction costs which cannot be absorbed by contractors, leading to potential legal issues on contracts.

Private Non-housing R&M

Private non-housing repair and maintenance (r&m) output recovered to pre-pandemic levels in 2021 and lingering uncertainty over demand for new offices and retail space, as well as rising build costs, will help support non-essential repair and maintenance of existing assets.

Output in the private non-housing r&m sector includes basic repairs and maintenance of offices, retail premises, warehouses, factories and other privately-owned non-residential properties and is dominated by work on offices and retail units. Typically, sector output tends to be less volatile than new build, given the reliance on long-term facilities management contracts, but in recent years, the discretionary element that is dependent on macroeconomic fundamentals related to business investment and consumer spending has been severely affected by uncertainty.

The pace of recovery in these key drivers has varied, however, with retail sales rising above pre-pandemic volumes in 2021, but business investment still 10.8% lower than in 2019. Business confidence has been adversely affected in the retail and entertainment sub-sectors due to the closure of non-essential businesses until mid-2021, which will have exacerbated the existing financial strains for in-store retail in particular. Conversely, with new investment in new build constrained in these sub-sectors, particularly retail, building owners are likely to increase their focus on r&m of existing building assets. This is also pertinent in the offices sub-sector, as businesses determine their post-pandemic requirements for office space in light of increased remote and hybrid working. A prolonged period of construction cost inflation, associated delays in contracts for new build, and renewed economic uncertainty related to the situation in Ukraine add to the prospects for a deterioration in business confidence, a reduction in new investment and potential delays to some non-essential maintenance since the Winter Forecasts.

The lockdowns in 2020 and 2021 added an element of volatility to a sector that has historically demonstrated a smoother growth profile than new build construction. Private non-housing

Private Non-housing R&M Output





r&m had already seen an element of volatility sparked by the liquidation or restructuring of major contractors operating in the sector in 2018 and 2019. In these previous cases, contracts were switched to alternative providers allowing work to continue, and given that concern has already been raised over facilities management services provided by other contractors that may be at risk of financial issues given low profit margins, the successive hit of Covid-related disruption and sharp rises in construction cost inflation and energy prices, flags this as an ongoing risk.

The majority of cladding remediation that urgently needs to take place is on residential buildings (see [Private Housing RM&I](#)) but 87 private non-residential buildings above 18 metres were identified with unsafe Aluminium Composite Material (ACM) cladding, of which 56 are student accommodation and 31 are hotels. The March 2022 monthly update from the Department for Levelling Up, Housing and Communities (DLUHC), formerly the Ministry for Housing, Communities

and Local Government (MHCLG) reported that cladding remediation works have completed on the majority of these high-rise buildings. For student accommodation, remediation has completed on 49, is underway on six sites, with one yet to start. For hotels, remediation has completed on 20 buildings, started on eight sites, with three waiting to commence.

Private non-housing r&m output fell 15.1% in 2020 and rose 16.7% in 2021, taking it back in line with pre-pandemic levels. Outside of routine or urgent r&m that cannot be delayed, discretionary r&m is likely to benefit from any reticence or delays on new build projects that sees building owners focus on maintaining existing properties. Growth of 2.0% is forecast for each year of the forecast period, which assumes business and consumer confidence remain weak against a backdrop of uncertainty over the economy and inflation.

Upper Scenario:

- Stronger focus on r&m in 2022

If the economic recovery slows more than expected due to rising inflation and lingering uncertainty, it is likely to lengthen the lag between new orders already confirmed and project starts for new build, and lengthen the investment decision-making process for projects slightly earlier in the pipeline. This would make maintenance of existing assets and facilities a greater focus for building owners and landlords. However, current and planned remediation works on high-rise private non-residential buildings, and any larger-scale r&m projects may be delayed or paused by material and equipment shortages or rising costs.

Lower Scenario:

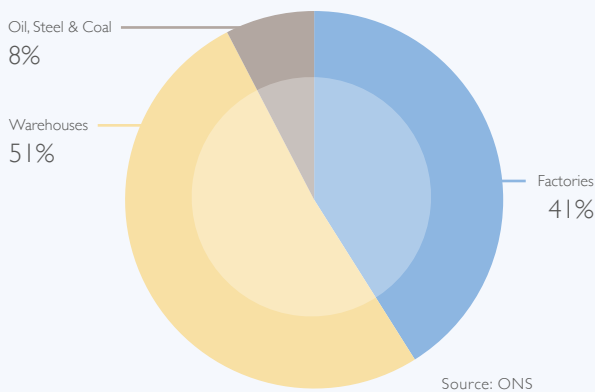
- Priority shifts to new build

Commercial and industrial new orders rose to multi-year highs in 2021 and if developers, contractors and investors continue to progress them through to starts on site, new build could be prioritised over r&m. This is likely to be the case particularly in sub-sectors where the lag between new orders and the start of construction work is shorter, namely industrial factories and commercial entertainment.

Industrial

The industrial output growth forecast for 2022 has been lowered to 9.8% due to the impact of renewed cost pressures and supply chain issues on warehouse schemes, even though factories investment and activity is set to gather pace, aided further by the government's 'super-deduction'.

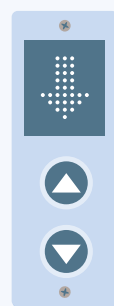
Industrial Output by Sub-sector 2021 (%)



In 2022, industrial output is expected to grow by 9.8%, slightly slower than the 13.0% growth estimated in the Winter forecasts due to the impact of the supply chain issues for construction materials and labour. Within warehouses, this has meant higher build costs, longer construction timelines for existing schemes and the deferral of speculative development start dates although large industrial specialists who are capable of securing materials in advance would be less impacted. Meanwhile, the ongoing structural shift towards e-commerce and near-term stockpiling by businesses aiming to mitigate lingering supply chain issues linked to the pandemic, Brexit and Russia's invasion of Ukraine will continue to underpin demand for warehousing and distribution space, and in turn, a pipeline

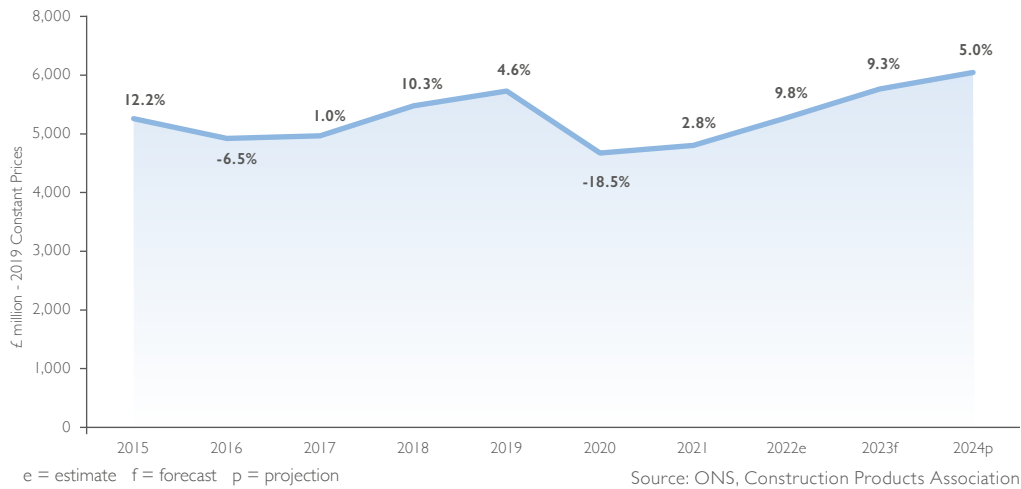
of work. At the same time, factories construction activity is set to pick up as progress is made on both existing and planned schemes, such as the UK's first gigafactory in Northumberland, whilst manufacturers are set to bring forward planned capital investments in order to advantage of the government's 'super-deduction' tax incentive before it is currently due to end in March 2023. As some factory projects complete and warehouses schemes deferred from this year enter construction, sector output is forecast to rise by 9.3% in 2023, up from 8.6% in the Winter and taking it 0.6% above its 2019 level. Output is then projected to rise by 5.0% in 2024.

The outlook for **factories** continues to be positive, even though existing challenges faced by manufacturers relating to the cost and availability of key materials and components, and supply chain bottlenecks have been exacerbated by Russia's invasion of Ukraine, whilst the supply of labour and skills still remains an issue. Sub-sector output is forecast to increase by 20.0% in 2022 as progress is made on several projects in the development pipeline, especially the £2.6 billion Britishvolt gigafactory in Northumberland, which



Industrial output
growth forecast
revised down to
9.8% in 2022

Industrial Output



is the first of many expected to support the automotive industry's transition to electric vehicles. Manufacturers are also expected to revive previously-paused plans and commit to new investments, aided by the government's two-year 'super-deduction' scheme, which came into force on 1 April 2021 and will run until 31 March 2023 (see [Economy](#)). This scheme, which offers a 130% tax relief on qualifying plant and machinery expenditure, should continue to incentivise manufacturers, especially larger ones, to make additional investments and bring forward future planned investments. At the end of 2022, output is set to be 15.0% above its pre-Covid-19 level. As some projects reach completion, the super-deduction scheme is withdrawn and corporation taxes rises, output growth is forecast to slow to 10.0% in 2023 and 5.0% in 2024.

