Construction Industry Forecasts 2021-2023

Autumn 2021 Edition - £210




Contents

DISCLAIMER

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

All output figures are in 2018 constant prices using the historic figures from the Office for National Statistics (ONS) – as at 30 September when the Forecasts were finalised.

All new orders figures are in 2018 constant prices using the historic figures from the Office for National Statistics (ONS).

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Overview

Construction output is forecast to rise by 14.3% in 2021 and 4.8% in 2022. Demand continues to be strong, particularly in housing new build and repair and maintenance, infrastructure and industrial warehouses, which points towards stronger growth than forecast but the number of uncertainties and constraints on the supply side has increased even further than three months ago and this will restrict growth over the forecast period.

Construction output growth in 2021 is forecast to rise by 14.3% compared with 13.7% in Summer. The upward revision reflects the marginally more buoyant activity during the first half of the year and the strong level of demand currently. However, going forward, towards the end of 2021 and, especially during 2022, construction output growth will be contingent on the extent to which supply can meet the high level of demand.

The focus towards the end of 2020 and during the first quarter of 2021 was on the availability and cost of imported products, which still remain an issue. For products coming in from China, this has been exacerbated by delays at Chinese ports and sharp rises in shipping costs. More recently, a sharp increase in energy costs have led directly to increases in imported product costs and, indirectly, to slowdowns in production and exports, which will lead to further availability and cost inflation issues.

Construction output to **grow** by

14% & **5%**

in 2021 in 2022

Key Points

- Construction output rises **14.3% in 2021** and **4.8% in 2022**
- Infrastructure output to rise **23.9% in 2021** and **9.7% in 2022**
- Private housing starts rise **28.0% in 2021** and **7.0% in 2022**
- Commercial output at the end of **2023** still expected to be **10.4%** lower than in **2019** despite three years of growth
- Private housing repair, maintenance and improvement to grow by **20.0% in 2021** but remain flat in **2022**
- Public housing repair, maintenance and improvement to rise by **10.0% in 2021** and **5.0% in 2022**

Whilst many imported products remain an issue, there are also increasing skills shortages in key hotspots of construction activity in addition to issues of availability for some domestically made products. The issues of products cost and availability have also been exacerbated by the shortage of HGV drivers. Many of these issues have been highlighted in previous CPA forecasts but the extent of the issues continues to rise. Furthermore, the most recent sharp increases in UK energy (gas and electricity) prices will impact on the construction supply chain. This is particularly the case for some heavyside product manufacturers for whom energy prices account for around one-third of total costs. As a consequence, cost and availability issues may increase further over the next 6-9 months.

As highlighted in previous CPA forecasts and webinars over the past 12 months, the largest impacts of the availability and cost issues are on the smallest contractors.

Large contractors and major house builders

Activity will be constrained by ***construction products*** *and* ***skilled labour*** *supply issues in 2021 and 2022*

have a greater certainty of demand over the 12-18 month horizon and are better able to plan and purchase in advance as well as adjust to changing economic situations. They are also the larger customers of product manufacturers, merchants and construction plant firms.

Small contractors, conversely, are more focused on flexibility and have less visibility over demand going forward. Plus, they have less ability and resource to plan and purchase well in advance. In addition, they often turn up at builders merchants on the day to purchase what they need for that day or the next few days. As a result, it leaves their cash flow more exposed to availability and cost inflation issues. Furthermore, they are also affected more from delays in completing projects due to a lack of availability in labour, products or equipment impacting upon the next project because of lack of additional resource.

Public & Private Sector Construction Output

£ million	2019	2020	2021	2022	2023
Change on previous year	Actual	Actual	Estimate	Forecast	Projection
Public Sector inc. PFI	40,861	37,565	42,645	44,584	46,206
	3.4%	-8.1%	13.5%	4.5%	3.6%
Private Sector	130,618	109,885	125,830	131,967	134,363
	1.3%	-15.9%	14.5%	4.9%	1.8%
Total Construction	171,479	147,450	168,475	176,550	180,570
	1.8%	-14.0%	14.3%	4.8%	2.3%

Source: ONS, Construction Products Association

Whilst these supply issues are currently high-profile, the full impacts of this are likely to be felt in 2022 as they feed through the supply chain and with little sign of a near-term solution. Given all the current and expected future uncertainties, the CPA construction output forecast for 2022 has been revised down from 6.3% to 4.8%. This still represents robust growth and with this increase, overall, output in 2022 would be 3.0% higher than in 2019, pre-Covid-19 (coronavirus).

Historically, forecasts for construction tend to focus on demand-side factors such as the pipeline of projects, government (as the largest construction client) capital spending programmes, general trends in household income, consumer confidence and spending as well as business confidence and investment. However, since Spring 2020, the focus has had to shift more towards the impacts of supply-side factors, which are less easy to measure. As a result, in the CPA's Autumn forecasts, the key demand-side drivers and the key sectors driving growth remain similar to previous forecasts. The key question is whether there is sufficient capacity in the whole construction supply chain to enable this demand.

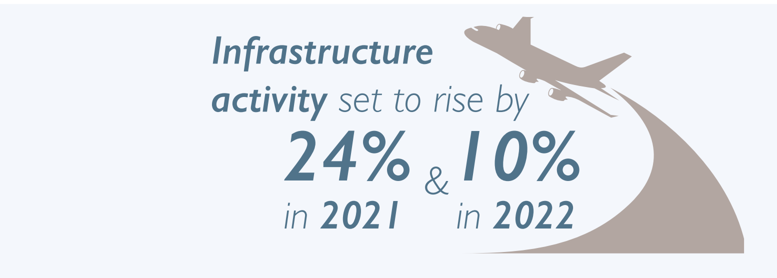
Infrastructure is still expected to be the key driver of construction growth in 2022 and, so far, it appears to have been less affected by supply-side issues than other areas of construction such as refurbishment. Main activity in the sector is due to work on five-years spending plans

Construction Output

e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

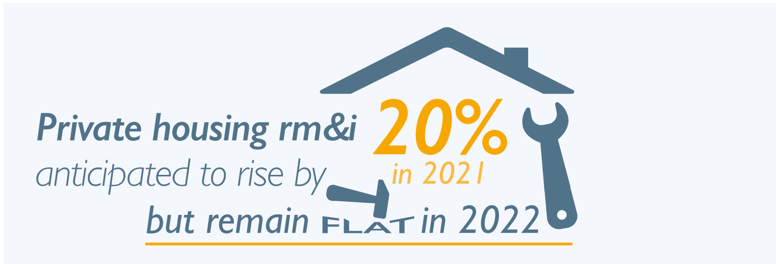
within regulated sectors of rail, water, roads and energy although there remain concerns regarding projects not coming through as quickly as expected in addition to major clients' hesitancy signing off projects. Growth over and above these activity levels will, as ever, be driven by major projects currently that are on site. As highlighted in previous forecasts, these include the Thames Tideway Tunnel, Hinkley Point C and HS2. Yet more delays and cost overruns continue to affect the latter, HS2, but these delays have already been built into the forecasts. Consequently, infrastructure output is forecast to rise by 23.9% in 2021, only a marginal revision upward from the 23.4% forecast in Summer.



In 2022, infrastructure output growth is forecast to remain at 9.7% as delayed work from this year, particularly main HS2 works, feed through.

Private housing output is forecast to rise by 17.0% in 2021, revised upwards from 16.0% in Summer due to the rate of activity during the first half of the year in addition to indications from house builders regarding the strength of demand near-term and year-end targets that they anticipate they will still achieve. It is worth noting that private housing starts are expected to rise by 28.0% in 2021, revised upwards from 24.0% in Summer as house builders focus on opening new developments to ensure that there are sufficient plots for completions later this year and during the first quarter of 2022. The change in focus has been necessary given that last year house builder focus was clearly on completions, given the uncertain economic conditions, the disruption to the run rate due to the initial lockdown and the buoyancy of demand. Private housing completions are anticipated to rise by 17.0% this year, considerably less than the expected growth for private starts. In 2022, private housing starts, output and completions growth have been revised down. Firstly, this reflects the constraints on supply to being able to provide further growth from this point. However, secondly, the downward revision to private housing growth in 2022 also reflects concern regarding the sustainability of the buoyant demand,

highlighted by consistent double-digit house price growth. In turn, this concern is due to impacts of rising persistent inflation on real household incomes and the consequent interest rate rises on consumer confidence and spending, suppressing the rate at which potential homeowner demand will rise. It is worth noting that house prices and private housing activity are still expected to rise next year but not at the rates previously anticipated. In addition, the focus of house builders will still be on houses with space outside cities rather than on flats in urban centres as highlighted in previous forecasts. In 2022, private housing starts are expected to rise by 7.0%, revised down from 10.0% in the Summer forecasts, whilst output rises by 6.0%, revised from 8.0%, and completions are forecast to rise by 3.0%, revised down from 8.0%.



Private housing rm&i output growth over the two years 2021 and 2022 remains the same but the profile has changed. In 2021, growth has been revised from 16.0% in Summer to 20.0% but at the expense of growth in 2022, which has now been revised down from 3.0% in Summer to flat, at a level higher than pre-Covid-19. The demand for more, and better quality, indoor and outdoor space, the so-called 'race for space', appears to be continuing unabated. According to the Bank of England, households have accumulated £200 billion of savings over the past 18 months since the initial lockdown began. Most small contractors have renovation projects lined up for the next six months and activity is likely to remain at historically high levels. However, the capacity of small contractors that primarily carry out the rm&i work is already being severely tested from the perspective of labour and products. As a result, they are increasingly backing projects up rather than working on more projects simultaneously. They are also most at risk from availability and cost inflation issues from both labour and products. As a result, they are also finding it increasingly difficult to cost future projects given double-digit cost inflation across all areas currently. Private housing rm&i activity remaining flat at a high level next year reflects strong activity early in the year, constrained by supply, before the full impacts of rising inflation across the economy and slower consumer confidence affects improvements spending from the second half of the year.

Public housing rm&i output is forecast to grow by 10.0% in 2021 due to the backlog of remediation of cladding on towers that will need to be carried out as a priority and with finance in place to carry out work near-term combined with a pickup in general repairs and maintenance activity on the social housing stock. However, the growth in 2021 has been revised down from 14.0% three months ago due to a lack of skills and products needed for the cladding remediation, which firms report to the CPA is severely hampering their progress. In fact the downward revision to sector activity would be greater but for firms working on general repairs and maintenance (r&m). These firms found activity on non-essential r&m remained subdued even after the end of the initial lockdown whilst local authorities focused on urgent cladding remediation. Councils were hesitant to sign off all but the most essential repairs and maintenance due to concerns regarding contractors carrying out social distancing inside the public sector existing stock, which were not of concern to private sector clients wanting rm&i activity done in their homes. However, since the end of 2021 Q1, there has been a significant uptick in activity on non-cladding related rm&i construction work, which has partially offset the slower than expected progress on cladding remediation. Following the 10.0% growth this year, output is expected to rise by 5.0% in 2022 and 4.0% in 2023, both revisions down from the 8.0% forecast per year for the next two years in Summer as capacity constraints on cladding remediation are expected to be persistent.

Commercial activity remains a mixed picture, depending on which sub-sector firms are operating in and even within sub-sectors, which niche of a sub-sector firms are working in.

Fit-out and finishing work on new and existing offices, retail and leisure buildings plus changes in use of existing commercial developments (into residential, warehouses and logistics) remains strong but firms in these areas report that skills shortages remain key constraints, even greater than product availability.

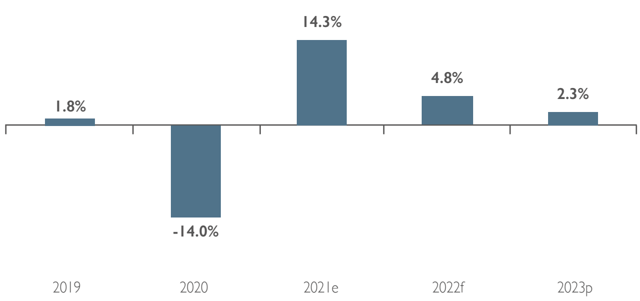
For new high-profile, grade A office space, demand also appears relatively strong despite the high up-front, international investment necessary and concerns over the rate of return. However, there still remains a derived-demand from major corporate clients to move into new, quality office space aimed at fewer employees but with increased space per worker. However, the key issues in commercial remain around new investment in mid-range office space, particularly towers given an expected excess supply in urban centres, assuming that office workers are in the office 2-3 days per week on average.

Existing retail space demand is likely to be substantially lower long-term than pre-Covid-19. Retail sales have recovered to pre-pandemic levels. However, the pre-existing long-term move away from in-store retail and towards online shopping over the last 15 years has accelerated sharply due to the impacts of the initial lockdown. This has benefitted demand for warehousing at the expense of retail although it is worth noting that within retail, it has also benefitted out-of-town stores for click-and-collect/delivery. Fit-out and finishing of some retail continues apace but there will remain an excess supply of existing retail units on the high street and, as a result, mass investment in new retail is unlikely outside of niche areas such as luxury retail.

Overall, after falling by 20.0% in 2020, commercial output is expected to rise by 4.8% in 2021 and even with further growth of 4.2% in 2022 and 2.7% in 2023, output at the end of the forecast period is still expected to be 10.4% lower than in 2019 despite three consecutive years of growth.

The wider context for the construction forecasts is that the CPA forecasts that UK GDP will rise by 6.8% in 2021, revised down marginally from 7.0% in the Summer forecasts, before growth of 5.5% in 2022 compared with 5.7% in the Summer forecasts (see Economy). The more pessimistic view of the UK economy reflects the increasing concerns regarding medium-term supply constraints across industries and the consequent impacts of rising inflation and interest rate rises on real household disposable income, consumer confidence and spending as well as business confidence and investment. This is particularly the case given that inflation is likely to remain higher than many forecasters currently expect and for longer than they anticipate at this point. However, it is worth keeping in mind amid the pessimism that demand across the UK economy and, particularly in construction, remains high. Plus, the UK labour market remains strong and households have built up substantial savings that will help them cope with inflation and interest rate rises. It is also worth noting that despite forecasting that interest rates will rise in the next two years, the CPA is still expecting that they will remain historically low, at below 1.0%.