Activity in factories is primarily driven by manufacturing output, which remained broadly flat (0.4%) quarter-on-quarter for a second consecutive quarter in 2021 Q4 as supply chain constraints and cost pressures persisted, albeit both showed some signs of easing. For the whole of 2021, manufacturing output rose by 7.2%, keeping it 2.3% below its pre-pandemic 2019 level. UK exports of goods (excluding precious metals) bounced back by a stronger 9.2% quarter-on-quarter in 2021 Q4, following the 5.3% fall in Q3 due to higher exports to both EU and non-EU countries, but with full year growth of 5.8%, it remained 11.8% below its 2019 level. This is likely to reflect the impact of global supply chain constraints and Brexit. The latter has led to some reshoring activities, as well as additional paperwork and custom checks on exports from the UK to the EU. Recent data from the ONS suggests that this weighed on exports growth in January, although manufacturing activity rose overall during the month, by 0.9% compared with December 2021. In February, a monthly fall of 0.4% was recorded in manufacturing output due to negative contributions from seven of the 13 sub-sectors, notably manufacturing of transport equipment and manufacturing of chemicals and chemical products.

Industry survey data from S&P Global/CIPS also showed that manufacturing activity picked up in January and February, before slowing to a 13-month low in March due to ongoing supply shortages, client hesitancy, rising inflationary pressures and geopolitical tensions. Given that the S&P Global/CIPS survey is, to a certain extent, reflecting sentiment, the fall in the index during March does not come as a surprise. Manufacturing production growth eased to a five-month low in March, whilst new orders rose at the slowest pace in the current 14-month sequence due to slowing domestic demand and a second consecutive month of falling new export business as Brexit added to supply chain woes. The March survey also showed that input costs and selling prices both rose at their strongest pace in three months, whilst business

optimism fell to a 14-month low. The drop in business optimism reflected concerns about labour shortages, as well as further inflationary pressures and supply chain disruptions as a result of the Russian invasion of Ukraine. Given this, HM Treasury's monthly comparison of independent forecasts from April showed that the average growth forecasts for manufacturing output in 2022 and 2023 were 2.5% and 1.5% respectively, down from 2.9% and 1.9% in February.



Despite a challenging backdrop, work is underway on Aston Martin's £200 million Formula 1 factory in Northamptonshire and Glass Future's £54 million glass research and innovation facility in St Helens, which are both due to compete in early 2023. Construction work is also underway on Forterra's £95 million Desford brick factory for completion later this year, whilst the £27 million redevelopment of its Wilnecote factory is expected to begin in July and complete in 2023. The redevelopment of Istock's Atlas and Aldridge factories and the construction of its new £50 million automated brick slip systems factory in Nostell, the first of its kind in the UK, are both underway for a completion in late 2023. Siemens Mobility has invested £200 million to build a new rail factory in Goole with the first phase due to open in 2023, whilst Siemens Gamesa has invested £186 million to expand its offshore wind turbine blade factory in Hull (through the development of two new facilities and repurposing of an existing facility) by May 2023. Works are underway on both projects. GE Renewable Energy's offshore turbine manufacturing facility in Teesside and Etex's £140 million expansion of its Bristol plasterboard factory are also both set to be delivered by 2023. Meanwhile, planning applications for Brompton's £100 million headquarters and bicycle factory on a 100-acre wetland site in Kent and SeAH Wind's £300 million monopile manufacturing plant in Teesside were submitted in April.

Given the government's target to phase out the sale of new petrol and diesel cars and vans by 2030 and, for all new cars and vans to be fully zero emission at the tailpipe from 2035, the development of gigafactories, which would support this transition through producing batteries for electric vehicles, will be a major driver of sub-sector activity over the medium to long-term. The Faraday Institution estimates that seven gigafactories that would each produce 20GWh per annum will be needed in the UK by 2040. Advanced works are currently underway on the UK's first gigafactory for Britishvolt, valued at £2.6 billion, in Northumberland, which would produce lithium-ion batteries for the automotive and renewable energy sectors. The first phase of the facility is scheduled to open in late 2023 or early 2024. Construction on Nissan and Envision AESC's £450 million gigafactory in Sunderland is also planned to start this year and complete in 2024. Plans to develop a third gigafactory at Coventry Airport by 2025 have also been given outline planning application.



Upper Scenario:

- Domestic and global demand proves resilient
- Uncertainties relating to Brexit and Covid-19 fade
- Further detail and planning approval for new gigafactories across the UK

The upper scenario assumes that domestic and foreign demand remains somewhat resilient in the face of rising inflationary pressures and supply chain issues following the Russian invasion of Ukraine. As uncertainty regarding the impacts of Covid-19 and post-Brexit measures fade, the recovery in business confidence and investment would then be expected to gather pace. Further detail and full planning permission for the development of new gigafactories across the UK, notably the one announced at the Coventry Airport site, would raise growth prospects for the sub-sector over the forecast period.

Lower Scenario:

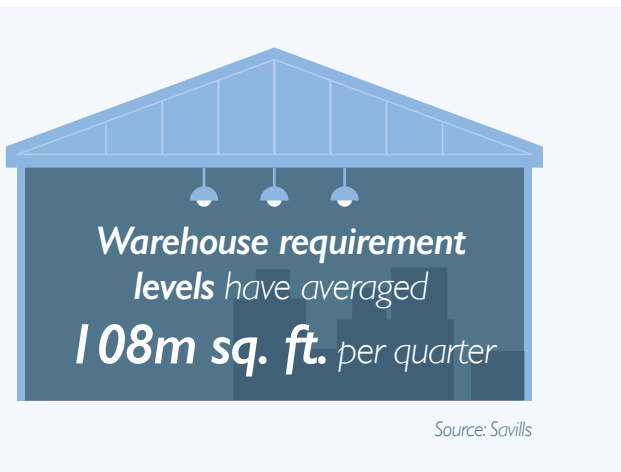
- Manufacturers delay or cancel investment plans again
- Domestic and global demand declines

If the UK economy enters a shallow technical recession during the second half of this year as supply chain issues worsen and inflationary pressures intensify due to higher global energy and commodity prices as a result of the Russian invasion of Ukraine, manufacturers are likely to delay or cancel major long-term investment plans again. In this scenario, elevated inflationary pressures at home and in key export markets would also reduce domestic and foreign demand in the near-term.

After two consecutive years of decline, **warehouses** construction output is now forecast to grow by 15.0% in 2022. This is a downward revision from the 23.0% growth estimated in the Winter forecasts due to the continued impact of global supply chain issues on the cost and delivery of new projects. Nevertheless, the sub-sector enjoys a healthy pipeline of projects that is in part expected to be delivered by large industrial specialists who are able to cushion the impact of supply chain constraints through securing materials in advance, whilst planned speculative schemes that were postponed last year are expected to enter construction this year. The sub-sector also continues to experience strong occupier demand for industrial and logistics space due to the ongoing structural shift towards e-commerce that was further accelerated by a change in both office working and shopping patterns since the start of the pandemic in early 2020. Demand has also been spurred by global supply chain disruptions caused by the pandemic, Brexit and, more recently, Russia's invasion of Ukraine,

which has forced many businesses to adapt their operating models through increasing their inventory levels. This is expected to underpin further speculative developments, although as some start dates may be pushed back again from this year to next year, output is forecast to rise by 10.0% in 2023, instead of 9.0% estimated previously, followed by a further 5.0% in 2024.

The fortunes of the sub-sector are tied to economic conditions, notably consumer spending, which slowed for a second consecutive quarter in 2021 Q4, as rising inflation lowered real households' disposable income, whilst the emergence of the



Omicron variant of Covid-19 and subsequent introduction of Plan B measures in England dampened confidence. The impact of this was clearly felt on the high street, with retail sales volumes falling 0.7% quarter-on-quarter in Q4. This marked the second consecutive quarter of decline after a fall of 3.3% in Q3. More recent data from the ONS shows that retail sales volumes fell 1.4% in March, following a monthly fall of 0.5% in February when stormy weather kept people away from the high street. Furthermore, the proportion of retail sales online continued to fall from its peak of 37.1% in February 2021 to 26.0% in March 2022, although this was still above the 19.6% recorded before the pandemic in February 2020. This suggests that many consumers maintained their online shopping habits even after physical retail stores reopened, a trend that is set to persist in the near-term and one that would create further demand for warehousing and distribution space.