Construction Output (% Growth)



Source: ONS, Construction Products Association

- Overall, the CPA forecast anticipates construction output in 2021 rising by 14.3%.
- The largest growth rates in 2021 are expected to be in infrastructure (23.9%), private housing rm&i (20.0%) and total housing (17.1%).
- The CPA forecast anticipates construction output in 2022 rising by 4.8%.
- The largest growth rates in 2022 are expected to be in infrastructure (9.7%), industrial (7.8%) and private non-residential r&m (7.0%).

Construction Industry Forecasts - Autumn 2021

	2019	2020	2021	2022	2023
% annual change	Actual	Actual	Estimate	Forecast	Projection
Housing					
Private	38,070	30,641	35,850	38,001	39,141
	4.5%	-19.5%	17.0%	6.0%	3.0%
Public	6,812	4,820	5,688	6,086	6,329
	16.0%	-29.2%	18.0%	7.0%	4.0%
Total	44,882	35,461	41,538	44,087	45,470
	6.1%	-21.0%	17.1%	6.1%	3.1%
Other New Work					
Public Non-Housing	10,126	9,275	10,067	10,243	11,181
	-2.1%	-8.4%	8.5%	1.8%	9.2%
Infrastructure	22,252	21,152	26,206	28,735	28,906
	3.0%	-4.9%	23.9%	9.7%	0.6%
Industrial	5,555	4,484	5,174	5,579	6,074
	4.4%	-19.3%	15.4%	7.8%	8.9%
Commercial	29,353	23,476	24,598	25,627	26,309
	-2.2%	-20.0%	4.8%	4.2%	2.7%
Total other new work	67,286	58,387	66,044	70,184	72,470
	0.0%	-13.2%	13.1%	6.3%	3.3%
Total new work	112,168	93,848	107,582	114,271	117,941
	2.4%	-16.3%	14.6%	6.2%	3.2%
Repair and Maintenance					
Private Housing RM&I	22,071	19,310	23,172	23,172	22,709
	0.1%	-12.5%	20.0%	0.0%	-2.0%
Public Housing RM&I	7,931	6,959	7,655	8,038	8,359
	0.4%	-12.3%	10.0%	5.0%	4.0%
Private Other R&M	14,177	12,294	13,524	14,471	14,905
	-0.4%	-13.3%	10.0%	7.0%	3.0%
Public Other R&M	5,461	5,178	5,696	5,753	5,810
	5.6%	-5.2%	10.0%	1.0%	1.0%
Infrastructure R&M	9,671	9,860	10,846	10,846	10,846
	1.7%	2.0%	10.0%	0.0%	0.0%
Total R&M	59,311	53,602	60,893	62,280	62,629
	0.8%	-9.6%	13.6%	2.3%	0.6%
TOTAL ALL WORK	171,479	147,450	168,475	176,550	180,570
	1.8%	-14.0%	14.3%	4.8%	2.3%

Source: ONS, Construction Products Association

Key Risks

The Availability and Cost of Labour

In some hotspots of activity, especially where house building, refurbishment and infrastructure are buoyant, there have been shortages of skilled and even unskilled construction labour. This has been exacerbated by the fall in EU labour in construction. The UK, and particularly London, has a high reliance on EU construction workers. Between 2017 Q1 and 2021 Q1, the EU construction workforce fell by 51% in the UK and by 63% in London as some EU workers returned to their home countries whilst others have not come over as part of the natural churn to replace those returning. From 1 January 2021 it has been more difficult for construction workers to come over to the UK due to the employer led points-based immigration system. 86% of employment in UK construction is in SMEs (the business model is based on sub-contracting out the activity and risk) and these are least able to sponsor workers to come over at a cost of around £10,000 each and that is assuming that they meet the skills requirements. Most construction trades are not on the government's Shortage Occupation List (SOL). Overall, UK construction average wages inflation (regular pay) in the three months to July 2021 was 11% but clearly this will vary considerably by occupation with trades feeding into housing new build and rm&i especially in demand as well as some occupations in key areas of infrastructure around major projects.

The Availability and Cost of Products

There have been extended lead times and sharp cost rises for some imported products since Autumn 2020 due to the sharp recovery in UK and global construction, so there is a high demand for globally traded products such as timber, plastics and polymers, copper and steel, paints and resins, roofing and cladding materials, which remain an issue. This is particularly the case for products coming in from China. The UK imports more construction products from China than any other individual country. Covid-19 outbreaks at Chinese ports this Summer have delayed containers further and led to further increases in shipping costs. This will be exacerbated further by the sharp rises in global energy (gas/electricity) costs and availability issues recently, which have led to manufacturing cost rises and slowdowns in production and exports of key products such as aluminium, copper and steel. Since Spring 2021, the supply of some domestically made construction products have increasingly become tight in supply. The sharp rise in energy costs in the UK is likely to mean further cost inflation towards the end of 2021 and in the first half of 2022. Furthermore, the increase in energy costs for energy-intensive users may mean that production of heavyside products such as ceramics, glass, steel and mineral products slow, impacting further on availability and cost. Overall, building materials annual price inflation in the three months to July 2021 was 15%.

Issues around products supply have been exacerbated for product manufacturers and builders merchants by the high-profile HGV driver shortage, which cuts across all industries but when there are shortages then firms offer higher wages and poach from other sectors. Some firms report to the CPA that HGV drivers have been attracted over to work in other sectors that are paying substantially higher wages such as Amazon and major supermarkets.

The availability and cost of construction products affects the small firms to a considerably greater extent. The major house builders have a greater certainty of demand over the next 6-9 months so can plan and purchase in advance. In addition, they are the largest customers of the product manufacturers. The small firms often turn up at builders merchants on the day to purchase what they need for that day or the next few days, which puts them at greater risk from cost inflation and availability.

Margins

Even if the availability of labour and products means that construction output can grow in line with the forecast, the sharp cost rises will inevitably have an adverse impact on housebuilder and contractor margins, particularly for specialist contractors 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. Previous experience has shown that when housebuilders 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 demand remains high.

Brexit

UK construction products import volumes from the EU in 2021 Q2 rose by 11.4% compared with Q1, which was immediately following the end of the Brexit implementation period. However, imports of construction products from the EU in 2021 Q2 remained 10.9% lower than in the same quarter two years ago (2019 Q2) and 8.8% lower than the average level between 2016 and 2018 prior to Brexit deadline uncertainty and Covid-19-related issues. This is despite a lack of availability of some imported construction materials and products. It is, however, in line with indications the CPA has that, immediately following 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 some difficulties and additional costs importing into the UK.

The greater trade issues for firms appear to be for UK construction products exports to the EU. Although UK construction products exports to the EU in 2021 Q2 were 36.1% higher than in Q1, this largely reflects the lower base given that exports fell by more than half during the first quarter, and exports in Q2 remained 38.7% lower than during the same quarter two years earlier and 23.3% lower than during the average of 2016-18. The greater impact on UK exports to the EU, compared with UK imports from the EU, is partly due to the increased admin and cost associated with exporting to the EU, which has implemented full checks on goods. Conversely, the UK has not implemented full checks as yet and initially was only going to implement them on 1 October 2021. However, in September the government announced that it would now not be implementing full checks until July 2022 although customs declarations and controls will be introduced on 1 January 2022 but safety and security declarations will not be needed until 1 July 2022. The EU exports have also partly been affected by the appreciation in Sterling vs the Euro since the end of the Brexit implementation period, which has also increased the cost of UK exports to the EU, exacerbating the impacts of the increased export admin and costs.

However, Brexit still remains a risk for construction in the medium-term due to the implementation of UK REACH, UKCA and full customs checks on EU imports. At this point, firms still have to have chemicals-based products registered on UK REACH rather than EU REACH by 1 January 2022 for products to be used in the UK although the assumption made in the CPA forecasts is that this is likely to be delayed given the potential impacts on products supply. However, the government announced in August 2021 that it has delayed the implementation of UKCA marking from 1 January 2022 to 1 January 2023, although this is unlikely to be sufficient time to install enough capacity for testing houses in the UK to deal with testing and certifying across all construction products. In addition, although full checks on EU imports would not be implemented until 1 July 2022, this is also unlikely to be enough time to install enough capacity at UK ports that are already struggling with current levels of container and lorry trade.

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.

However, the indications are that government will be moving away from its '300,000 net additional homes per year by the mid-2020s' target given concern regarding whether existing homeowner voters would be in favour of substantial increases in housing supply. In line with this, government has abandoned its plans to substantially reform planning and the Prime Minister stated in October that new homes should not be built on 'green fields'. Depending on what these mean in practice and whether this is merely populist rhetoric, it could represent a significant downside risk to the house building forecasts.

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 earlier this year after policy implementation failures, similar to government policy failures on the Green Deal, Feed-in-Tariffs and CERT. As a result, the forecasts only take account of decarbonisation schemes when the CPA has clearly seen whether activity on the ground matches the announcements. Multiple government decarbonisation schemes will be announced around COP26, which the UK will be hosting in November 2021. If these policies 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.

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 above 4.5% in 2021 Q4 and 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 2023. If inflation peaks substantially higher than expected and persists 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.

Upper Scenario

Assumptions

- An uptick in UK economic activity in 2021 Q4 and 2022 Q1 despite rising inflation
- The end of the CJRS and SEISS schemes in Autumn 2021 sees no significant increase in unemployment, even in person-to-person interaction services
- Property transactions continue to remain above pre-Covid-19 levels even after the end of the stamp duty holiday and the first phase of Help to Buy
- Consumer spending on non-essential and big-ticket items still rises in 2021 Q4 and 2021 Q1 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 rising sales and strong medium-term economic growth prospects
- Business investment recovers rapidly, boosted in particular by large manufacturers taking advantage of the 'super-deduction'

Key Effects

- Total construction output rises by 16.8% during 2021 and a further 5.1% during 2022 in the upper scenario despite concerns over small contractors particularly being affected by materials, products and labour availability and cost issues. Activity remains higher than usual during the relatively quiet Winter period due to strong demand and a pipeline of projects as well as a rush to complete delayed projects. With further growth of 2.9% in 2023, total output at the end of the forecast period is expected to be 8.6% higher than during 2019, pre-Covid-19
- Private housing output continues to be buoyant in 2021 Q4, rising by 20.8% overall this year as consistent double-digit growth in house price inflation and property transactions remain higher than the pre-Covid-19 average. This is despite the end of the stamp duty holiday and first phase of Help to Buy as the mortgage guarantee scheme ensures that the housing market remains buoyant. Continued growth is expected from next year but at slower rates; 2.7% in 2022 and 2.6% in 2023. Activity at the end of the forecast period to be 2.4% higher than in 2019
- Despite the decline in investment in new mid-level commercial towers, activity is still expected to recover from 2020's Covid-19 affected low due to a sharp recovery in high-end, grade A new office space and fit-out work on existing commercial developments, particularly in cities as offices are remodelled to enable social distancing and increase space per worker given fewer people working in offices than pre-Covid-19. Existing retail and leisure space is expected to benefit from reusing and repurposing developments for housing and warehousing/logistics. However, medium-term prospects will still be affected by the lack of new major projects already in the pipeline (outside of the high-end niche). Commercial output is forecast to rise for three consecutive years; 5.4% in 2021, 4.2% in 2022 and 2.7% in 2023. Output at the end of 2023 is expected to remain 9.7% lower than in 2019
- Private housing rm&i output is expected to continue to benefit from the buoyant housing market and the 'search for space' near-term as homeowners look for better quality home-office space and outdoor living space. Savings built up over the past 18 months and refurbishment projects already planned by households should boost activity next year. Private housing rm&i activity is expected to rise by 21.7% in 2021, 2.1% in 2022 and remain flat in 2023, leaving output 8.7% higher than in 2019

Construction Industry Forecasts - Autumn 2021 - Upper Scenario

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	3.0%	-4.9%	27.6%	11.1%	1.7%
Industrial	5,555	4,484	5,250	5,700	6,250
	4.4%	-19.3%	17.1%	8.6%	9.6%
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	-2.2%	-20.0%	5.4%	4.2%	2.7%
Total other new work	67,286	58,387	67,550	72,250	75,050
	0.0%	-13.2%	15.7%	7.0%	3.9%
Total new work	112,168	93,848	110,350	116,650	120,700
	2.4%	-16.3%	17.6%	5.7%	3.5%
Repair and Maintenance					
Private Housing RM&I	22,071	19,310	23,500	24,000	24,000
	0.1%	-12.5%	21.7%	2.1%	0.0%
Public Housing RM&I	7,931	6,959	7,750	8,150	8,450
	0.4%	-12.3%	11.4%	5.2%	3.7%
Private Other R&M	14,177	12,294	13,750	15,000	15,500
	-0.4%	-13.3%	11.8%	9.1%	3.3%
Public Other R&M	5,461	5,178	5,800	5,900	6,000
	5.6%	-5.2%	12.0%	1.7%	1.7%
Infrastructure R&M	9,671	9,860	11,000	11,250	11,500
	1.7%	2.0%	11.6%	2.3%	2.2%
Total R&M	59,311	53,602	61,800	64,300	65,450
	0.8%	-9.6%	15.3%	4.0%	1.8%
TOTAL ALL WORK	171,479	147,450	172,150	180,950	186,150
	1.8%	-14.0%	16.8%	5.1%	2.9%

Source: ONS, Construction Products Association

Lower Scenario

Assumptions

- Economic activity slows sharply in 2021 Q4 and 2022 Q1 in response to the sharp rise in inflation as consumer and business confidence falls
- Unemployment rises significantly in the person-to-person interaction services sector such as non-food in-store retail and leisure after the end of the government employment schemes
- Property transactions slow as unemployment rises and consumer confidence falls
- Consumer spending slows in 2021 Q4 and 2022 Q1 due to falling consumer confidence and rising unemployment as a result of rising inflation
- Lending to businesses slows over the next six months in response to slower growth in economic activity and consumer spending
- Business investment slows in 2021 Q4 and 2022 Q1 as firms' concerns regarding the potential impacts of rising inflation on UK economic activity grow despite the 'super-deduction'