Estate agents such as Savills, CBRE and JLL all reported that take-up of industrial and logistics space (units over 100,000 sq. ft.) across the UK in 2021 either exceeded or remained close to their record highs seen in 2020. While online retail continued to dominate take-up levels in 2021 due to the long-term structural shift towards e-commerce that has been accelerated by the pandemic, the amount of space taken by third-party logistics operators (3PLs), automotive, manufacturing and high street retailers also increased, illustrating that demand is becoming more widespread across sectors. JLL also reported that the share of speculative buildings accounted for 63% of the new floorspace transacted during the year, a significant increase from an average of 21% in the previous three years from 2018 and 2020, whilst 37% represented built-to-suit (BTS) buildings. Similarly, Savills saw the amount of new speculative space leased reach a record high of 15.1 million sq. ft. in 2021 driven by additional occupier requirements to cater for higher inventory levels amid supply chain disruptions created by Brexit and Covid-19.

With global supply chains set to face further disruption in the near-term due to the Russia-Ukraine war and the potential impact of certification and physical checks on EU imports to Great Britain delayed for the fourth time until late 2023, manufacturers and retailers are likely to again build up or maintain higher inventories and, in turn, increase their requirements for warehousing and distribution facilities. As highlighted in previous forecasts, any increase in such requirements close to all UK exit and entry points post-Brexit would be an upside risk to the forecast. Furthermore, with the long-term structural trend towards e-commerce showing no signs of abating any time soon and offices and retail investors continuing to diversify their portfolios, estate agents widely expect occupier and investor demand to remain strong going forward.

Analysis from Knight Frank predicts that the strong growth in e-commerce could create demand for 92 million sq. ft. of warehouse space across the UK by 2024, when online sales are projected to account for 32.0% of total retail sales. It expects growth will be partly driven by the grocery sector, which alone could create demand for 7.1 million sq. ft. of warehouse space by 2024. Savills reported that requirement levels have averaged 108 million sq. ft. per quarter over the past 18 months, whilst the development of gigafactories across the UK that would produce lithium-ion batteries, primarily for electric vehicles (EVs), will generate an additional

50 million sq. ft. of demand for industrial and warehouses space by 2040.

In response to strong demand, developers have increased supply in the form of speculative schemes. Savills and JLL reported that 18.6 million sq. ft. and 15.1 million sq. ft. of speculative space, respectively, was under construction at the end of 2021, whilst CBRE reported that 57% of total space under construction in 2021 Q4 was speculative, up from 14% in 2020 Q1. All estate agents, however, reported that supply still lags behind demand due to the availability and price of land, and delays in the planning process, although CBRE saw strong annual growth of 56% for approvals in Q4. In addition, labour shortages and the impact of global supply chain issues on the price and availability of key materials used for warehouse construction has led to higher build costs, extended delivery timescales for current schemes and the deferral of start dates for planned schemes from 2021 to 2022. Savills expects that labour shortages will become a greater issue this year, and with the war in Ukraine set to constrain the supply and, consequently, raise the price of key raw materials further, current schemes are likely to take longer to complete, whilst planned schemes for this year may be pushed back to 2023. However, large industrial specialists such as Segro and Tritax Big Box reported that they were able to minimise the impact of cost and delays in 2021 given their ability to secure materials in advance. In its financial results published in February, Segro reported that 195,200 sq. m. of space was approved or under construction at the end of 2021. Similarly, financial results for Tritax Big Box published in March showed it started construction on 1.3 million sq. ft. of space at the end of 2021 and on a further 1.8 million sq. ft. of its 8.8 million sq. ft. near-term development pipeline planned for the next two years in 2022 Q1. It also secured new planning consents for 3.0 million sq. ft. of space.

Upper Scenario:

- Consumer spending sustained by savings
- Reduced uncertainties underpin strong export growth

Savings helps households limit the impact of high inflation on real wages and may sustain consumer spending. This, as well as stronger export growth amid a reduction in geopolitical and post-Brexit uncertainties would continue to buoy retailers' and manufacturers' demand for warehousing and distribution space in the near-term. Although online retail sales may continue its downward trend from the peak in the first quarter of 2021, the proportion spent online is expected to remain significantly higher than pre-pandemic levels as many office-based workers continue to work from home for more than the 2-3 days assumed in the forecast. However, given the low availability of such space, questions remain how any additional demand will be met.

Lower Scenario:

- A sharp slowdown in consumer spending
- Speculative developments delayed or paused as global supply chains are significantly impacted by geopolitical and economic uncertainties

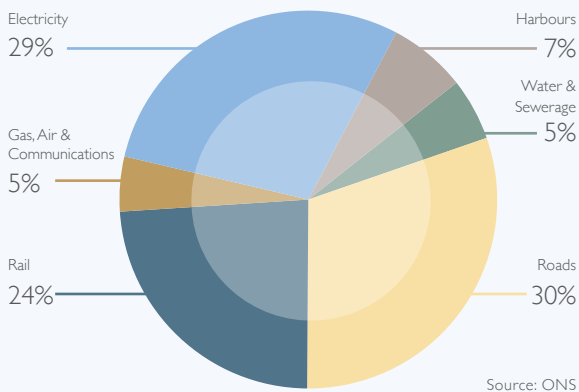
If consumers rein in spending sharply in the face of rising inflation and falling disposable income following the increase in national insurance contributions from April, this would lead to lower retail sales. In this scenario, retailers may cut back on expansion plans, denting demand for warehousing and distribution space. If significant disruptions in the global supply chain, brought by the Russia-Ukraine war and ongoing economic uncertainty post-Brexit also exacerbates the price increases and shortages of key construction materials, this may lead to further delays or pauses on current and planned speculative developments.



Infrastructure

The infrastructure output growth forecast for 2022 has been revised down to 8.8% as risks and uncertainties regarding the delivery of road schemes and Hinkley Point C have risen. However, with construction work due to step up on HS2 and activity occurring under current five-year regulatory spending periods, output would still rise to record high levels.

Infrastructure Output by Sub-sector 2021 (%)



Please note that the Office for National Statistics (ONS) has issues with its measurement of the sub-sectors in infrastructure. Firstly, the ONS's methodology means that although total infrastructure overall may be fine, sub-sector output is determined by the average time between new orders and output in the medium-term, often determined by projects within five-year spending plans in regulated sectors. However, if a new order for a major project in the sub-sector is placed, this may underestimate the time taken for it to provide activity on the ground and overestimate the amount of activity earlier on. An example of this may potentially be the extent of recent growth in water & sewerage due to the Thames Tideway project. Secondly, the ONS only surveys firms that are officially classified as

contractors so if the activity is done by an engineering firm then it will not be covered. This applies to all construction sectors and firms that do construction work but are not technically contractors. However, this issue impacts most upon infrastructure. Therefore, given concerns regarding the ONS's data on infrastructure output, especially at sub-sector level, the forecasts are not purely based on the ONS output data but take into account recent industry surveys and pipeline evidence. This is particularly the case for the roads, rail and electricity sub-sectors. Please refer to the relevant sub-sectors for a more detailed explanation and specific examples.

After reaching an all-time high of £28.4 billion in 2021, output growth in the infrastructure sector is forecast to slow to 8.8% in 2022, instead of 9.7% estimated in the Winter, as work ends on major offshore wind farms, particularly the soon-to-be world's largest offshore wind farm, Hornsea Project Two. The downward revision to growth for this year also reflects increased risks and uncertainties relating to the delivery of road schemes and Hinkley Point C, with the latter now facing the prospect of even more delays and cost overruns due

Infrastructure output forecast to rise



Infrastructure Output



to the impact of Covid-19, Brexit and the Ukraine war on global supply chains and inflation. Nevertheless, this year would see main civil engineering works ramp up on Phase 1 of HS2, Europe's largest infrastructure project, alongside ongoing works on the Thames Tideway Tunnel. Activity will also be supported by the current five-year investment programmes within regulated sectors, notably AMP7 with water companies set to increase capital expenditure from 2022/23. Given this, a further expansion in output is anticipated in 2023, albeit at a slower rate of 4.6% as main tunnelling works on the Thames Tideway Tunnel come to an end. As further planned road schemes and offshore wind farm projects in the pipeline progress towards construction, output is projected to increase by 2.5% in 2024.

The CPA, however, has consistently highlighted that uncertainty, delays and cost overruns on major infrastructure projects such as HS2 and Hinkley Point C remain the main downside risk to the outlook. Furthermore, as stated previously, growth prospects are heavily dependent on the delivery of key government funding announcements for infrastructure such as the fully awarded £2.5 billion Transforming Cities Fund and the £4.8 billion Levelling Up Fund, which aims to support a range of high-value local projects such as transport schemes, urban regeneration projects and culture assets between 2021/22 and 2024/25. In terms of the latter, the first round allocated £1.7 billion for 105 projects, whilst the bidding process for the second round is underway with a deadline of July. The same can be said for the National Infrastructure Strategy and the [National Infrastructure and Construction Pipeline](#), which includes around £400 billion worth of planned investment, of which over £200 billion will be delivered by 2024/25. Of this, £70.0 billion has been allocated for transport infrastructure, whilst £51.3 billion and £41.8 billion has been earmarked for energy and utilities. The procurement section of the updated pipeline also revealed 418 contract opportunities across 259 projects and 159 programmes with a total value of between £21.4 billion and £30.8 billion for 2021/22, which is lower than the contract value range of £28.8-£37.4 billion set out for 2020/21.