Key Effects

- Construction output rises by 12.0% in 2021 and 2.8% in 2022. However, slower growth of only 0.8% in 2023 means that total output at the end of 2023 is anticipated to be broadly flat compared with four years earlier, in 2019, pre-Covid-19 as construction growth slows in line with broader UK economic growth after this year
- Private housing output rises by 15.0% in 2021 as housing market demand slows following the end of the stamp duty holiday and first phase of Help to Buy in addition to slower consumer confidence and spending in response to higher inflation. Private housing output anticipated to increase by 2.8% in 2022 and remain flat in 2023. As a result, output in this scenario would still remain 4.8% lower than in 2019
- The initial pickup in primarily fit-out commercial activity during early 2021 as social distancing restrictions eased is expected to slow and the lack of new towers projects to replace those finishing is anticipated to adversely affect the sector, particularly in the light of falling consumer and business confidence and spending from 2021 Q4. Commercial output only rises by 3.3% in 2021 and despite growth of 2.1% in 2022 and 1.0% in 2023, output at the end of the forecast period is still expected to be 14.8% lower than four years earlier
- Private housing rm&i output is still expected to rise by 16.5% during 2021 in the lower scenario but it is also likely to suffer medium-term from any significant rise in unemployment as well as falls in consumer confidence and spending following persistent inflation and interest rate rises plus a slowdown in property transactions. After growth this year, output is only anticipated to fall by 1.1% in 2022 and by 3.4% in 2023 as more constrained spending moves away from major home refurbishments and output in 2023 is forecast to remain 2.6% lower than in 2019

Construction Industry Forecasts - Autumn 2021 - Lower Scenario

	2019	2020	2021	2022	2023
% annual change	Actual	Actual	Scenario	Scenario	Scenario
Housing					
Private	38,070	30,641	35,250	36,250	36,250
	4.5%	-19.5%	15.0%	2.8%	0.0%
Public	6,812	4,820	5,650	5,850	5,900
	16.0%	-29.2%	17.2%	3.5%	0.9%
Total	44,882	35,461	40,900	42,100	42,150
	6.1%	-21.0%	15.3%	2.9%	0.1%
Other New Work					
Public Non-Housing	10,126	9,275	9,850	9,900	10,700
	-2.1%	-8.4%	6.2%	0.5%	8.1%
Infrastructure	22,252	21,152	25,500	27,500	28,000
	3.0%	-4.9%	20.6%	7.8%	1.8%
Industrial	5,555	4,484	5,050	5,450	5,850
	4.4%	-19.3%	12.6%	7.9%	7.3%
Commercial	29,353	23,476	24,250	24,750	25,000
	-2.2%	-20.0%	3.3%	2.1%	1.0%
Total other new work	67,286	58,387	64,650	67,600	69,550
	0.0%	-13.2%	10.7%	4.6%	2.9%
Total new work	112,168	93,848	105,550	109,700	111,700
	2.4%	-16.3%	12.5%	3.9%	1.8%
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Private Housing RM&I	22,071	19,310	22,500	22,250	21,500
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Private Other R&M	14,177	12,294	13,250	14,000	14,200
	-0.4%	-13.3%	7.8%	5.7%	1.4%
Public Other R&M	5,461	5,178	5,650	5,650	5,550
	5.6%	-5.2%	9.1%	0.0%	-1.8%
Infrastructure R&M	9,671	9,860	10,750	10,500	10,250
	1.7%	2.0%	9.0%	-2.3%	-2.4%
Total R&M	59,311	53,602	59,650	60,200	59,500
	0.8%	-9.6%	11.3%	0.9%	-1.2%
TOTAL ALL WORK	171,479	147,450	165,200	169,900	171,200
	1.8%	-14.0%	12.0%	2.8%	0.8%

Source: ONS, Construction Products Association

Economy

UK economic prospects have been revised down in the Autumn forecast due to increasing supply pressures, rising inflation and the higher probability of interest rate rises in the next 12 months weighing on consumer and business confidence.

The CPA forecast for UK GDP growth is now 6.8% in 2021 and 5.5% in 2022, a downward revision from the Summer forecast of 7.0% in 2021 and 5.7% in 2022. UK GDP rose by 5.5% in 2021 Q2 in line with the CPA Spring and Summer forecasts following on from the third national lockdown during the first quarter of the year. This enabled 'quick win' rapid growth merely by reopening large parts of the economy, particularly person-to-person interaction services such as non-essential retail, leisure and hospitality. As a result, it is unsurprising that UK economic growth in the second quarter was driven by a 7.2% rise in consumer spending. It is worth noting, though, that there was also a large rise in government spending, by an upwardly revised 8.1%.

UK GDP anticipated to rise by 6.8% in 2021 and 5.5% in 2022

Growth rates are expected to slow significantly, however, from 2021 Q3 onwards. This was highlighted in previous forecasts, primarily due to rising inflation concerns and the end of government employment schemes such as the Coronavirus Job Retention Scheme (furloughing) and the Self-Employment Income Support Scheme. In the near-term, these are expected to hit consumer confidence and spending, particularly in the final quarter of this year and in the first quarter of 2022.

More recently, however, pre-existing rising inflation concerns and slower consumer spending are likely to be exacerbated by increasing supply chain concerns across the economy as well as the sharp rise in energy (gas/electricity) prices and oil prices, which not only impacts household finances directly but, indirectly, will over time also increase the cost of household purchases through increases in manufacturing, services and imported prices. Energy costs are likely to remain high over the course of Winter and are unlikely to fall significantly until Spring 2022. The household energy cap is likely to rise by further 20%-30% by next April.

A lack of some, particularly imported, materials and products exacerbated by a lack of HGV driver capacity, has been a particular issue in construction throughout this year due to the sharp recovery in industry activity. Yet, since this Summer, similar issues have affected many sectors such as food and fuel distribution, which directly impact on households' costs and confidence. The extent of the HGV driver shortage, which the Road Haulage Association estimates at 100,000 drivers for the UK will not ease significantly in the near-term. The government has announced some measures aimed at addressing this such as extending working hours for existing HGV drivers, writing to HGV drivers that have recently left the industry through retirement or to move to other sectors as well as introducing 5,000 potential short-term visas for drivers from outside the UK. However, even if successful, these measures are likely to make little indent into a structural issue within the industry.

In the medium-term, rising inflation concerns increase the probability that the Bank of England will begin to raise interest rates in Summer 2022, which may increase household costs and suppress consumer confidence and spending further.

Despite these concerns, the UK economy in Autumn 2021 still remains on track for the CPA's 'W'-shaped recovery and demand remains strong across many sectors of the UK economy. The 'W'-shaped recovery represents the fall in GDP during 2020 Q2 due to the impacts of the initial lockdown, the subsequent recovery afterwards until a slowdown in growth in Q4 due to impacts of the second national lockdown in November 2020 and then a fall in GDP during 2021 Q1 due to the impacts of the third national lockdown from which sustained economic recovery was initially rapid in 2021 Q2. What appears increasingly apparent, however, is that whilst GDP in Q2 was 3.3% lower than in 2019 Q4, the final part of the 'W'-shaped recovery to pre-Covid-19 levels of GDP is likely to take longer than expected in previous forecasts.

At the time of writing, the latest UK GDP forecasts from the main macroeconomic forecasters were published in September 2021 by HM Treasury prior to the unanticipated recent fuel shortages and most acute energy price rises. As a consequence, it would be expected that the majority of forecasters will downwardly revise their forecasts for 2022 to the levels in the CPA forecast.

As has been the case since March 2020, the high degree of uncertainty, even in forecasts made in September for the current year, is reflected in the variation across the forecasters. Of the main City and non-City macroeconomic forecasters, the average (median) estimate for GDP growth in 2021 was 6.7% but, within this the lowest forecast was for 6.0% growth this year whilst the highest forecast was for 8.2% growth this year. This is a startling variation in forecasts given that they were determined in September and yet the difference between the most optimistic and pessimistic forecasts for the current year, 2.2% is higher than the UK GDP annual long-term average growth rate.

The most recent official data for UK economy were published by the ONS in July 2021 and cover UK GDP, services, industrial production and construction output. UK GDP rose by only

Economic Indicators

	2019	2020	2021	2022	2023
	Actual	Actual	Estimate	Forecast	Projection
GDP	1.7%	-9.7%	6.8%	5.5%	2.0%
Fixed Investment	0.5%	-9.1%	6.8%	7.5%	3.0%
Household Consumption	1.2%	-10.5%	4.0%	9.0%	2.0%
Real Household Disposable Income	1.4%	-0.5%	0.5%	1.8%	2.5%
Government Consumption	4.2%	-6.3%	14.5%	1.0%	2.0%
CPI Inflation	1.8%	0.8%	2.5%	2.9%	2.0%
RPI Inflation	2.6%	1.5%	3.4%	3.7%	2.7%
Bank Base Rates - June	0.75%	0.10%	0.10%	0.10%	0.50%
Bank Base Rates - December	0.75%	0.10%	0.10%	0.25%	0.75%

Source: ONS, Construction Products Association

0.1% in July and it remained 2.1% below its February 2020 (pre-Covid-19) level. Overall, GDP grew by 3.6% in the three months to July 2021, primarily due to growth in the services sector, which accounts for over three-quarters of the UK economy. In turn, this growth reflects the reopening of person-to-person interaction services such as non-essential retail, hospitality and leisure plus increased school attendance compared with the previous three months of February to April 2021.

Whilst UK services output was the key driver of economic growth in the three months to July, compared with the previous three months, in July 2021 itself it remained flat (0.0%) compared with June and was still 2.1% below its February 2020 level, pre-Covid-19. There were rises in only six out of the 14 services sectors. Growth of 2.0% in information and communication was offset by a drop of 2.3% in professional, scientific and technical services. There was notably strong growth, of 118.4% in air transport in July but this was from a low base given the unsurprising lack of travel and tourism and output in air transport in July remained 77.2% below its pre-Covid-19 level in spite of the large growth rate. Services output in the three months to July 2021 rose by 4.5% compared with the previous three months of February to April, which was affected by the third national lockdown. The growth in the three months to July was driven by accommodation and food services output, which rose by 86.4%.

Industrial production output rose by 1.2% in July 2021 compared with June, leaving output 2.1% below its February 2020 level, pre-Covid-19. The monthly rise in production was primarily due to an increase of 21.9% in mining and quarrying, extraction of crude petroleum and natural gas increased because of some pipelines re-opening after a period of closure for maintenance. However, within industrial production, the main element, manufacturing, remained flat in July 2021 (0.0%), with only four of the 13 manufacturing sub-sectors rising. Overall, a rise of 5.9% in manufacture of transport equipment in July was offset by a fall of 4.3% in manufacture of machinery and equipment. Production output for the three months to July 2021 increased by 0.4% compared with the three months to April 2021. Manufacturing output in July remained 2.3% below its February 2020 level, and mining and quarrying is 16.6% below, but electricity and gas is now 4.4% above its February 2020 level, and water supply and sewerage is 4.8% above. However, it is expected that going forward, fuel shortages, HGV driver shortages and energy cost rises since Autumn 2021 will directly impact on manufacturing, particularly energy-intensive sectors and add to general supply chain issues that were already taken account of in previous CPA forecasts.

According to the ONS, construction output fell by 1.6% in July 2021 and has fallen for four consecutive months and is 2.5% lower than in January 2020 although it is worth noting that the ONS appears to have issues estimating private housing and private housing rm&i output with the CPA anticipating that construction output data since March will be revised upwards.

Looking across the sectors, the main contributors to the 1.6% fall in total construction output in July were private housing (-7.5%) and private housing repair, maintenance and

improvement (-6.2%) whilst the largest rise was in industrial (19.7%). Looking at the evolution of construction output in the key sectors since Covid-19, infrastructure continues to go from strength to strength whilst industrial is rising sharply from a low base as warehouse projects are finally coming through and commercial new build activity remains subdued as would be expected but the key issues revolve around the private housing new build and private housing rm&i sectors.

Private housing rm&i output has been falling for four consecutive months according to the ONS, since its recent peak in March 2021 boosted by catch-up in activity after the rain-affected February. The poor weather hasn't helped in recent months and private housing rm&i activity has been affected by supply issues, primarily the cost and availability of materials and products but also in some key areas skills shortages have delayed activity. However, according to the ONS, private housing rm&i output in July 2021 was 15.9% lower than in March 2021 and at its lowest level since June 2020, just after the initial national lockdown, which is not in line with indications from firms in the supply chain.

The ONS estimate of the sharp decline in private housing output is even more difficult to account for. Not just the 7.5% fall in July but the ONS estimates that private housing output in July was 17.2% lower than in March 2021 and the ONS estimates that private housing output is at its lowest level since July 2020, just after the initial lockdown. It is also not in line with the Housing PMI, indications from house builder trading statements and data (brick sales etc.) and just as a couple of examples, it is worth noting that although brick sales fell in July 2021, they remained 6.7% higher than in 2019 and the IHS Markit/CIPS Housing PMI in July was 60.3 (50=no monthly change), illustrating growth, albeit at rates slower than in previous months so it would be worth being wary of the ONS private housing and private housing rm&i data since March 2021 until potential revisions are made.

House builders have been affected by the availability of materials, products and labour although less so than in rm&i and, in particular, less so for major house builders given set allocations and the ability to plan/purchase in advance.