Despite a healthy pipeline of planned investment and procurement, the Infrastructure and Projects Authority estimates that over 425,000 workers will be required, annually on average, on top of the existing workforce over the period 2021/22 to 2024/25 to support delivery. Furthermore, it is worth noting that government measures to mitigate the economic cost of the coronavirus have inevitably raised public sector net debt, with the Office for Budget Responsibility (OBR) estimating it to have peaked at 95.6% of GDP in 2021/22. Although it is forecast to fall from 2022/23, higher inflation and interest rates are expected to raise the cost of servicing debt, which raises key questions regarding whether government's focus will be on as much infrastructure investment as announced pre-pandemic.

HS2 is now reporting



The **rail** sub-sector is expected to experience double-digit expansion of 20.0% in 2022 and 10.0% in 2023 as it continues to benefit from activity on Europe's largest infrastructure project, HS2. Alongside enabling works at various sites on Phase I of the route between London and the West Midlands, main civil engineering works continue to progress and are due to step-up from this year, even though the project faces the prospect of further cost overruns and delays. Network Rail's five-year Control Period 6, which

began in April 2019 and ends in March 2024, will also continue to provide a stream of work over the next two years, although its total budget for enhancements has been cut by 10.6% from £10.4 billion to £9.4 billion and concerns remain over the delivery of current schemes. As CP6 draws to a close and activity is sustained by HS2 works, output growth is projected to remain flat in 2024.

Please note that the ONS historic output figures for rail should be treated with caution given the ONS's mismeasurement of infrastructure sub-sector level data that have been further exacerbated by methodological improvements made in 2018. For example, output in the rail sub-sector increased 70.5% in 2018 to a record high of £6.5 billion, even though main works on Europe's largest infrastructure project, HS2, were yet to begin. The main civil engineering contracts for the first phase of the project, worth £6.6 billion were awarded in July 2017 and, as a result, new orders rose 315.2% to a record high of £9.0 billion in 2017. Rail output rose 35.5% in that year. The divergence between new orders and output has meant that the levels of output appear inflated in 2018 and even in 2019, despite CP5 ending. More recently in 2020, output fell by a record 39.9%, even though enabling works on HS2 continued during the pandemic and the formal start of main construction works was announced in September. Given these inconsistencies, the CPA is forecasting growth rates for actual activity on the ground.

HS2, which is planned to be delivered in three phases, will be the key driver of sub-sector activity throughout the forecast horizon and beyond. Phase I of the scheme, running from London to the West Midlands, involves the development of four new stations, three of which have been awarded contracts (Euston, Old Oak Common and Birmingham Curzon Street). The £370 million design and build contract for the fourth station, Birmingham Interchange, is due to be awarded this Summer. Significant progress has been made with main construction at the Old Oak Common station, whilst enabling works are set to continue at Euston station until 2023, when it is planned to enter the main construction phase alongside Birmingham Curzon Street and will be followed by Birmingham Interchange in 2024, according to HS2 Ltd's three-year Corporate Plan published in July 2021. Meanwhile, tunnelling work under the Chiltern Hills and Long Itchington Wood in Warwickshire is currently underway and so is work to facilitate the start of tunnel boring in Northolt and Euston from late 2023.

Initial Phase I services between Old Oak Common and Birmingham Curzon Street are planned to begin between 2029 and 2033, although HS2 has previously warned of pressures to the earliest delivery date due to the pandemic and delayed handovers from enabling works. The budget for the first phase is £44.6 billion, which includes £9.9 billion of contingency. So far, £14.9 billion has been spent on Phase I, £12.7 billion has been contracted out and has not been spent, whilst £1.3 billion of the total contingency has been used, leaving £15.7 billion left in its budget of £44.6 billion. Further works on Phase I are still to be procured and with the six-month update from March showing future potential cost pressures of £1.7 billion (up from £1.3 billion in the October update) and the cost of

the Covid-19 impact estimated within the range of £0.4 billion to £0.7 billion, the risk of further cost overruns and delays remain, particularly given the slow progress at Euston station. Phase 2a of HS2, which will also be built concurrently with the first phase, has a cost range of £5.2-£7.2 billion and the range for opening services is 2030-2034. The initial focus on this phase will be on environmental and enabling works, before main works begin from 2024. Meanwhile, the Integrated Rail Plan (IRP) for the North and Midlands, which was published in November 2021, confirmed that Phase 2b will include a shorter eastern leg (now known as HS2 East) from the West Midlands to East Midlands Parkway and a western leg from Crewe to Manchester, but any major works are set to occur well beyond the forecast period.



The current pipeline also includes two major Transport for London (TfL) projects, the £700 million Bank station capacity upgrade, which entered a 17-week blockade from January to facilitate the final phase of work, and the £332 million London Overground extension to Barking Riverside. Both projects are due to complete later this year, but further delays and cost overruns cannot be dismissed given the ongoing financial challenges faced by TfL that have been exacerbated by the pandemic. In February, the government announced a fourth funding and financing package of £200 million for the period 26 February to 24 June 2022 to cover lost passenger revenue. The deal also includes the potential for a longer-term capital settlement from 2022/23 for a period of up to three years, but this would need to materialise quickly in order to prevent a hiatus after work on major projects in London completes later this year. This includes the £18.9 billion Crossrail project, which remains on track to see the central section open in the first half of this year, with the rest of the service starting from Autumn 2022 to May 2023. However, further delays and cost overruns cannot be dismissed, and if they occur it is likely to be at the expense of other rail schemes in the capital. Meanwhile, construction work continues on the £150 million upgrade of Gatwick Airport's railway station, despite the suspension of its capital investment programme, and is due to complete in 2023.

Activity in the sub-sector will also be supported by Network Rail's five-year Control Period 6 (CP6), which has a total budget of £47.9 billion for the period 2019/20 to 2023/24, of which £34.7 billion will come directly from government grant, with the remainder coming from track access charges and income from other sources, such as Network Rail's property portfolio. Total expenditure, however, is expected to be £1.8 billion higher than its funding envelope, according to the Office of Rail and Road's (ORR) final determination for CP6. Whilst the focus of CP6 will remain on maintenance and renewals, £9.4 billion has been set aside for enhancement projects. This is lower than the £10.4 billion initially announced for 58 rail enhancement projects and there are no indications of which projects would be cancelled or delivered at a lower cost. Furthermore, in its annual efficiency and finance assessment of Network Rail published in July 2021, the ORR reported that £1.6 billion was spent on enhancements in 2020/21 (second year of CP6), 33.5% lower than the delivery plan and 11.2% lower than in 2019/20 due to delays in the approval of work by funders. This also represented a 50.0% reduction on the average annual expenditure in CP5. The Office for Rail Regulation (ORR) added that Network Rail has spent £1.8 billion of its £2.7

billion risk funding in the first two years of the CP6, leaving it with just £0.8 billion for the next three years. The remaining risk funding is particularly acute in Scotland, with only £57.0 million available to fund over £100 million of identified risks for the rest of CP6.

CP6 is expected to cover schemes that have been deferred from CP5 such as Stage 1 of the East West Rail project, where main construction works are continuing on the £760 million route between Bicester and Bletchley for a completion in 2024, and the Midland Mainline (MML) electrification programme, which is set to receive £1.4 billion from the IRP. In terms of the latter programme, electrification work between Kettering and Market Harborough is underway for a completion in 2024, whilst the bidding process to electrify the £500 million route from Market Harborough to Sheffield is due to begin in September. Also taking place in CP6 is the £1.2 billion upgrade to the East Coast Main Line, as well as the TransPennine Route upgrade, which is now set to receive £5.4 billion through the IRP to fully electrify and upgrade the line between Manchester, Leeds and York. The IRP confirmed that another £625 million would be available to make progress on the project, bringing the total funding allocation to £2.0 billion.

Upper Scenario:

- TfL revenue improves amid a recovery in passenger numbers
- Progress is made on delivering Network Rail's enhancement projects during CP6

If passenger numbers in the capital recover quickly from the pandemic, this would improve TfL's revenue and, in turn, prospects for new capital investment in shovel-ready projects. This, alongside progress on rail enhancement projects that are underway or planned to take place in the current five-year Control Period (CP6), would result in stronger growth rates over the forecast period.

Lower Scenario:

- Rail projects, including HS2, subject to further delays
- Contract awards for new rail projects paused to review costs
- A permanent shift in rail travel patterns post-pandemic hinders long-term prospects

HS2 has already been subject to significant delays so far and further delays would hinder infrastructure growth rates. In addition, projects in London may be delayed or postponed in order to find cost savings as a result of falling TfL passenger revenue, which would result in lower activity on the ground. Near-term activity would also be impaired if contractors pause to renegotiate contracts amid escalating inflationary pressures and economic uncertainty. If office-based workers continue to work from home for more than 2-3 days post-pandemic as assumed in the CPA's forecast, this may lead to a permanent and significant reduction in rail passenger demand, hindering long-term prospects for the sub-sector.

Electricity output growth over recent years has been largely shaped by offshore wind farm projects and work taking place on Hinkley Point C, the UK's first nuclear power station in over 20 years, and this will continue to be case over the next three years. Activity will additionally be supported by ongoing work around the National Grid power connections, which includes the £1.0 billion second phase of the



Hinkley Point C
to face further
cost rises and delays

London Power Tunnels (LPT2) project to construct a new 32.5km cable tunnel over three sections below the streets of South London between Wimbledon and Crayford. Tunnelling works are well underway and are due to be completed in 2023, when construction will then commence on the headhouse and run until 2024. The overall project is set to be completed in 2026. Furthermore, in its Business Plan for 2022 to 2025 published in March, the Nuclear Decommissioning Authority confirmed that expenditure across its 17 sites is planned to increase to £3.4 billion in 2022/23, from £3.2 billion in 2021/22.

The development of energy from waste (EfW) facilities will also contribute to activity. Construction on one of Covanta and Green Investment Group's EfW projects (Rookery South in Bedfordshire) has been completed and is continuing on the remaining three for a completion in 2023 (Newhurst and Earls Gate) and in 2024 (Protos). Main construction work is also underway on the Slough Multifuel EfW project for completion in late 2024, and was due to begin on the South Humber EfW project in Lincolnshire early this year for a completion in 2025. Construction work on the £300 million Redcar Energy Centre in Teesside is due to start in Q4 and complete in 2025. In January, the contract to build a £683 million EfW plant for the North London Waste Authority was awarded. Plans for a £200 million waste incinerator in Wiltshire and a £1.0 billion green aviation fuel plant in Teesside are also in the pipeline.

The government has committed £1.0 billion through the Carbon Capture and Storage (CCS) Infrastructure Fund to establish four new CCS clusters by 2030, two of which will begin construction by the mid-2020s. In October 2021, the government confirmed the first two CCS clusters – HyNet cluster in North West England and North Wales and the East Coast cluster in Teesside and the Humber – and a reserve in Scotland. In March, 11 projects within the HyNet cluster and 25 projects within the East Coast cluster were shortlisted for evaluation, with a final decision expected from May. These projects, which cover power, industrial carbon capture and hydrogen, would then require a development consent order before construction can begin. In the [Electric Vehicle Infrastructure Strategy](#) published in March, the government pledged to create 300,000 public electric vehicle (EV) charge points by 2030, backed by £1.6 billion of funding. This includes the £950 million Rapid Charging Fund to support the rollout of 6,000 high powered charge points across motorways and major A roads in England by 2035, and the £450 million Local EV Infrastructure (LEVI) Fund to help local authorities install EV hubs and on-street charge points from 2022 to 2025. It is worth noting that, according to the ONS, EV charging points in the historic construction output data are classified in infrastructure electricity for existing buildings and structures but when they are a part of new buildings and structures then the EV charging points activity will be a part of whichever sub-sector the building or structure is in (e.g. private housing, commercial offices etc.).

Renewable energy is expected to remain a key driver of sub-sector activity over the medium to long-term, given the government's target to now deliver 50GW of offshore wind capacity by 2030, of which 5GW will come from floating wind. These targets, which have been revised up from 40GW and 1GW respectively in the [British Energy Security Strategy](#) in April, will be supported by new planning reforms to reduce development consent time from four years to one. Looking at the offshore wind pipeline, work continues on the 1.4GW Hornsea Project Two, off the Yorkshire coast in the North Sea, and once complete later this year, it will become the world's largest offshore wind farm. Construction of the onshore converter station and export cable route on the £3.0 billion 1.4GW Sofia offshore wind farm, off the UK's North East coast, is underway, with offshore works set to begin in 2023. Meanwhile, the £9.0 billion Dogger Wind Farm is being delivered in three equal phases of 1.2GW – Dogger Bank A, B and C. Onshore construction is currently underway on Dogger Bank A and B, with offshore works due to begin in Q2. Dogger Bank A and B are expected to be completed in Summer 2023 and Summer 2024 respectively. Onshore

works are due to get underway on Dogger Bank C in the first half of this year, and once all three phases are completed in March 2026, Dogger Bank would produce enough renewable energy to supply 5% of the UK's electricity demand, equivalent to powering six million homes. In Scotland, works are also underway on the 1.1GW Seagreen offshore wind farm for a completion in 2023 and the 448MW Neart na Gaoithe offshore wind farm for a completion in 2024, rather than 2023 initially planned due to the impact of pandemic.

In terms of the future pipeline, three more offshore wind farms (East Anglia One North, East Anglia Two and Norfolk Vanguard) secured planning approval from government in Q1, adding to the three major projects (Hornsea Project Three, East Anglia Three and Norfolk Boreas) that have already secured development consents. Of the six projects, one is expected to start construction in June and four in 2023. A development consent order application for Hornsea Project Four is also being examined. The January update from the Crown Estate revealed seven projects in the pre-planning stage and 10 future projects, of which six are offshore wind farms as part of the Round 4 leasing programme and four are floating offshore wind farms. In September 2021, Ørsted also announced plans to invest £12.0 billion directly with Scottish companies on developing and constructing offshore wind farms in the nation over the next ten years. It has submitted bids for five projects totalling 8.5GW of capacity and comprising two floating wind only farms and three a mix of fixed and floating wind farms. Onshore wind farm projects may also return to the pipeline medium-term after government reversed its four-year subsidy ban on supporting developments in March 2020 although no specific targets were referred to in the British Energy Security Strategy other than plans to consult on partnerships with a limited number of communities that wish to host such infrastructure. Construction is currently underway on the 443MW Viking onshore wind farm project for a completion in 2024.

Apart from renewables, activity will be driven by the largest project in the sub-sector, Hinkley Point C, which has an agreed strike price of £92.5/MWh (in 2012 prices). In comparison, the latest offshore wind projects are set to be delivered at a strike price as low as £39.65/MWh given the sharp fall in costs in line with the expansion of offshore wind over the last decade. Major works are continuing at Hinkley Point C but the focus is now expected to shift towards mechanical and electrical works on the first reactor building, which will span over three years. The first reactor is set to be commissioned in June 2026, compared to end-2025 initially planned, and the project is expected to cost between £22.0 billion and £23.0 billion, compared to £21.5-£22.5 billion previously estimated in 2019. However, high risk of delays at unit one and two, of 15 and nine months respectively still remains present. Risks of further delays and cost overruns on the project have also risen due to the impact of Covid-19, Brexit and the Ukraine war on global supply chains and inflation and, as a result, a review is underway to provide an update on cost and schedule estimates in the Summer. Reflecting this, as well as major setbacks at similar projects in France, Finland and China that are all using the same EPR technology, further delays are likely.



In its Ten Point Plan published in November 2020, the government committed £385 million for an Advanced Nuclear Fund, comprising £215 million for Small Modular Reactors (SMRs) and £170 million for a research and development programme on Advanced Modular Reactors (AMRs). At the Autumn Budget and Spending Review 2021, a £120 million Future Nuclear Enabling Fund to address barriers to entry, as well as £1.7 billion of funding to enable one large-scale nuclear project to reach a final investment decision in this Parliament was also announced. Sizewell C is currently the only large-scale nuclear power project in the prospective pipeline and, if approved at the of May, the project would be a near replica of Hinkley Point C and supply around six million homes with low-carbon electricity although its construction, and even preliminary works, would occur beyond the forecast period. In the British Energy Security Strategy published in April, the government stepped up its support for nuclear by announcing a target to reach 24GW of nuclear capacity by 2050. This would be achieved through the development of small and advanced modular reactors, as well as eight new reactors on existing decommissioned sites by 2030, including the Wylfa project on Anglesey, which was previously cancelled in September 2020. However, this would need to be matched by a significant increase in skills and capacity in order to ensure the delivery of these projects.

Output in the electricity sub-sector declined 11.0% in 2019 even though main civil engineering works above ground on Hinkley Point C started in September 2019. That fall was followed by growth of 35.4% in 2020 despite the impact of the first national lockdown on workforce numbers and activity on site at Hinkley Point C during the first half of the year. This suggests that the ONS construction output data is not accurately reflecting activity on the ground, and as a result, the CPA is forecasting actual activity growth in the sub-sector rather than distortions in the ONS data.