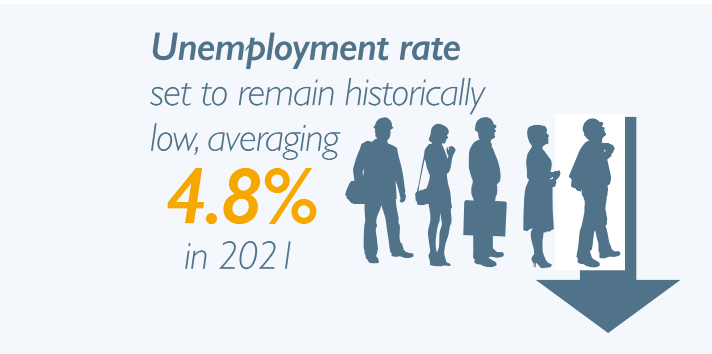
Infrastructure output in July 2021 was 3.7% higher than in June and 32.4% higher than in January 2020 (pre-Covid-19) as activity continues to rise based on major projects (HS2, Hinkley Point C, Thames Tideway) as well as frameworks and long-term programmes of small and medium-sized projects within regulated sectors such as water, roads, rail, energy, etc., plus some ports work (refurbishment/expansion and free ports).

Commercial output in July was 0.7% lower than in June and it remained 20.7% lower than in January 2020 but note that it is currently a two-speed sector with many contractors reporting strong workloads and others reporting subdued activity. Contractors working on the renewing, reusing and repurposing of existing offices, retail and leisure buildings still report that activity is relatively buoyant although skills shortages are a key constraint, particularly in London. However, new commercial towers activity (36% of which is in London) is not only subdued but falling due to projects that were signed up to or started pre-Covid-19 finishing this year with fewer new towers projects in the pipeline to replace them except in a small niche of high-end grade A office space, in which contractors report increasing activity despite concerns regarding long-term demand.

The most recent indicators covering UK economic activity in the key industry sectors are the IHS Markit/CIPS Purchasing Managers Indices (PMI), which are timely surveys of monthly activity across UK Services, Manufacturing and Construction.

The PMI for UK services reported an index level of 55.4 in September, illustrating further growth and up marginally from August's six-month low (55.0). Higher levels of activity were mostly attributed to robust confidence among clients and favourable business conditions due to the end of pandemic restrictions. However, those noting a fall in activity often commented on supply chain disruptions and shortages of staff, especially in the hospitality sector. New order growth weakened for the fourth month running in September. The latest increase in new business volumes was the slowest since order books returned to expansion in March as social distancing restrictions eased after the third national lockdown.

A lack of candidates to fill vacancies and persistently high numbers of departing staff acted as a considerable brake on employment growth during September. Reports from survey respondents suggested that the slowdown in job creation from August's record high also reflected some redundancies as furlough arrangements ended. Shortages of staff and lengthy wait times for supplier deliveries stymied efforts to reverse the recent spike in backlogs of work across the service economy. The latest data showed that unfinished business has now built up for seven months running, which marked the longest phase of backlog accumulation since 2015. Supply chain difficulties resulted in another round of steep input price inflation at service sector companies during September. The latest data indicated that business optimism eased slightly since August. However, the majority still expect a rise in output during the year ahead.



The UK manufacturing PMI reported an index level of 57.1 in September. Given that 50=no monthly change, it still represents strong growth. Yet, it also highlights that growth in September slowed considerably from August's 60.3 and was its lowest growth in seven months. Upturns at medium-sized and large-sized manufacturers were offset by a continued downturn for small firms. Firms reported that production schedules were disrupted by a combination of input shortages, longer supplier lead times and capacity constraints including staff shortages. Average vendor lead times increased to one of the highest in the survey's history, amid reports of delays to air, land and sea freight, staff shortages at vendors, Covid-19 and Brexit disruptions, a lack of delivery drivers and port delays.

UK manufacturing firms also reported a decline in new export orders in September 2021, reflecting shipping issues, cancellations due to long lead times and capacity issues at clients. UK manufacturers continued to report labour shortages and difficulties recruiting appropriately skilled staff during September. Although jobs growth was registered for the ninth month running, the rate of increase was the weakest since January. Jobs growth slowed at medium-sized and large-sized companies, while small manufacturers saw cuts for the first time in eight months.

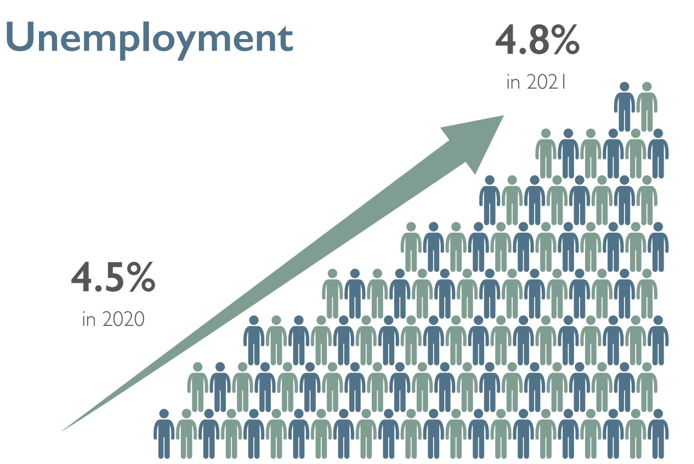
Despite the supply constraints, over 62% of companies forecast their output would increase during the coming 12 months, compared to only 6% expecting a contraction. The confident outlook was attributed to recoveries in both domestic and global markets, reduced difficulties from supply chains, Covid-19 and Brexit and planned new product launches.

The IHS Markit/CIPS UK Construction PMI was 52.6 in September (50=no monthly change), down from 55.2 in August so a third consecutive monthly slowdown in growth (although it is worth noting that firms that the CPA has spoken to in recent weeks report activity accelerated in September after a slowdown in July and August) as the cost and availability of transport, products and labour remains a key constraint. Within the IHS Markit/CIPS UK Construction PMI, all three key sectors of housing (52.8), commercial (53.6) and civil engineering (51.0) experienced growth but considerably slower than in previous months.

IHS Markit/CIPS reported a rapid drop in sub-contractor availability in September and the sharpest rise in sub-contractor charges on record and some firms noted unpredictable pricing slowed clients' decision-making on new orders and led to contract delays. September data indicated another strong rise in employment across the construction sector, driven by greater workloads and stretched business capacity. However, the latest rise in staffing levels was the least marked since April, which partly reflected long wait times to fill vacancies. A lack of sub-contractor availability added to the squeeze on labour supply in September. Purchase prices increased rapidly in September, although the rate of inflation eased further from June's all-time peak. Around 78% of the survey panel reported a rise in their cost burdens, which was mostly linked to supply shortages and transport surcharges.

Overall, construction current and future demand remains strong but the cost and availability supply issues (transport, labour, products) are unprecedented and it is worth noting that this is even before the full impacts of the recent energy (gas/electricity) and oil cost and availability issues feed through to product manufacturers, merchants and contractors.

The UK unemployment rate was 4.6% between May and July 2021, accounting for 1.55 million unemployed people. This is 0.3% or 86,000 lower than in the previous three month period but 0.3% or 81,000 higher than one year earlier. Compared with pre-Covid-19, the unemployment rate between May and July 2021 was 0.6% higher than between December 2019 and February 2020, accounting for 186,000

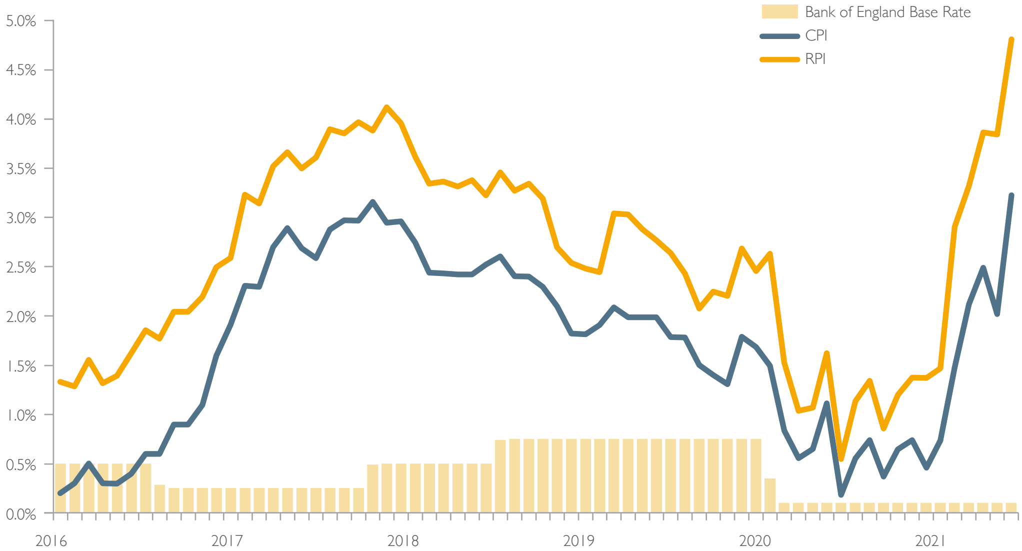


Source: ONS, Construction Products Association

more unemployed people. Clearly, the UK labour market has been sustained with the assistance of government business loan schemes and employment schemes such as the Coronavirus Job Retention Scheme and the Self-Employment Income Support Scheme. This is especially for sectors such as non-essential retail, leisure, hospitality, travel and tourism, which were particularly badly affected by the three national lockdowns and other social distancing and safety measures. By the end of August 2021, 1.3 million employees in the UK remained on partial or full furlough and even in sectors in construction, in which demand recovered swiftly following the first national lockdown, there remained 100,700 construction employees on furlough at the end of July. As a result, the true nature of the UK labour market will only be fully clear after the end of government stimulus that has helped to sustain the UK labour market until October 2021.

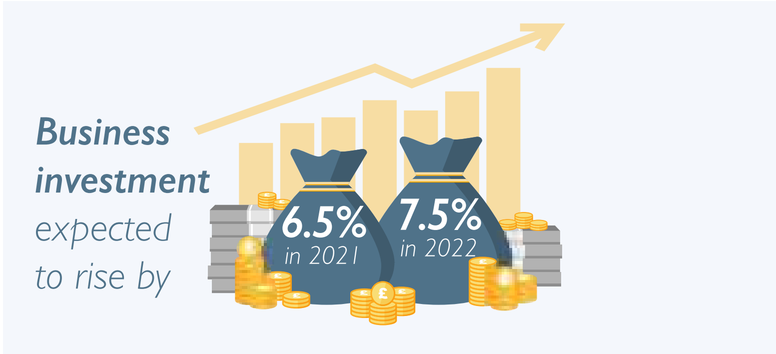
The CPA's assumption is that after the end of the furlough scheme, unemployment will rise slightly in the services sector, focusing on in-store non-essential retail, food and accommodation, hospitality and tourism-related activities. In addition, the unemployment rises are likely to focus on younger workers in urban centres that tend to be renters rather homeowners. However, unemployment is not expected to rise significantly in the manufacturing sector and construction sector. Both these sectors have found that vacancies have risen substantially over the past year, to their highest levels in over 20 years, and the end of furlough is likely to partially help address skills shortages in these areas. Overall, unemployment is expected to remain at historically low levels and unemployment is already expected to have passed the peak but the risks have increased. However, higher inflation and reduced consumer spending over the next six months may lead to a short-lived uptick in unemployment in Summer 2022.

Interest Rates and Inflation



Source: Bank of England, ONS

For companies, the Chancellor's 'super-deduction' against corporation tax, announced in Budget 2021 is expected to boost business investment until March 2023. At this point, however, there is little clear sign that it has been a key driver of business investment. Although business investment rose by 4.5% between January to March and April to June, the majority of this was in buildings, which do not qualify for the 'super-deduction'. Investment in equipment and machinery, which does qualify, was broadly flat although given that major investment decisions tend to take time to be built into business plans, it is unsurprising that the 'super-deduction' has not led to an immediate jump in business investment yet. It is more likely that impacts of the 'super-deduction' will be seen in business investment from April 2022, during the next financial year. As it acts as a considerable incentive for large investments up-front in plant and machinery, it is most likely to be used by large firms, particularly manufacturers, and will be of less use to Small and Medium-sized Enterprises (SMEs). However, whilst companies can benefit from the 'super-deduction' in the near-term, it is worth noting that the Chancellor also indicated that public spending will need to be reined in and tax rises will need to occur in the medium-term, which may restrict growth prospects. In particular, the main rate of corporation tax will rise from 19.0% to 25.0% from 2023.



There remain considerable concerns regarding inflation, not only in construction, but more broadly across the UK economy. CPI inflation in May, at 2.1%, had already surpassed the Bank of England's 2.0% target. By August it had reached 3.2% and the CPA now forecasts that it will peak at the end of the year above 4.5% and persist at high levels until at least the end of the first quarter of 2022 due to the impacts of higher input costs, particularly fuel and energy supply and cost issues respectively. This is higher than the Bank of England's latest view at the end of September. The Monetary Policy Committee agreed to continue with the central bank interest rate at 0.1% but noted that CPI inflation may 'peak just above 4.0% in 2021 Q4'. The CPA anticipates that the Bank has underestimated the impact of the cost rises in terms of the extent and the persistence of inflationary impacts into 2022. Whilst the petrol shortages issues are expected to be short-lived, the rise in energy and fuel costs is likely to continue throughout the Winter period of 2021 Q4 and 2022 Q1. Directly, this will affect household finances, consumer confidence and spending. Indirectly, given strong demand in the economy, it is likely to lead to stronger wage inflation where skills shortages are prevalent and it will affect costs across the economy. In particular, energy-intensive manufacturing is likely to find the next six months challenging in spite of strong demand. The direct impacts of the inflation rises will continue to feed through into retail prices in 2022 but they are expected to be temporary effects. CPI inflation is still expected to return to historically low rates during the forecast period. CPI inflation is expected to average 2.9% during 2022 and slow to 2.0% during 2023 as the effects of the price rises over the last year fall out of the annual changes. This low inflation is anticipated to support household real incomes and spending in 2023.