Although the electricity sub-sector continues to benefit from a pipeline of renewable energy projects, notably offshore wind farms that continue to be delivered at scale and pace, output growth prospects for 2022 have been lowered to 7.0%. This is down from the 10.0% growth estimated in the Winter forecasts as Hinkley Point C now faces the prospect of even more delays and cost overruns due to the impact of Covid-19, Brexit and the Ukraine war on global supply chains and inflation. With the project now passed its halfway mark and the focus shifting towards fit-out work, activity in the sub-sector will be sustained by a number of offshore wind farm projects due to get underway from 2023. As a result, output growth is forecast to remain flat in 2023, an upward revision from the 5.0% fall previously, before growth of 5.0% in 2024.



Upper Scenario:

- Investor confidence improves allowing new energy projects to get off the ground

If investor confidence improves amid a reduction in economic uncertainty, this would allow large-scale projects to get off the ground, particularly offshore wind farms. The new National Infrastructure Bank, which was officially launched in June 2021 to essentially replace the role of the European Investment Bank could also underpin investor appetite for new energy infrastructure projects if it can lend at similar volumes and terms. Taken together, these factors would point to stronger growth rates over the next three years.

Lower Scenario:

- Investment in key energy projects stalls amid slower economic recovery and uncertainty
- Activity at Hinkley Point C is delayed by supply constraints

A fall in investment or reduced investor confidence amid slower economic recovery and uncertainty relating to the new National Infrastructure Bank following its launch in June 2021, is likely to hinder decision-making on key energy infrastructure projects in the near-term. If Hinkley Point C is affected acutely by skills shortages in the surrounding area and availability of key construction products, then there may be significant delays as a consequence, spreading the work out over a longer period and hindering growth rates near-term.

In **water & sewerage**, significant progress continues to be made on the Thames Tideway Tunnel, the largest water infrastructure project in the UK. Underground works on the 25km tunnel are expected to complete later this year, and Tideway's interim report from November 2021 confirmed the overall project's completion date of 2025 (originally 2023) and cost estimate of £4.2 billion.

Sub-sector activity will also be supported by work under the five-year Asset Management Plan (AMP7), which began in April 2020 and runs until March 2025.

Ofwat has approved a £51.0 billion spending package that will allow water companies in England and Wales to maintain existing services and improve resilience during AMP7, 13.0% higher than the £44.0 billion allocated for AMP6 (2015-2020). This includes £13.0 billion for new and improved services, and to tackle challenges facing the environment. Ofwat has also set out targets for water companies to achieve by 2025, including a 16% leakage reduction, 12% fewer mains bursts and more than 12,000km of river improvements. However, in September 2019, the Consumer Council for Water (CCWater) signalled concerns over whether some of these targets are achievable given that some water companies struggled to meet their targets during AMP6.

After a weak start to AMP7 due to delays during the transition from the previous five-year AMP6 period and the impact of the pandemic, water companies and major contractors that have secured contracts and long-term framework positions have signalled an increase in capital spending from 2022/23. A new £400 million pipeline between Essex and North Lincolnshire, which is among the largest infrastructure projects in the UK, is also being delivered during AMP7. Work on the first section of the 500km pipeline, between Lincoln to Grantham, is currently underway, and construction of further pipeline sections is expected to begin in 2022 and 2023, although some route designs are yet to be finalised



and are subject to planning permission. Overall, the new network is scheduled to be completed by 2025. Furthermore, preparatory work on the new £120 million Havant Thicket reservoir in Hampshire is underway. The contract for main works was due to be awarded in March and the reservoir is scheduled to be operational by 2029.

Please note that the ONS historic construction output figures for water & sewerage should be treated with caution given the ONS's mismeasurement of sub-sector level data. For example, in 2018, output in the water & sewerage sub-sector fell sharply, by 22.1%, despite main construction works occurring on the Thames Tideway Tunnel. Contracts for the project were awarded in February 2015 and, as a result new orders increased 428.4% in that year. Output rose 68.2% in 2016 (albeit from a low base), followed by a further 72.3% to a five-year high of £2.5 billion in 2017, even though main tunnelling works on the project were yet to begin. This suggests that the ONS's construction output data is not accurately reflecting activity on the ground and is likely to have been incorporated too early in the data. As a result, the CPA's forecasts for the sub-sector focus on growth rates that are more illustrative of activity on the ground.

Output in the water & sewerage sub-sector is forecast to rise by 10.0% this year driven by remaining tunnelling works on the Thames Tideway Tunnel. Water companies are also expected to ramp up their AMP7 capital investment programmes from 2022/23 after the pandemic disruption, which would provide further support to output during the later years of the forecast period. However, as tunnelling works on the Thames Tideway Tunnel come to an end next year and the project moves into its testing and commissioning stage, growth is forecast to remain flat in 2023 and 2024.

Upper Scenario:

- The focus shifts to new build under AMP7

If work accelerates and the focus shifts more towards new build under the five-year AMP7 programme, alongside works on the Thames Tideway Tunnel, this would lead to stronger growth rates over the forecast period.

Lower Scenario:

- Work on the Thames Tideway Tunnel is delayed due to extended lead times on key construction products

If the supply of key construction products used on the Thames Tideway Tunnel is affected by availability issues and cost inflation then this could have a knock-on impact on the project, constraining growth near-term, although boosting growth in later years, whilst also leading to cost overruns.



Rollout of new
smart motorway
schemes was
paused in January



The forecast for **roads** construction output growth in 2022 has been revised down marginally to 2.0% from 3.0% in the Winter, as risks to the outlook have further tilted to the downside after government announced a pause to all technology-driven smart motorways schemes yet to start construction, previously a key driver of activity, until safety concerns have been addressed.

The modest growth, however, reflects

tunnelling works starting on TfL's Silvertown Tunnel project by Summer, and activity occurring on National Highways' second Road Investment Strategy, although capital expenditure is only set to ramp up towards the end of road period 2 (RP2) in line with the funding reprofiling announced in Spending Review 2020, whilst the total budget has been cut by 12.4% from an initial commitment of £27.4 billion to £24.0 billion. Given this, output is forecast to rise by 3.0% in both 2023 and 2024.

Please note that in a similar vein to the water & sewerage and rail sub-sectors, the ONS's mismeasurement of sub-sector level data has meant that historical figures for roads output appear inflated, contradicting other pipeline evidence and industry surveys. For example, in 2020, roads output fell by only 0.8% to £5.6 billion and although National Highways and local authorities took advantage of quieter roads to carry out more work during the lockdown periods, the growth rate contrasts other indicators of activity that indicate a slightly sharper fall. Data from the Mineral Products Association (MPA) showed that sales volumes of asphalt sales declined 8.6% in 2020, before rising by 12.5% in 2021. The pace of recovery in 2021 is in stark contrast to the growth reported in the official data of 53.5% that took output to a record high of £8.6 billion even though the delivery of major road projects has been impacted by planning delays. Overall, this suggests that the ONS's construction output data is not accurately reflecting activity on the ground, and as a result, the CPA is forecasting actual activity growth in the sub-sector rather than distortions in the ONS data. The data may also be reflecting an increase in technology-driven smart motorway schemes.

Activity in the sub-sector will primarily be driven by National Highways' Road Investment Strategy 2 (RIS2), which now has a funding envelope of £24.0 billion to deliver over 60 upgrades during the second road period (RP2), running from 2020/21 to 2024/25. This is £3.4 billion lower than the original budget of £27.4 billion, which is likely to reflect delays on major road schemes, notably the Lower Thames Crossing and the A303 Amesbury to Berwick Down (Stonehenge) that are now expected to occur in Road Investment Strategy 3 (RIS3). This comes after the government reprofiled RIS2 capital funding at Spending Review 2020, which resulted in £1.0 billion of funding being pushed back from the first three years of RP2 (2020/21-2022/23) to the final two years (2023/24 and 2024/25), partly due to the impact of planning and coronavirus-related delays on delivery timescales for major schemes. Furthermore, the Office of Rail and Road's (ORR) annual assessment of Highways England (now renamed as National Highways) Performance published in July 2021 revealed that delays in obtaining Development Consent Orders (DCOs) for 20 schemes yet to start work in RP2 remain a significant risk and may lead to underspends, work on many schemes being carried out at the same time, particularly towards the final years of the second road period or the deferral of some project start dates beyond 2025 as was previously cautioned.

At present, work is underway on a number of projects valued below £200 million, including the A1 Scotswood to North Brunton, A585 Windy Harbour to Skippool and the A2 Bean and Ebbsfleet schemes, which are all due to complete in 2022/23. Construction is also continuing on a few major road schemes such as the £330 million A30 Chiverton to Carland Cross, which is partly funded by an £8.0 million contribution from the European Regional



Development Fund, as well as the £100-£250 million A303 Sparkford to Ilchester, the £355 million A63 Castle Street, the £282 million M42 Junction 6 and the A1 Birtley to Coal House schemes. These projects are expected to be completed in either 2023/24 or 2024/25. Outside of RIS2, construction work is underway on the £1.2 billion Silvertown Tunnel project that comprises a new twin-bore road tunnel under the River Thames in east London. Tunnelling works are due to get underway from this Spring/Summer with completion scheduled

for 2025. However, given the impact of the pandemic on TfL's finances, as well as ongoing environmental concerns surrounding the project, delays and cost overruns are likely. In Scotland, the £3.0 billion A9 Dualling programme involves dualling 11 sections between Perth and Inverness by 2025. Of the 11 sections of the route, two have been completed and nine are in preparation. The main works contract for the third £115 million section of the A9 Dualling programme between Tomatin and Moy is due to be awarded in the second half of this year, whilst design work is progressing on the remaining schemes.

Although further road schemes are planned to enter the pipeline from 2022/23, many are subject to DCOs such as the A428 Black Cat to Caxton Gibbet, for which a £507 million contract was awarded in 2021 Q1 and a decision is to be made later in the Summer. In 2021 Q2, contracts were also awarded for the A358 Taunton to Southfields upgrade (worth £328 million), the A27 Arundel bypass (worth £250 million) and the Norwich Western Link (worth £100 million) schemes. However, development consents for all these schemes are expected between 2023 and 2024 and, as a result, construction on most of them is set to occur beyond the forecast period. The National Infrastructure and Construction Pipeline 2021 revealed that four major road contracts totalling £12.0 billion were to be awarded by March 2022, but only one worth £3.6 billion for a National Highways six-year Scheme Delivery Framework to deliver renewals on motorways and A roads across England has been awarded. The pipeline also outlined £4.0 billion worth of contracts for the Lower Thames Crossing for which procurement is underway with the award of contracts expected in Summer 2023, even though the resubmission of the planning application for a DCO has been delayed to later this year. It also reflects a £2.0 billion contract for the A303 Amesbury to Berwick Down (Stonehenge) project, where government is currently re-determining its planning application after previously quashing the DCO in July 2021. In July 2021, the DCO for the A38 Derby Junctions scheme was also quashed and the application is being re-determined, whilst the decision deadlines for the M25 Junction 28, M25 Junction 10, A1 Morpeth to Ellingham and M54 to M6 link road schemes have again been pushed back to the second quarter of this year.

In addition to planning delays, all new road projects in Wales have been paused whilst a review is being conducted to address climate change and to consider how funding can be redirected from building new roads towards maintaining existing routes and improving public transport. Given recent developments, further delays and cost overruns on planned schemes cannot be disregarded, especially given past delivery experiences. For example, progress was slow on the £3.5 billion Oxford to Cambridge Expressway since plans were initially announced in 2014. It was initially paused in March 2020 and in March 2021, the Department for Transport cancelled the project after a review revealed it was not cost-effective as expected in previous CPA forecasts.

Adding to the woes of the sub-sector, the government halted the rollout of new all lane running (ALR) smart motorway schemes, which focus on the use of technology, electrics and signage rather than solely new roads construction, until five years of safety data is available for such schemes introduced before 2020 in January. This is in line with the recommendations set out by the Transport Select Committee in November 2021, which also included retrofitting emergency refuge areas of existing all-lane running motorways to make them a maximum of one mile apart, decreasing to every 0.75 miles where possible. Given this, the government also committed £900 million of funding to improve the safety on existing ALR motorways in January, including £390 million to retrofit more emergency areas during the second road period. Smart motorway schemes that are under construction will not be affected by the latest announcement and will continue to progress, however. According to National Highways, construction is underway on five schemes, including the M4 Junctions 3 to 12, the longest smart motorway scheme in England, which is due to complete this Spring.

Upper Scenario:

- Road schemes receive go-ahead
- National Highways brings forward road schemes

If contracts and development consents for the remaining major road projects outlined in the National Infrastructure and Construction Pipeline 2021 are awarded and obtained respectively, this would lead to higher activity over the next three years. Activity in the pipeline would also increase if National Highways brings forward road schemes from later years of the second road period.

Lower Scenario:

- Existing road schemes delayed due to supply issues
- Road contracts delayed to assess the impact of the rising labour and products costs
- Delivery of road schemes impacted by planning delays, environmental concerns and safety risks in the case of smart motorways

If availability and cost issues for products and labour escalate then work on road schemes may be delayed, whilst contract awards for new road schemes would be delayed to take account of higher construction costs. Delays in obtaining development consent orders for more enhancement schemes due to concerns regarding their environmental impact would hinder the delivery of National Highways' second Road Investment Strategy, and if the rollout of existing smart motorway schemes is also delayed or paused to address safety issues once data has been analysed, this would add to downside risks. If office-based workers continue to work from home for more than the 2-3 days medium-term assumed in the CPA's forecast, this may impact future demand for road travel and, in turn, long-term expansion plans through the Road Investment Strategy.

The **gas, air and communications** sub-sector will continue to recover gradually from the pandemic, with output forecast to rise by 12.0% in 2022. This reflects a weak pipeline of airports work, which is expected to be partially offset by work to rollout full-fibre and gigabit infrastructure that is continuing apace under various programmes across the UK. Within airports, the focus continues to be on finishing work on a limited number of projects in the current pipeline, whilst major expansion plans that historically dominate sub-sector output remain on hold and capital investment programmes have either been cut or deferred until a recovery in air travel demand materialises, which is unlikely to reach pre-pandemic levels until at least 2023/24. On this basis, output growth is forecast to pick up to 20.0% in 2023, before growth of 5.0% in 2024.

Given ongoing uncertainty around the recovery of both domestic and international travel, many airports across the UK have kept their expansion plans on pause and deferred or reduced capital investment programmes for the foreseeable future. At Heathrow Airport, total capital expenditure in 2021 was £289 million, compared with £422 million in the same period of 2020. In its Revised Business Plan Update 2 published in December, Heathrow Airport proposed a £4.1 billion capital investment plan for the next five-year regulatory period, H7, which comes into force this year. The CAA is due to publish its final proposals for the H7 period in Q2. In December 2020, the UK Supreme Court reversed the Court of Appeal's decision made in February 2020 that plans for a third runway at Heathrow Airport were unlawful on environmental grounds. While this allows Heathrow Airport to now seek planning permission, there remains a key question over any new major investment in airport capacity given the hit to air travel since March 2020 and even if it were to occur, the CPA expects any work to occur well beyond the forecast horizon.



Gatwick Airport's rolling £1.1 billion five-year capital investment programme (2019 to 2024) has also been impacted by the pandemic, with over £570 million of capital expenditure planned for the period 2020 to 2022 deferred or cancelled. During 2022, the airport will be resurfacing the central section of the main runway and submitting a planning application for its £500 million plan to transform the existing northern runway into a second operational runway between 2024 and 2029. Meanwhile, the focus of Manchester Airport's £1.0 billion ten-year investment programme and Stansted Airport's £600 million five-year transformational programme will be on completing the current phase of work at both airports, whilst future phases have been paused until demand recovers and the impact of the pandemic has abated. Birmingham Airport's £500 million investment plan to improve, modernise and extend facilities by 2033 and the second phase of London City Airport's £480 million expansion programme have also been put on hold. At Luton Airport, the new £225 million light rail system that will allow trains to run directly into the terminal is nearing completion and there is little in the way of new work after plans to build a second terminal have been delayed. Although there has been no indication of when some of these airports would restart expansion plans, it would largely depend on the recovery in air travel demand, which is not expected to return to pre-pandemic levels until 2023/24 at the earliest. In March, Leeds Bradford Airport cancelled plans to build a £150 million three-storey terminal due to planning delays.

Unlike airport expansion programmes, plans to expand full-fibre broadband across the UK have continued throughout the pandemic. This includes BT's £15.0 billion investment programme, which aims to extend its full-fibre network to 25 million premises by December 2026. So far, full-fibre has been rolled out to almost 6.5 million premises. Furthermore, in June 2021, Virgin Media O2 (VMO2) committed to invest £10.0 billion in fibre broadband and 5G infrastructure over the next five years. In July 2021, VMO2 also announced plans to upgrade its entire fixed network to full fibre-to-the-premises (FTTP) by 2028, alongside the existing Project Lightning programme that has reached 2.7 million premises since its launch in 2015 and 500,000 more premises are planned to be added this year. Furthermore, in February, Liberty Global and Telefonica revealed plans to build a full-fibre network to serve up to seven million premises in new greenfield areas by the end of 2027.

Other major investments in full-fibre networks include Hyperoptic's £500 million project to extend its fibre network to five million residential and business premises by 2024, Gigaclear's plans to expand its network to 500,000 rural properties by 2023, as well as CityFibre's £4.0 billion Gigabit City Investment Programme that aims to roll out full-fibre to eight million premises by 2025. In terms of the latter, full-fibre has been deployed to more than 1.5 million premises to date. Furthermore, Upp's £1.0 billion investment plan aims to deploy a FTTP network across one million premises in eastern England by 2025. The government has also committed £5.0 billion of funding to support the rollout of gigabit-capable broadband in the most difficult to reach 20% of the country, of which £1.2 billion has been earmarked for the period 2021/22 to 2024/25. Meanwhile, the £1.0 billion Shared Rural Network programme, which is supported by government funding of £500 million and industry funding of £532 million, aims to extend 4G rural coverage to 95% of the UK by 2025. In the Autumn Budget and Spending Review 2021, the government allocated £180 million from its £500 million share for the next three years.