Given that inflationary pressure is likely to be considerably greater than anticipated due to wage cost pressure as well as energy cost pressure in additional to materials and products cost pressure in many parts of the UK economy, the likelihood has increased that interest rates will rise earlier than anticipated in previous forecasts. The Bank of England is still expected to be cautious, waiting to be certain that the current inflationary impacts are not merely temporary, and rate rises are expected to be small to ensure that interest rates remain below 1.0% and do not cause a sharp slowdown in consumer confidence and economic growth. As a result, the CPA forecast assumes that the Bank of England's main rate will remain at 0.1% until August 2022 at which point it will rise to 0.25%. Further rate rises are expected to be dependent on CPI inflation rates and economic activity in 2022 and 2023. However, at this point the CPA has assumed a further interest rate rise in 2023 H1 and also in 2023 H2, leaving interest rates at 0.75% at the end of 2023. It is worth noting that there remains a high degree of uncertainty regarding interest rate rises. Markets anticipate that there will be three interest rates rises in 2022 alone although some forecasters still do not anticipate rate rises until 2023.

The Brent Crude oil price fell from $63.6 per barrel at the start of the 2020 to $23.3 per barrel in April 2020 during the nadir of the initial Covid-19 lockdown. By the end of 2020, the price had recovered to $49.9 per barrel. By May 2021 the price had already risen to $68.0 per barrel due to the impacts of extended OPEC production cuts and attacks on oil production facilities during March 2021. The Summer forecasts anticipated that tight supply would mean that oil prices rose above $70.0 per barrel before slowing and so far that has been the case. The price reached a recent monthly peak in July 2021 at $74.4 per barrel before slowing to $70.0 per barrel in August but then rising to $74.6 per barrel in September. However, more recently, increases in the oil price due to concerns regarding demand exceeding supply near-term and advance purchasing in anticipation of price rises point towards further rises in the oil price towards $80.0-$90.0 per barrel during 2021 Q4 and remaining above $70.0 per barrel during the first half of 2022. Medium-term, increasing supply in response to near-term price rises is likely to mean that prices return to average $60.0-$65.0 per barrel towards the end of 2022 (excluding external political factors).

The Sterling exchange rate was initially less volatile in 2021 compared with the build up to the Brexit deadline at the end of the implementation period in 2020 Q4. Sterling rose further against the US Dollar over the same period as the UK benefitted from the agreement whereas it was of limited benefit to the US. In 2021 Q1, Sterling rose by 3.6% against the Euro and 6.8% against the US Dollar compared with 2020 Q3, before the Free Trade Agreement was agreed.

More recently, Sterling has risen against the Euro from £1: €1.10 at the end of last year to £1: €1.17 in September 2021 but recent volatility has revolved around concerns over inflation, supply constraints and the potential for stagflation. Compared with the US Dollar, Sterling rose from a low of £1:$1.23 in May 2020 to £1:$1.41 in May 2021 but uncertainty regarding growth in the UK in addition to supply concerns have led to subsequent falls in Sterling vs the US Dollar and September saw Sterling fall to £1:$1.37, its lowest level since January 2021. Going forward, the fortunes of the exchange rate are likely to be driven by economic growth in the respective economies. Over the next six months, potentially weaker UK economic recovery in the final quarter of 2021 and first quarter of 2022 than in the EU and US is likely to mean a slight depreciation in Sterling but after this UK economic growth is likely to accelerate if inflation concerns abate and Sterling is expected to rise to €1.22 and $1.42 during the second half of 2022.

Household incomes have been supported by government's CJRS and SEISS schemes in addition to strong demand in the private sector sustaining high employment rates. Although UK GDP in 2020 fell at its sharpest rate on record, by 9.7%, real household disposable incomes only fell by 0.5%. Demand for labour has picked up strongly and despite the end of the government employment schemes, the labour market is expected to remain strong, particularly in manufacturing and construction. Wage growth and rising employment is expected to ensure sustained increases in household disposable income but the rise in National Insurance to fund social care will constrain disposable income growth. Real household disposable income is expected to rise by 0.5% in 2021 and a further 1.8% in 2022.

Household spending

expected to increase

4.0% *in 2021*

and

9.0% *in 2022*

Despite limited falls in household disposable income, household consumption fell by 10.5% last year with non-essential retail, leisure and travel and tourism affected by lockdowns and social distancing measures. In addition, households' spending was affected by risk-averse household saving rather than many areas of standard spending. Plus, many households focused limited spending on the 'search for space', either through moving home or through refurbishing their existing home. The national lockdown at the start of this year also affected spending in 2021 Q1 but spending rose rapidly in 2021 Q2, which was 7.2% higher than in Q1 and 20.7% higher than a year earlier. However, these percentage increases in Q2 are compared with periods of national lockdown so exaggerate the real picture. Household expenditure in 2021 Q2 remained 7.2% lower than the same quarter two years earlier. The Bank of England estimates that households have accumulated £200 billion of savings in January 2020, suggesting there is potential for considerable further growth in spending. The extent of savings is illustrated by the savings ratio, which unsurprisingly hit a record level of 23.4% in 2020 Q2 during the initial lockdown before falling to 12.0% in Q3 as social distancing restrictions eased. However, the reimposition of lockdown in November 2020 and in 2021 Q1 led to the savings ratio increasing to 18.4%, the second highest level on record and even in 2021 Q2, despite easing of social distancing restrictions, the savings ratio remained at 11.7%, which is higher than at any point in the last 25 years except for during lockdowns. Household consumption is forecast to rise by 4.0% in 2021 and growth of 9.0% in 2022.

The focus of consumer spending tends to be on retail sales and generally they tend to move together but this only accounts for one-third of household spending. Furthermore, the enforced closure of many areas that consumer spending would normally feed into, combined with the increased use of online retail has meant that there has been a divergence between the fortunes of the two.

Retail sales volumes fell by 0.9% in August 2021, following a 2.8% fall in July, in line with indications of slower economic activity over the Summer in both July and August. Despite this, however, in August 2021 retail sales were 4.6% higher than in February 2020, pre-Covid-19. In the three months to August, retail sales volumes were 0.3% higher than in the previous three months. Food store sales volumes fell by 1.2% in August 2021, with evidence pointing towards the continued easing of hospitality restrictions leading to an increase in eating and drinking in cafes, bars and restaurants at the expense of purchasing retail food and drink to have at home. Non-food stores reported a fall of 1.0% in sales volumes in August 2021, driven by falls in department stores (-3.7%) and other stores, such as sports equipment and computer stores (-1.2%). Automotive fuel sales volumes rose by 1.5% in August 2021 as general UK travel continued to rise although it remained 1.2% below their pre-pandemic February 2020 levels.

The proportion of retail sales online rose to 27.7% in August 2021 from 27.1% in July and it remains significantly higher than the 19.7% of retail sales that were online in February 2020, pre-Covid-19. The CPA expects that the proportion of online retail sales will remain considerably higher than pre-Covid-19 given the higher proportion of households that have office workers that are still likely to be working from home on a semi-permanent basis, ensuring that spending online does not fall back to pre-Covid-19 levels.

Upper Scenario:

- Economic activity rises sharply in 2021 Q4 and 2022 Q1
- Consumer confidence and spending continues to remain robust
- Savings ratio falls as households use savings to offset price rises
- No rise in unemployment after the end of CJRS and SEISS even in the services sector
- 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 slows due to persistent inflation
- Consumer confidence and spending slows in the final quarter of 2021 and the first half of 2022
- Unemployment rises significantly in leisure and in-store retail after the end of the CJRS and SEISS
- Savings ratio remains stubbornly above long-term average levels as households reduce spending in response to rising inflation
- Business investment recovers slowly due to uncertainty regarding the sustainability of economic growth given increasing inflation and supply concerns

The lower scenario envisages strong inflation persists throughout 2022, leading to lower consumer confidence and spending. Non-essential retail and leisure see increases in unemployment after the end of furloughing and slower consumer spending also means that business investment, particularly from SMEs, remains subdued in the next 18 months. In this lower scenario, UK GDP growth slows in 2021 Q4 and in 2022.

Private Housing

Demand continues to be strong in both the housing and house building markets but, given the extent of supply-side constraints and the impact of potential interest rates rises on homebuyer confidence, growth in the next two years is expected to be slower than in previous forecasts.

Major house builders are better placed than most firms in the construction to weather the high levels of current and future expected demand whilst simultaneously dealing with the unprecedented range of supply-side issues such as the cost and availability of skills, products and transport facing the construction industry (see Overview). This is particularly the case given that many regions have consistently experienced double-digit annual house price inflation since the initial lockdown in Spring 2020 and any further mismatch between demand and supply gets capitalised into house price growth, assuming that affordability does not suffer greatly. However, this does not make them immune to the supply problems. This is particularly the case given that major house builders employ one person across all areas for every three homes they build and, consequently, the majority of cost, risk and activity is sub-contracted out to smaller contractors. And these firms, in turn, will be enduring supply issues. Whilst this is unlikely to lead to a sharp slowdown in house building activity, the heightened current supply issues and their persistence over the next 6-9 months are likely to constrain both the ability of major house builders to significantly increase build rates further and their willingness to increase the rate at which they build out given that increases in the costs of both labour and products are accelerating ahead of house price inflation.

Nationwide reported **UK house price rose** **10.0%** *in September 2021* *and house price inflation picked up in every region during Q3*

Private Housing Starts and Completions Great Britain

	2019	2020	2021	2022	2023
	Actual	Estimate	Estimate	Forecast	Projection
Starts	145,748	115,931	148,391	158,779	165,130
	-8.2%	-20.5%	28.0%	7.0%	4.0%
Completions	165,107	135,747	158,824	163,589	163,589
	6.5%	-17.8%	17.0%	3.0%	0.0%
Output (£m)	38,070	30,641	35,850	38,001	39,141
	4.5%	-19.5%	17.0%	6.0%	3.0%
RM&I Output (£m)	22,071	19,310	23,172	23,172	22,709
	0.1%	-12.5%	20.0%	0.0%	-2.0%

Source: MHCLG, ONS, Construction Products Association

Government policy will also provide added complications for house builders going forward for a variety of reasons. Firstly, the indications the CPA has from government are that it will be moving away from its target of 300,000 net additional homes per year by the mid-2020s and focusing more on home ownership and less on building more homes for political purposes given an increase in disaffection at new developments from voters that are existing homeowners. Secondly, the tapering of the stamp duty holiday and the constrained version of Help to Buy so far do not appear to have unduly affected the general housing market as house builders report strong demand for the next 6-9 months whilst the government's mortgage guarantees are likely to encourage high loan-to-value mortgages (LTV) further over time. Yet there remain concerns regarding how policymakers can continue to keep enabling further demand in the housing market over the forecast period given double-digit increases. The indications are that the stamp duty holiday itself did not directly lead to the buoyant housing demand given that the average maximum saving from the stamp duty holiday prior to it being tapered was £15,000 but between its implementation and its tapering the average UK house price rose by £20,832. Just as important as the stamp duty itself, was the pent-up demand from the initial lockdown feeding through combined with the higher general level of demand due to the 'search for space', both indoor and outdoor, as well as the £200 billion of accumulated savings from households over the past 18 months and also the government's combination of policies all acting as a signal that government was willing to do its utmost to underpin demand in the housing and house building markets given the high and rising importance it continues to place on home ownership. However, the lack of a direct relationship between the stamp duty holiday and the buoyancy of the housing and house building markets has not stopped major house builders publicly calling for a permanent reform of stamp duty in their trading updates in September.

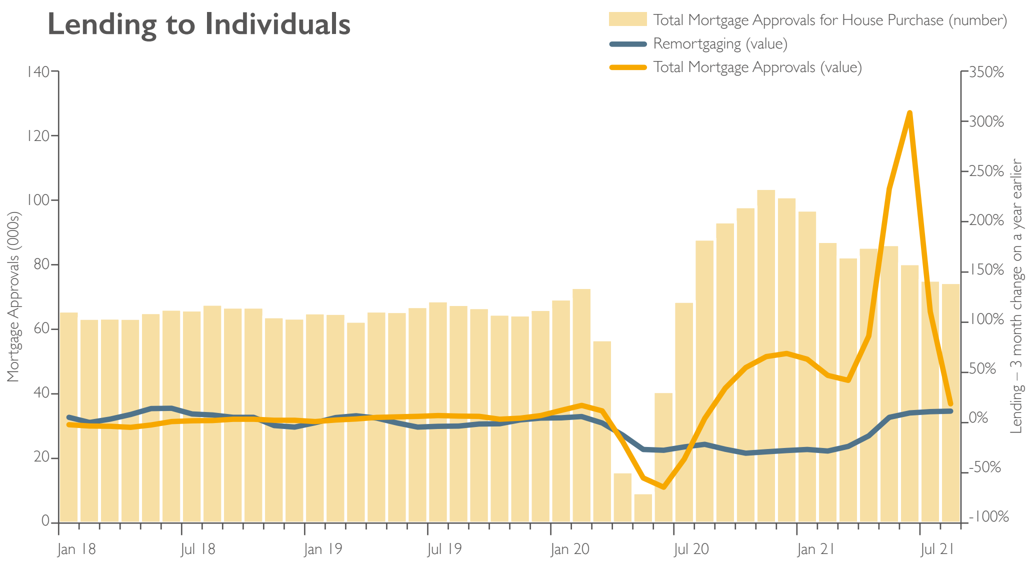
In addition, whilst the focus has been on the stamp duty holiday since it was announced in July 2020, other policy changes may provide larger challenges for housebuilders over the forecast period. As Help to Buy winds down, housebuilders may find a less beneficial mortgage market due to an erosion of the new build premium. The premium from selling a new home covers for many features that are new compared with a second-hand home. However, lenders are increasingly concerned with the pace of decay of the new-build premium compared to homes in the second-hand market. Help to Buy has helped lenders of high LTV mortgages, lowering risk. However, as the constrained version of Help to Buy finishes, some lenders may withdraw from the high LTV market, especially given concern over the sustainability of house prices.

Thirdly, particularly in the light of COP26 and the UK's movement towards Net Zero in the medium-term, stronger, changing regulations, standards and requirements may lead to significant increases in costs for house builders. Theoretically, it may lead to a rush in starts if house builders attempt to avoid some of the key changes in regulations such as no fossil fuel usage (such as gas boilers) within the Future Homes Standard and changes to transitional arrangements. Under current plans, if plans have been submitted prior to and a start has been made on the development prior to June 2023, this could potentially distort the relationship between starts and completions. Conversely, the ability to provide better quality, more energy-efficient homes may also be an opportunity and provide an area of added value and margin in the medium-term at a time when there may, otherwise, be concern regarding the new build premium. Finally, major house builders will also be subject to the government's Residential Property Developer Tax, which was announced in February 2021 with expectations that it will raise £2.0 billion over the next decade to help pay for the remediation of unsafe buildings. It is primarily aimed at private developers, although at this point it is possible that some housing associations may also be covered by it (see Public Housing). Draft legislation was published in September and it will come into effect in April 2022. The tax will be applied against the profits of developers above a certain fixed allowance. Clearly, this will have an impact on house builder rates of return and, in turn, could have an impact on house builder willingness to increase supply.

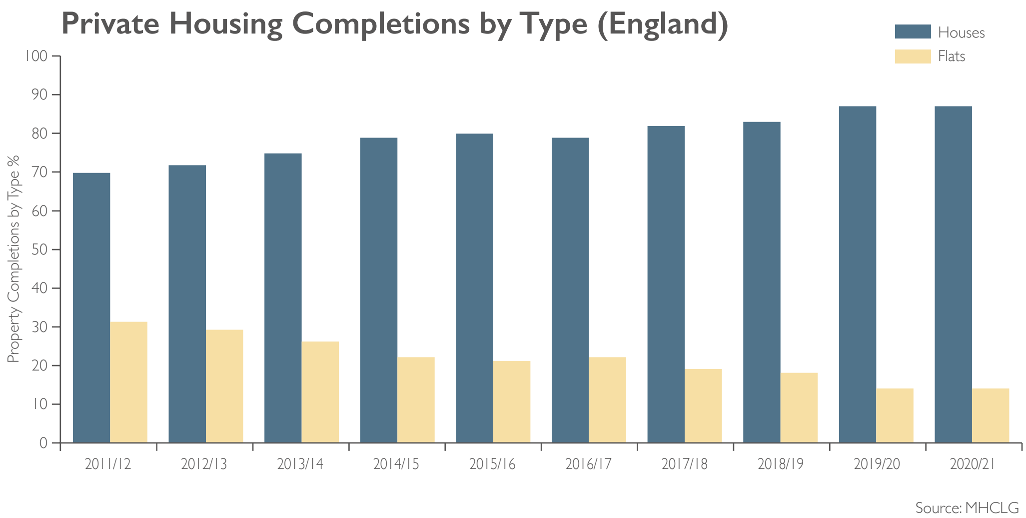
Private housing starts and completions have recovered sharply since the nadir during the initial lockdown. MHCLG starts in England during 2020 Q2 were an unprecedented 57.7% lower than a year earlier but by 2021 Q1 starts had recovered to 30.5% higher than a year earlier and 15.7% higher than in the same quarter in 2019. Furthermore, although starts in 2021 Q2 were 3.8% lower than in Q1, they were still 11.0% higher than in the same quarter of 2019. Similarly, completions in England during 2020 Q2 were 61.4% lower than a year earlier but in less than 12 months had recovered in 2021 Q1 to a level 23.9% higher than a year earlier and 13.2% higher than in 2019 Q1. Completions in 2021 Q2 were 10.6% lower than in Q1, after the end of the initial stamp duty holiday deadline on 31 March 2021, which was only extended during March itself after house builders had factored in completions for the initial deadline. Completions in 2021 Q2 were also 0.9% lower than in 2019 Q2.

It is worth noting that the Office for National Statistics (ONS) housing output has not recovered as sharply as starts and completions. In addition, according to the ONS, private housing output fell from March 2021 and in July was 17.2% lower than in March and 15.4% lower than in January 2020, pre-Covid-19 (coronavirus). However, this does not align with indications that the CPA has from major and SME house builders, the majority of which state that demand has remained strong and although there was a slowing of build out rates in July and August before accelerating once again in September. In addition, there are also indications that house builders, particularly SME house builders, have been affected by the availability and cost of products, both unskilled and skilled labour as well as by transport issues affecting product manufacturers, merchants and deliveries to site. As a result, the CPA anticipates that there may be an upward revision to the most recent ONS construction output data.

Lending to Individuals



Source: Bank of England



It is worth noting, as highlighted in previous CPA forecasts, that starts and completions only cover new build housing whereas housing output includes new build homes and also conversions (e.g. changing a house into multiple flats) and changes in use (e.g. changing a commercial building into an apartment block). Both conversions and changes in use have suffered from the more subdued demand for flats as potential homeowners focus on houses with more indoor and outdoor space available. This is particularly the case within cities, especially in London, where conversion and changes in use are more prevalent. The flats market is also skewed towards cities, and particularly London, which has suffered due to there being less of a need for many office workers to be close to the office.

MHCLG reported that only 14.0% of private housing completions were flats in 2020/21 compared with 18.0% in 2018/19. This has been a part of a long-term downward trend but the impacts of Covid-19 have caused a further shift downward and the proportion of new private sector housing that is flats has fallen to levels unseen since the early 1990s. However, it is worth noting that the demand in the private sector market for flats may also have been significantly affected by potential home purchaser concerns regarding building safety and cladding-related issues given the high-profile nature of the issue. More recent data from the Land Registry indicate that the proportion of property transactions that were flats in England and Wales fell from 20.0% in 2017, prior to the Grenfell Tower fire, to 12.0% in 2021 Q1.

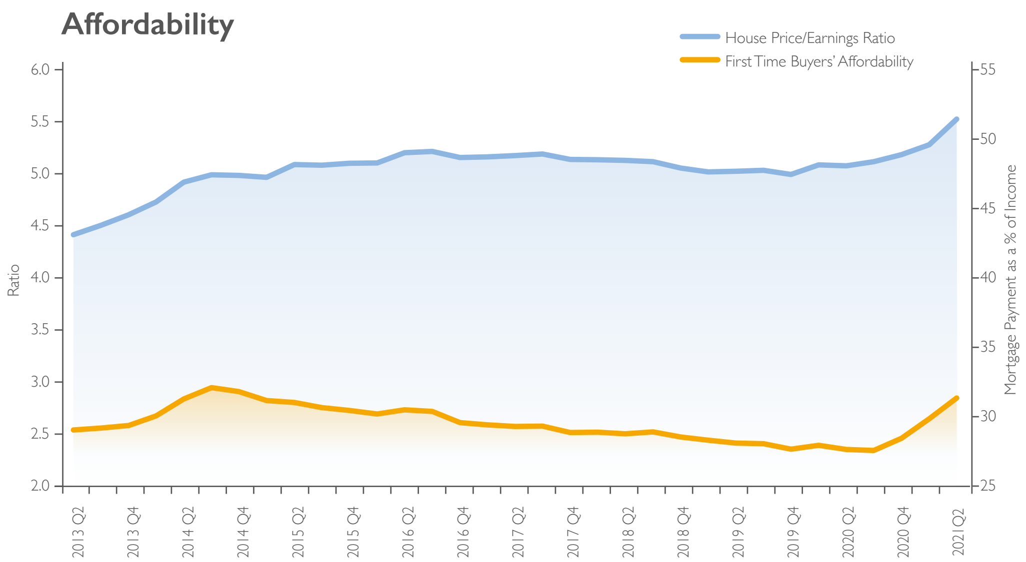
The impacts of the changes in demand away from flats and cities towards houses and non-urban areas have been illustrated in regions of the UK that have experienced the fastest rises in house prices over the past year and have been the regions with the lowest average price whilst London has experienced the slowest price inflation over the past year. So, homeowners have effectively moved away from proximity to work being a key determinant of home purchase towards where they can find the most space and the highest quality of life given their financial constraints. This, in itself, provides house builders with opportunities for increasing sales in areas where affordabilty is higher but it also provides challenges for some house builders as the purchasing of land and obtaining planning often takes place many years in advance so many house builders may have large numbers of plots but they may not necessarily be in the places that were expected to be the hotspots of demand pre-pandemic. As a result, it is unsurprising to see that the demand in the land market has been increasing recently. House builder demand in the land market was already rising over the last few years but appropriate land in the right locations has increasingly become harder to find. In October 2021, Savills reported that after stable growth in the first quarter of 2020, in 2020 Q2, in response to the initial lockdown, quarterly greenfield and urban values fell slightly by 1.1%

and 0.2%, respectively, in the UK but normal levels of activity occurred between 2020 Q3 and 2020 Q4 across the UK. In the first half of 2021, increased levels of competition and a shortage of stock, particularly for greenfield sites drove upward pressure on land values. In 2021 Q2, greenfield and urban values increased by 1.7% and 1.8%, taking annual growth to 3.0% and 3.1% respectively. However, unsurprisingly, land values have been relatively suppressed compared to other regions, falling by 2.1% and 0.8% in Central and Outer London respectively in the year to March 2021. This pressure on values has been partly driven by slower new build sales rates in the capital due to economic uncertainty and travel restrictions reducing demand in addition to a changing focus on how much people value city centre locations for residential and other uses. Given the mix of demand issues across houses compared to flats and regional as well as sub-regional variation in demand plus uncertainty over planning rules, house builders obtaining land at the right price will become more difficult. In addition, the myriad of issues suggests that house builders will be focusing on flexibility and smaller plots.

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

The various concerns and sentiment of firms in the general housing market and house building market appears to be reflecting in all key indicators of demand; mortgage approvals, property transactions and house prices.

The number of UK mortgage approvals in August 2021 was 0.9% lower than in July and 15.3% lower than a year earlier. The fall compared with July was unsurprising as mortgage approvals continue to slow down to pre-Covid-19 levels after the unrestricted stamp duty holiday finished and began to taper, at the end of June. The fall compared with a year earlier highlights that mortgage approvals in August 2020 were buoyed by pent-up demand coming through after the initial lockdown in Spring 2020 as the housing market reopened. Looking over the longer-term, UK mortgage approvals in August 2021 were still 15.3% higher than the average between 2018 and 2019, pre-Covid-19 and, excluding the last 12 months, the last time that UK



Source: Nationwide

mortgage approvals were at this level was in December 2007, pre-financial crisis.

Given that households have accumulated £200 billion of savings since the pandemic began, finance is available for many households but willingness to spend will be key to the general housing market near-term, which, in turn, will be reliant on people's security of jobs and on consumer confidence. Despite the end of the Coronavirus Job Retention Scheme (furloughing) and the Self-Employment Income Support (SEISS), the assumption made in the CPA forecasts is that there will not be a significant rise in unemployment across the economy with the exception of person-to-person interaction services such as some non-essential retail and leisure as well as travel and tourism, sub-sectors of services in which activity has not recovered to pre-Covid-19 levels and is unlikely to in the near-term to medium-term. As a result, high employment rates in the majority of the UK economy will prevent forced sellers and bolster demand for new housing purchases in the general housing market. However, offsetting this, consumer confidence has fallen away sharply since the Summer due to the sharp rise in energy costs in addition to the fuel shortages issue in late September and early October as well as concerns regarding empty shelves in supermarkets, general inflation and economic growth concerns. Whilst the fuel shortages issue is likely to be merely temporary, inflation concerns are likely to remain until at least the first quarter of 2021 and potentially beyond. Although the GfK consumer confidence indices (see Private Housing RM&I) tend to be more reflective of general consumption and even the major purchases index tends to reflect spending on cars rather than new homes or renovation, an increasing consumer focus on saving rather than spending is unlikely to be helpful to new homes demand.

The latest RICS UK residential market survey, published in September 2021, reported that there was a softening in housing activity in August following the surge in sales prior to the phasing out of the stamp duty holiday. Survey respondents expected activity to stabilise in the near-team and a positive trend returning over the next twelve months.

At the national level, new buyer enquiries fell for a second month in succession, with the net balance at -14%, down from -9% in July. When disaggregated, demand trends were either flat or negative across almost all of the UK. Agreed sales also declined with a net balance of -18% of respondents citing a fall compared with -22% previously.

Looking ahead, a net balance +4% in August, unchanged from July, was registered for expectations for transactions over the next three months and a net balance of +7% was registered for transactions over the next 12 months compared with -2% a month earlier. According to the RICS, the most positive balances were recorded across London, Northern Ireland and the South East of England.

Looking at supply, new listings continued to report falls with a net balance of -37% in August and it has been negative for eight of the past nine months although it is less negative than the -45% recorded in July .

The lack of available stock on the sales market is frequently reported by respondents to be the key factor sustaining strong house price inflation. In August, a net balance of +73% of contributors saw prices increase compared with the previous month. Although this is less than the recent high of +81% in May and June, it still remains historically strong. Going forward, a net balance of +23% of respondents anticipate prices will continue to climb over the near-term, marginally lower than last month's +28%. In addition, twelve-month price expectations remained strong in August with a net balance of +66% at the national level, the same as in July.

UK property transactions in August 2021 were 32.0% higher than in July (which was immediately following the end of the unrestricted stamp duty holiday and the start of its tapering on 1 July) and 20.9% higher than in August 2020 (when transactions were still recovering following the end of the initial lockdown in mid-May 2020). Transactions in August 2020 were 1.0% lower than the average of between 2018 and 2019.

Over the longer-term, transactions have returned broadly back to pre-Covid-19 levels but they have been volatile over the last year due to policy distortions and further monthly volatility would be expected over the next 6-9 months before they return back to long-term trend levels for a sustained period.