Upper Scenario:

- UK airports resume planned capital expenditure amid an improvement in passenger demand
- Substantial progress is made in expanding full-fibre networks across the UK

If domestic and international travel restrictions related to the pandemic are eased quickly, this would allow the recovery in air travel demand to continue, and in turn, allow major airports across the UK to restart planned capital expenditure earlier over the next three years. This, alongside significant progress under major full-fibre broadband programmes would result in higher activity over the forecast period.

Lower Scenario:

- UK airports halt capital projects for reassessment

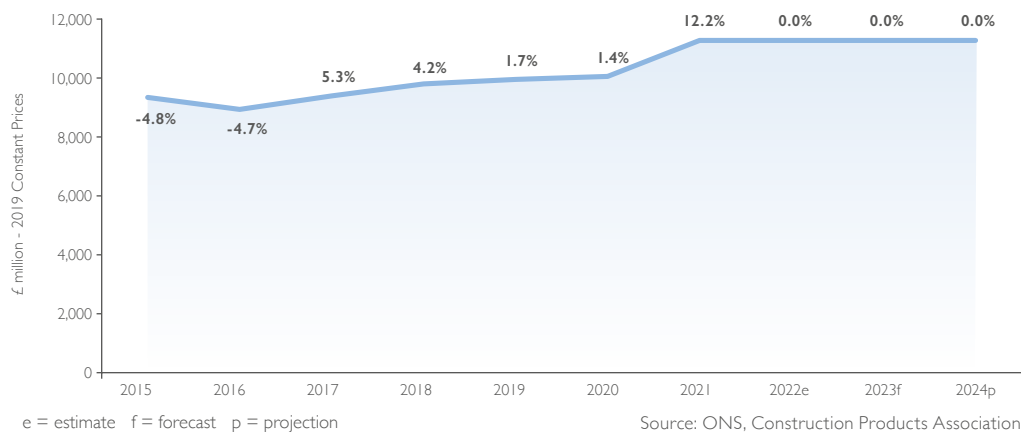
If travel restrictions on both outbound and inbound travel are tightened further, or if tourist travel takes longer to return to pre-pandemic levels, capital projects and long-term investment programmes at UK airports are likely to remain on hold for a longer period than anticipated to reassess plans and decisions.



Infrastructure R&M

Infrastructure repair and maintenance (r&m) includes work on assets owned by utility companies, airports and energy-generating facilities, and publicly-owned assets such as roads and rail, which will help sustain a high level of activity over the next three years.

Infrastructure R&M Output



Source: ONS, Construction Products Association

Infrastructure r&m work has continued throughout the pandemic as it was deemed critical to the running of the country's infrastructure. However during the lockdown periods, particularly the first national one in late March 2020, infrastructure providers and local authorities shifted priorities to address only essential r&m. That said, local authorities and National Highways had also taken advantage of quieter roads across the UK during such periods by bringing forward scheduled repairs and maintenance work that is often capital intensive. Although these factors temporarily affected the profile of the sector, output rose by 1.4% in 2020, followed by a further 12.2% to a record high of £11.3 billion. Going forward, output is set to remain at this high level,

with flat growth forecast in each year between 2022 and 2024, as work continues under current five-year regulatory periods for water & sewerage, rail and roads, although the focus would be simultaneously shifting towards ramping up the delivery of new build projects.

In its second Road Investment Strategy (RIS2), National Highways committed £5.8 billion of capital funding for operations, maintenance renewals and business costs during road period 2, running from 2020/21 to

One-time cost to clear local roads maintenance backlog in England and Wales has risen from

£10.24bn in 2020/21 to £12.64bn in 2021/22

Source: AIA 2022 ALARM survey



2024/25. The Office of Rail and Road's (ORR) annual assessment of National Highways' Performance published in July 2021 revealed that £760 million was spent on renewals in 2020/21, the first year of RP2, £25.0 million (3.4%) more than planned as some renewal schemes were brought forward. Similarly, £538 million was spent on operations and maintenance in 2020/21, £30.0 million (5.9%) more than planned as National Highways accelerated maintenance works by taking advantage of underspends on other budgets. However, local authorities manage 97% of the roads network and remain financially-

constrained due to cuts in central government funding since 2010. According to the Local Government Association, local authorities will face an overall funding gap of almost £8.0 billion by 2025. As a result, basic repairs and maintenance are unlikely to be a key driver of work in the sector despite the urgent need for basic repairs to roads. In Budget 2020, the government announced a £2.5 billion Potholes Fund with £500 million in each year between 2020/21 and 2024/25 to fix up to 50 million potholes across England. Furthermore, the government has earmarked £150 million of funding from the National Productivity Investment Fund (NPIF) to local authorities for small congestion-related improvement projects such as roundabouts, with £75 million available in each financial year, 2021/22 and 2022/23. In Spending Review 2021, the government announced £2.7 billion of funding for the next three years to address road maintenance such as potholes, bridge repairs and road resurfacing, and confirmed £2.6 billion of funding to deliver a long-term pipeline of over 50 local road upgrades between 2020-2025. Anecdotal evidence, however, suggests that the money is not new but pulled together from various funding pots previously announced. Overall, the government plans to invest over £8.0 billion in local roads maintenance and upgrades over this Parliament. However, given that funding for road maintenance is not ring-fenced, local authorities may use this funding on other priorities.

Despite these announcements and funding allocations, the Asphalt Industry Alliance's 2022 ALARM survey revealed that there was a nine-year backlog for local roads maintenance in England, London and Wales in 2021/22, at a cost of £12.64 billion. This is 23.4% higher than the £10.24 billion one-time catch-up cost estimated in 2020/21 and the highest on record. The survey also reported that 11% of the overall network is classified as 'red' (up from 9% last year), meaning that around 22,600 miles of roads are likely to require maintenance within the next 12 months. Furthermore, 18% or 36,918 miles of the network was reported to be in poor condition and having less than five years of life remaining in 2021/22, which is an increase on last year's figures of 17% or 34,867 miles. The Asphalt Industry Alliance now estimates that £2.0 billion a year over the next decade is needed to bring local roads up to a standard from which they can be maintained, up from the £1.5 billion per year figure estimated four years ago. It has also previously said that a longer term funding approach, similar to the commitments made to the strategic network in the two five-year Road Investment Strategy (RIS) periods to help local authorities plan ahead and implement a sustainable and cost-effective approach to maintaining the local road network is needed.

In the rail sub-sector, the focus of Network Rail's Control Period, CP6, running from 2019/20 to 2023/24 will largely be on maintenance and renewals, with fewer new enhancements. CP6 has a budget of £47.9 billion, compared to £38.3 billion allocated for CP5. In October 2018, the ORR set out its final determination on Network Rail's £34.7 billion five-year spending plans.

It approved £7.7 billion spending on maintenance and £16.6 billion on renewing the existing railway, with renewal work seeing a 17.0% increase from the £14.2 billion in CP5. The ORR's annual efficiency and finance assessment of Network Rail published in July 2021 showed that spending on maintaining and renewing the rail network in 2020/21 exceeded their delivery plan target of £1.9 billion and £3.9 billion, by £172 million and £314 million respectively, partly due to pandemic-related costs.

Within water & sewerage, activity will be supported by the five-year Asset Management Plan (AMP7), running from 2020/21 to 2024/25. In its final determinations published in December 2019, Ofwat approved a £51.0 billion spending package that will allow water companies in England and Wales to maintain existing services and improve resilience during AMP7, 13.0% higher than the £44.0 billion allocated for AMP6.

Upper Scenario:

- Central government increases infrastructure r&m spending

If government is looking for a quick fiscal stimulus then a large increase in ring-fenced funding to local authorities for transport projects that allows work to get off the ground would provide a boost to infrastructure r&m output in the near-term.

Lower Scenario:

- Financial constraints for local authorities restrict non-essential repairs and maintenance
- Planned r&m work impacted by rising costs
- Infrastructure r&m is likely to be overshadowed by new build activity rather than basic maintenance

Local authorities are likely to prioritise the essential repair and maintenance of critical infrastructure over routine r&m if their finances deteriorate due to spending on local health and social care needs. Faced with renewed cost pressures and supply chain disruption, local authorities are also likely to scale back or cancel planned r&m works in the near-term. In this scenario, government's focus on infrastructure spending and delivering large new build projects to stimulate economic recovery would also shift the focus further away from r&m activity, hindering growth prospects for the sub-sector.





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