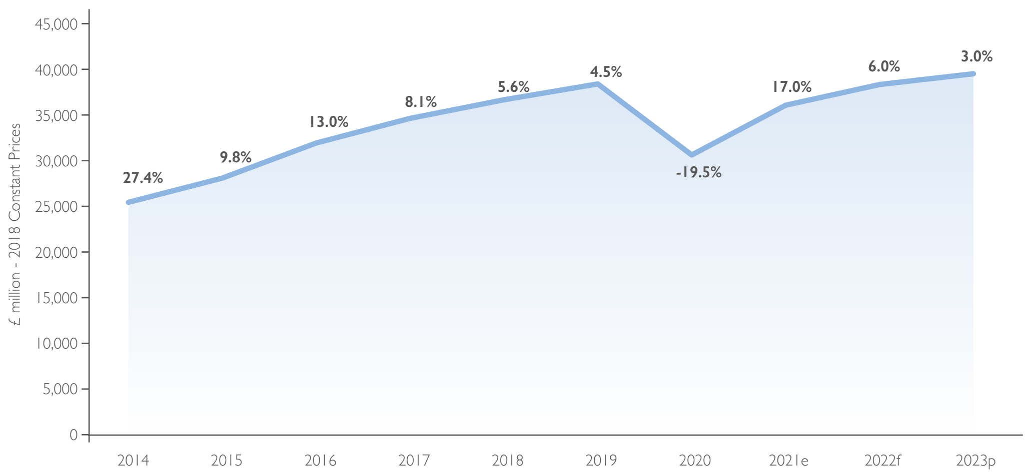
UK property transactions so far this year (January to August) were 77.1% higher than in 2020 and 34.8% higher than in 2019. If transactions continue at August levels for the rest of the year, in 2021 transactions would be 39.4% higher than in Covid-19 affected 2020 and 23.1% higher than in 2019.

The average UK house price in July 2021 was £255,535, which is 3.7% lower than in June but 8.0% (£19,000) higher than a year ago, after the record high of £265,448 in June (prior to the tapering of the stamp duty holiday).

Within the 8.0% UK annual house price growth, the regions/nations with the fastest house price rises in the year to July 2021 were in Scotland (14.6%), Wales (11.6%), the North East (10.8%) and South East (8.8%) whilst the slowest house price rises in the year to July 2021 were in London (2.2%), as the 'search for space' and less need for some office workers to be as close to their office in an urban centre continues to suppress demand, pushing it to other regions.

More recently, Nationwide reported that annual house price growth remained in double-digits for the fifth consecutive month in September, although there was a slowdown from 11.0% in August to 10.0%. House prices rose by 0.1% month-on-month, after taking account of seasonal effects. As a result, house prices remain around 13.0% higher than before the pandemic began in early 2020.

Private Housing Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

The regional house price data is only quarterly and showed a mixed picture across the country in Q3. While price growth accelerated in Wales, Northern Ireland and Scotland, most English regions recorded a slowdown. Wales was the strongest performing region with house prices up 15.3% year-on-year – the highest rate of growth since 2004. Price growth remained elevated in Northern Ireland at 14.3%. House price growth in Scotland picked up to 11.6% in Q3, in contrast to the previous quarter when it was the weakest performing part of the UK (at 7.1%).

Yorkshire and Humberside was the strongest performing English region for the second quarter in a row, with prices up 12.3% year-on-year, followed by the North West, which saw an 11.4% rise. London was the weakest performer, with annual growth slowing to 4.2% from 7.3% last quarter. The surrounding Outer Metropolitan region, which includes places such as Luton, Watford, Sevenoaks and Woking, also saw a softening to 6.8%, down from 8.2% in Q2.

HM Treasury's latest consensus of economic forecasters published in September 2021 highlights that forecasters expect house prices in 2021 Q4 to be 5.3% higher than a year earlier on average but with a range between +3.0% and +11.2%. Given that these forecasts were determined between July and September, this indicates a wide range of assumptions and a high degree of uncertainty on the government support measures being withdrawn. For house prices in the year to 2022 Q4, macroeconomic forecasters anticipate only 1.6% average UK house price inflation ranging between -1.6% and +3.9%. However, given the volatility of these forecasts, they should be treated with considerable caution.

A better view of house prices going forward would be to look at the real estate agents, which are closer to the housing market but tend towards the more optimistic end of forecasts most of the time. The latest forecasts are by Hamptons, published in September 2021. It forecasts that UK house prices will rise consistently each year between 2022 and 2024 and that Summer 2021 marked peak house price growth so it expects growth to slow towards the end of 2021. It forecasts price growth for Great Britain of 3.5% in 2022 and 3.0% in 2023 before rising 2.5% in 2024. Within this, it predicts that house prices would rise fastest in the North East, where affordability is highest, rising by 6.5% in 2021 and then between 4.0% and 6.0% a year between 2022 and 2024. The slowest growth is expected to be in London, unsurprising given less need to be close to urban centres than pre-pandemic and given that London has the lowest affordability in the UK. It forecasts prices in the capital to rise by 1.5% in 2021 and 1.0% in 2022.

In February 2021, the Scottish government cancelled a planned extension to the main tranche of its Help to Buy scheme scheduled to run an additional 12 months to March 2022 due to budget constraints. The SME house builder tranche will continue, however, accounting for £14 million of the original £55 million funding allocation. Scottish policy will focus on its First Home Fund, offering interest-free loans of up to £25,000 to first-time buyers, secured against a new or existing home. This is close to the average equity loan of £26,080 advanced by the Scottish government for new build homes, but in the first phase, new build accounted for only 19.7% of take-up. The Scottish equivalent of the stamp duty holiday also ended as planned on 31 March 2021. In Wales, the extension to the Help to Buy equity loan scheme will continue for 12 months to March 2022, although the price cap will be reduced from £300,000 to

£250,000 for this phase. The Welsh government extended its stamp duty holiday by three months to the end of June but unlike its counterpart in England, the exemption did not apply to purchases of second or additional properties.

The Spending Review in November 2020 announced a £7.1 billion National Home Building Fund, but as this largely pools together the remainder of existing funds in the Housing Infrastructure Fund, and Brownfield Fund, only £2.3 billion of this is additional: £2.2 billion in loan finance and £100 million for non-mayoral combined authorities for regeneration in 2021/22. Given the longer lead times for large sites that are led by infrastructure, the house building activity from these measures will peak beyond the forecast period. The government has also consulted on its 'First Homes' policy for new homes to be sold at a 30% discount to first-time buyers. A pilot was announced in the Prime Minister's speech in June 2020, and is expected to deliver 1,500 homes. It will be funded through the new Affordable Homes Programme starting from April 2021, and primarily delivered through Section 106 agreements. Household income caps will match those for shared ownership: £80,000 in England and £90,000 in London. The previous Starter Homes policy that was first announced in 2014 and pledged a 20% discount failed to deliver any homes, however.

The Prime Minister also announced in June 2020 plans to widen the scope of commercial buildings that can be converted into residential units without planning permission have been brought forward to 21 April instead of August. The role of such changes of use in the broader measure of net housing supply has diminished over the last few years. It accounted for 17.1% of net supply at peak in 2016/17 and 11.0% in the most recent data for 2019/20. This was the lowest proportion since 2013/14 and in volume terms, this represents a 27.6% decline. The concerns over the oversupply of commercial space given office workers are likely to only average 2-3 days per week in the office points towards commercial developers moving towards repurposing commercial space for residential uses. However, countering this, the key areas in which there have been substantial falls in demand for residential are flats in cities, particularly London so commercial developers would need to be willing to take further falls in rate of return and asset value.

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. It has been a niche growth area of private house building in recent years and according to the British Property Federation in 2021 Q1, there were 188,456 Build to Rent homes in the UK, including both London and the regions, of which 58,038 are complete, 36,054 under construction and 94,364 in planning. In London, there were a total of 82,734 units whilst outside London, there are 105,722 units.

Given the long-term nature of the investment and returns institutional investment in Build to Rent has the potential to provide some uplift to house building activity, although this accounts for a small proportion of the 5.0 million privately-rented housing stock in Great Britain. New starts in 2020 increased compared to 2019 but were still around one-third lower than peak in 2017. Further out in the pipeline, the number of Build to Rent developments in the planning system rose strongly for the regions in Q4. In Birmingham, a 48-storey tower had plans submitted in August 2020 and Moda Living's plans for its second Build to Rent tower in the city were approved in November. In Leeds, Galliford Try submitted plans for a 350-flat development in June 2020 and was awarded

contracts for a £105 million scheme in the city in August 2020. A 25-storey tower was approved in Manchester in February 2021. In June 2021, the John Lewis Partnership announced that it would be planning to build 10,000 homes for rent over the next few years as it diversifies its revenue stream from in-store retail and as part of its plan for 40% of its profit to come from non-retail activity. It stated that it could potentially build 7,000 homes on its own sites, with the remaining units on new plots. Its initial homes are planned for the South East of England but it is eventually expecting to expand this across the country over time. It is not only commercial developers that will be looking to move into the residential space but also other large institutions with significant size property portfolios. In July 2021, Transport for London (TfL) published long-term plans to develop homes built via a standalone property company. Over the next 25 years, the plans envisage 145 acres developed over 50 sites to deliver 13,278 homes, a further 280 acres of developable land has been identified which can deliver another 33,072 homes to total 46,350 homes depending on the capital that it is able to attract from debt markets and government grants. Approximately half of the homes built were announced as affordable homes but the first homes are only anticipated from the end of 2024, outside the forecast period.

Overall, private housing starts in Great Britain fell by 20.5% in 2020 despite the sharp recovery during the second half of the year and given current buoyant demand, starts are expected to remain high for the rest of the year, rising by 28.0% from a low base last year. Completions fell by 17.8% last year and are expected to rise by 17.0% this year. Both these are slight revisions from the 24.0% and 15.0% growth forecast originally in the Summer forecast due to the strength of activity in the first nine months of the year and despite the supply constraints. However, this upward revision is at the expense of growth in 2022, which has consequently been revised down due to the large number of uncertainties on the supply side and concerns about the ability for further growth. This is combined with concerns regarding a slowing of demand due to a rise in interest rates, inflation concerns and more subdued consumer confidence. In 2022, both starts and completions on an annual basis are expected to rise by 7.0% and 3.0% respectively, compared with 10.0% and 8.0% in the Summer forecast.

Upper Scenario:

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

If consumers continue to spend despite rising inflation, using savings built up since the start of the pandemic, combined with a strong labour market 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.

Private Housing RM&I

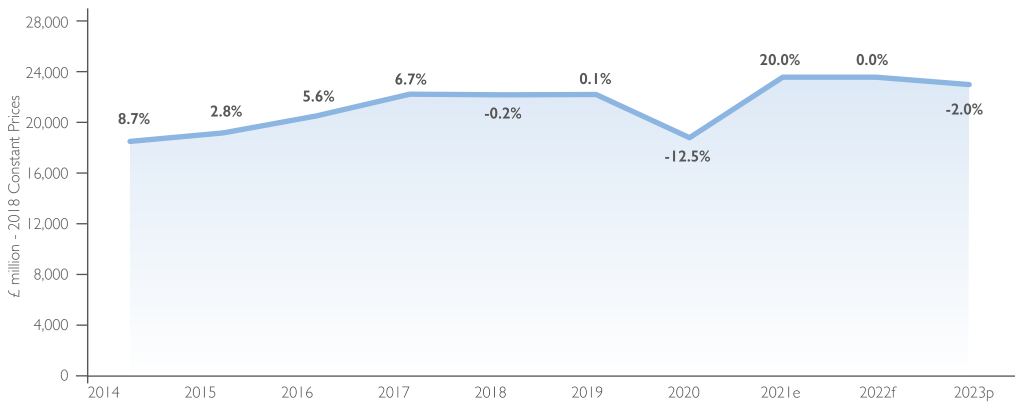
Demand for home improvements continues at levels higher than pre-Covid-19 (coronavirus) but with small contractors most at risk from supply issues, it is difficult to envisage further significant growth beyond 2021's buoyant levels.

Overall, the private housing rm&i forecast remains broadly the same over the forecast period and output in 2023 remains at the same level as in the Summer forecast but the profile has been changed slightly to account for stronger growth this year but at the expense of growth in 2022.

Private housing rm&i output is now forecast to grow by 20.0% in 2021 compared with 16.0% in the CPA Summer forecast. Conversely, output in the sector is now forecast to remain flat in 2022 rather than grow by a further 3.0%, which was in the Summer forecast. Demand remains as strong as in the previous forecast but the availability of both skilled and unskilled labour as well as the availability of materials and products (see Overview) is likely to constrain further growth for small contractors, which appear to be taking on new projects by pushing them further out or pausing quoting on further projects despite strong demand due to uncertainty regarding the availability and cost of labour and products in more than six months' time. Even still, activity levels this year and activity remaining at current levels in 2022 leaves output at almost 20 year highs.

Historically, in private housing rm&i the majority of general activity levels is covered by basic repairs and maintenance that cannot be delayed. As a consequence, activity in the sector tends to be less volatile than new build sectors. However, improvements tends to be part of the sectors that provides significant growth during busy periods and the sharp declines in recessionary periods. Most recently, improvements unsurprisingly suffered the sharpest declines within rm&i during the initial lockdown between 23 March and mid-May 2020 as it is not urgent activity but it was also the element of rm&i that recovered the swiftest due to the 'race for space', through purchasing a new home and/or renovating existing properties. The key interest for households since the initial lockdown has been in achieving better more, and better quality, space. This demand has been for additional loft conversions, indoor home/office space, 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,

Private Housing RM&I Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

SME contractors report that they have ***refurbishment projects lined*** *up to the end of 2022 Q1 but*

the demand for improvements works has also been boosted by demand for greater outdoor space through, for instance, decking and garage conversions.

The additional incentives to improve the home have also continued to be strong.

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 strong 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 'search 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 31 June before continuing from 1 July in a tapered form have meant that on a monthly basis transactions have bounced around more than historically would be the case usually.

UK property transactions in March 2021, immediately prior to the original stamp duty holiday deadline reached a recent peak of 183,880, which was 83.1% higher than in March 2019 (comparisons with March 2020 are not reflective of the market given it was during the initial lockdown when the housing market was temporarily shut down). Transactions in March 2021 were also 85.1% higher than the average of monthly transactions between 2018 and 2019. Given that the stamp duty holiday was only extended beyond March until the end of June during Budget 2021 in March itself, this was too late to see a rush for transactions in March and, consequently, a dip in transactions during April and May before another rush in transactions to complete before the end of the unrestricted stamp duty holiday on 31 June 2021. Transactions in June reached another recent peak of 198,900, hitting its highest level on record before yet another sharp fall in July 2021. UK property transactions in August 2021 were 32.0% higher than in July, which followed the tapering of the stamp duty holiday and 20.9% higher than in August 2020, when transactions were still recovering from the reopening of the housing market in mid-May after the initial lockdown. A more appropriate comparison is with 2019. Transactions in August were 1.3% higher than in the same month during 2019 and year-to-date, January to August 2021, transactions were 34.8% higher than in 2019. With the stamp duty holiday now tapered, the maximum saving from the stamp duty between 1 July and 30 September was only £2,500 so it is unlikely that the end of the stamp duty holiday will have made a significant impact on transactions in October.

A greater concern regarding property transactions highlighted in previous forecasts was for first-time and second-time buyers was affordability, given double-digit house price growth and the size of the deposit needed, particularly in the light of a sharp fall in the number of high loan-to-value (LTV) ratio mortgages during 2020 as lenders took account of increased uncertainty after the initial lockdown. However, the government's announcement of a mortgage guarantee scheme in Budget 2021 in March has ensured that lending for 95% LTV and 90% LTV mortgage recovered both in terms of availability and the interest rates at which they have been made availability. As a result, property transactions are likely to remain above the average level seen in 2018-19 for the rest of this year and during the first half of 2022. Given the 6-9 month lag between property transactions, this suggests that demand for rm&i activity is likely to remain high until the end of 2022. Any fall off in the general housing market from the second half of 2022 would only be expected to feed through into the rm&i market during 2023.

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 more particularly favourable compared with saving or other, more risky, investments.

The Barbour ABI Home Improvement Report 2021 is that the largest volume of improvements applications and, consequently, improvements activity, occurs where there is the highest house prices as there is the greatest return on the investment, which points towards London and the South East. However, the largest increases in improvements applications and activity occur where the house price inflation is highest. As a result, whilst the largest volume in rm&i output historically occurs in London and the South East, the largest increases over the past 18 months and also where the greatest rise in activity is likely to take place over the next 6-9 months is in the regions with the highest house price inflation. In previous forecasts, the highest rates of UK house price inflation were in the North East, Yorkshire and the Humber, North West and West Midlands although more recently, in July 2021, there has been a movement towards the fastest rates of house price inflation in Scotland (14.6%), North East (10.8%), South East (8.8%) and West Midlands (8.5%).

In addition, according to Barbour ABI, immediately after the initial lockdown, builders' merchants and DIY stores saw a jump in customer traffic as households rushed to lay patios, construct decking, and improve their fencing. And, after an initial fall, the submissions of applications for home improvement bounced back strongly. Applications in the second half of 2020 were more than 20% higher than in the same period in 2019. Overall, there was a solid rise in applications for extensions. However, the sharpest increase in applications was for garden buildings and works in addition to sharp rises in applications for garages. The increase in garden buildings and works is in line with the CPA's view over the past year regarding better quality outdoor space whilst garages cover areas that provide more space for storage and/or may be used for a home office, workspace, or home gym so the applications were likely to be for conversion of garages into living space.

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. A concern in CPA forecasts during 2020 was that although government had sustained employment rates in the private sector economy using the Coronavirus Job Retention Scheme (CJRS), or furloughing, and the Self-Employment Income Support Scheme (SEISS), what would happen when the schemes finally ended on 31 September 2021. Any significant rise in unemployment may have led to a sharp fall in consumer confidence and spending, affecting rm&i activity directly and also it may have led to a fall in property transactions, affecting rm&i indirectly as well. However, the indications at this early stage since the CJRS and SEISS ended, are that there is unlikely to be a significant increase in unemployment, particularly in industries such as manufacturing and construction in which activity remains strong. The forecast does not anticipate

a considerable increase in unemployment overall in services although there is assumed to be an increase in some sub-sectors of services that deal with person-to-person interactions such as non-essential retail and leisure as well as travel and tourism, areas that have not recovered to near pre-coronavirus levels of activity as yet. However, this is unlikely to affect the overall labour market and, consequently, the housing and rm&i sectors.

The high employment rates and the lack of a significant rise in unemployment combined with the inability to spend on non-essential retail and leisure as well as tourism for large parts of the last 18 months has led to a sharp increase in households savings (see Economy). The Bank of England estimates that households have now accumulated £200 billion of savings. As a result, households continue to have the finance available for improvements works. A key risk to the rm&i forecast and scenarios that the CPA determined in 2020 was whether rm&i had benefitted from a temporary shift away from traditional spending patterns such as non-essential retail, leisure and tourism so, consequently, would it suffer from a shift back as social distancing restrictions eased. However, the indications are that households have refurbishment projects in the pipeline for at least the next six months and have the finance available for both refurbishment projects and more traditional forms of general expenditure, particularly for office workers that will continue to spend a significant proportion of the week working from home and have both time and additional finance from less commuting-related expenditure.

The persistently high employment rates, combined with the successful vaccine rollout and plan to ease the social distancing restrictions with an expectation that there is unlikely to be another national lockdown, all led to sharp increases in consumer confidence in Summer 2021 as highlighted in the last forecast, reaching their highest levels since before the pandemic. However, due to concerns over shortages and rising prices for fuel and food, and the growth in inflation, September 2021 saw consumers' confidence fall significantly across all measures according to GfK. Consumers were not only worried about their own personal finances but the wider economy and, reflecting increasing uncertainty, the major purchase index recorded its largest fall on record.

GfK's overall consumer confidence index in September 2021 fell to -13, which is five points worse than in August. Furthermore, in September, the GfK index for personal financial situation over the next 12 months was +5, which is six points worse than in August whilst the GfK index for general economic situation over the next 12 months was -16, which is ten points worse than in August. In addition the GfK index for savings was +22 in September, which is three points lower than in August.

The GfK consumer confidence index for major purchases in September 2021 was still -6, which is three points lower than in August and it has been negative for the majority of the past year. However, as highlighted in previous forecasts, this suggests that the GfK major purchases index is potentially a better reflection of large purchases such as a new car, given the decline in the new car market since January 2020, rather than significant refurbishments or a new home.

Outside of general private housing rm&i activity, government policy stimulus also has an impact. The current phase of the Energy Company Obligation programme, ECO3, began in October 2018 and runs to March 2022 and aims to encourage energy-efficient retrofit measures on the existing housing stock. The programme is valued at around £640 million per year and focuses on fuel poverty. This is lower than the £870 million per year spent under ECO previously and shifts focus from energy efficiency. Despite its smaller scope, between October 2018 and July 2021, an average of 24,536 measures were installed each month under ECO3. During the transition period, under ECO: Help to Heat between April 2017 and October 2018, the number of measures installed averaged 18,151 per month. Both compare to a monthly average of 41,375 measures over the previous four-year ECO programme although it is worth noting that the number of measures installed under ECO3 has been rising since Spring and in June 2021, there were 54,105 measures installed, which is the highest monthly level since November 2014. However, by July 2021 this had fallen to 12,307.

In July 2020, the Chancellor announced a £2.0 billion Green Homes Grant of up to £5,000 per household, or £10,000 for low-income households, and this was expected to augment the pipeline for energy efficiency improvements. However, with poor implementation and shortages of eligible contractors, the £1.5 billion assigned to private households has been significantly reduced. BEIS confirmed that the scheme would close to new applications on 31 March with a total of 36,381 measures installed. It also stated that £300 million of the Green Homes Grant finance would be available for local authorities to upgrade energy efficiency on the public housing stock (see Public Housing RM&I).

In the run-up to COP26 the construction minister has stated that there will be another energy-efficiency retrofit policy, and the CPA anticipates even more policy announcements relating to decarbonising the economy and movement towards Net Zero along with the Heat and Buildings Strategy and the Future Homes Standard. However, given government's poor record of delivery under energy-efficiency retrofit programmes over the last decade, previous CPA scenarios and forecasts anticipated little delivery from the Green Homes Grant and was awaiting clear evidence of delivery on the ground. As a result, its cancellation has made little impact on the CPA forecasts and further policy announcements relating to energy-efficiency retrofit will only be taken account of when there is clear evidence of delivery on the ground. As a positive risk to the forecast, however, this indicates that if government can improve its delivery of retrofit policies, there is the potential for a significant uplift to forecasts from 2023 given that any significant policy of note aimed at the private housing rm&i sector would take time to put in place and gain momentum, particularly given the extent of potential energy-efficient retrofit work that needs to take place. The English Housing Survey for 2019/20 showed that 64.4% of owner-occupied homes and 61.7% of those privately rented have an EPC rating below C.

There is also a stream of urgent cladding remediation work on privately-owned residential towers that are taller than 18 metres. At the end of August 2021, the MHCLG reported that there were 218 private sector buildings with ACM cladding systems that are unlikely to meet current Building Regulations, which remains unchanged since April. Work has completed on only 102 of these, an increase of only eight towers in the last three months, despite an initial deadline of 31 December 2019. Cladding has been removed on 42, remediation has started on 35 leaving 116 yet to be remediated. There is a £200 million Private Sector Remediation Fund in place for cases where building owners have failed to act. This compares to an allocation of £400 million for 157 towers in the public housing sector. The focus is now extending beyond ACM cladding, with MHCLG estimating that there are 6,000 residential buildings in the private sector over 18 metres, two-thirds of which have cladding, whilst similarly, two-thirds of the estimated 38,000 buildings between 11 metres and 18 metres are also assumed to have cladding. The government's Building Safety Fund to cover the remediation of other external wall systems beyond ACM for buildings taller than 18 metres was initially allocated £1.0 billion in Budget 2020, which was then increased by £3.5 billion in February. However, as highlighted in the CPA Summer forecast, the primary constraint to growth in cladding remediation activity is not the finance but the availability of products and skilled labour to enable activity to occur. There are already skills shortages for essential remediation works and some products, such as pre-coated aluminium and steel, are on six-month lead times.

Overall, output in the first quarter of 2021 was 11.0% higher than a year earlier and flat compared with 2019 Q1. According to the ONS data, private housing rm&i output has fallen for four consecutive months and in July was 15.9% lower than in March. However, whilst supply issues are constraining growth for smaller contractors, the indications that the CPA has are that private housing rm&i activity has not fallen to this extent since March although firms in the sector did highlight a slight slowdown in the second half of July and in August. As a result, the CPA anticipates that later in the year the ONS will end up revising up private housing rm&i output data since March as occurred to the data last year following similar concerns regarding the data and once the ONS had further data from VAT receipts.

Private housing rm&i output is forecast to rise by 20.0% in 2021 and remain flat at a historically high level in 2022 with consistently strong demand likely to be constrained by the cost and availability of labour and products before slower growth in the housing market in 2022, with transactions returning to long-term levels and without double-digit house price growth, means that private housing activity is expected to fall by 2.0% in 2023.

Upper Scenario:

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

A stronger economic recovery in 2022 despite increasing inflation as falling consumer confidence proves to be temporary. This would firm up confidence for property transactions in 2022, producing a larger stream of potential improvements work in both 2022 and 2023. The improvement in the labour market that accompanies economic growth would bolster consumer confidence and see spending on big-ticket items return quicker. In addition, if the 100,700 construction employees still on furlough at the end of July 2021 come back into the workforce, this should ease skills shortages.

Lower Scenario:

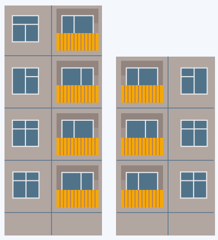
- Further falls in consumer confidence
- Households take a precautionary savings stance in 2021 Q4 and 2022 H1

If the economic recovery loses steam in late 2021 and early 2022 due to increasing inflation and further falls in consumer confidence. This may prompt households to continue their precautionary savings stance and cut non-essential spending in 2021 Q4 and 2022 H1. This would also keep property transactions below long-term levels and raise a slowdown in house prices, particularly given the spectre of rising interest rate rises. Whilst these factors are unlikely to affect basic repairs and essential maintenance, they would have a large impact on improvements work and non-essential maintenance, especially in 2022 H2 and 2023.

Public Housing

Public housing activity has recovered sharply since Covid-19 (coronavirus) hit 2020 as recovery in the private market boosts affordable housing but supply constraints and housing associations' increasing need to fund cladding remediation are likely to lead to slower growth in the next two years.

The CPA's public housing output forecast remains the same as in previous forecasts with the starts and completions only been revised slightly to account for slightly higher starts in the early part of the year, feeding through to completions in the second half of the year. But, this is at the expense of growth in starts and completions in 2022, which is now expected to be slightly slower due to slower growth in private housing and, consequently, in housing association new build for the private housing sales market. In addition, housing association's finance and, as a result, house building activity from next year could also be adversely affected if the government does not exempt all housing associations activity from its new developer tax.



Public housing output expected to **rise by**

18.0% in 2021 & **7.0%** in 2022

In terms of publicly-funded housing activity, the key drivers of demand remain the same as in the previous CPA forecasts in Spring and Summer 2021. In England, the Affordable Homes Programme will primarily fund new house building activity. 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.

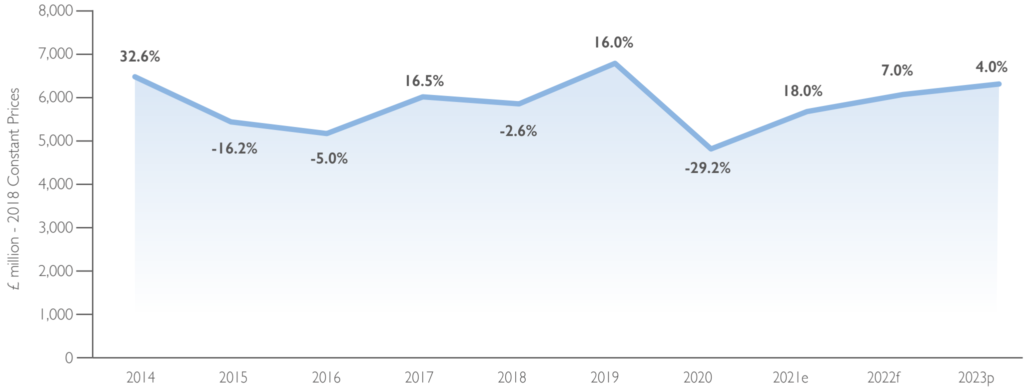
As government policy continues to increasingly prioritise home ownership in the private housing market rather than raising the supply of new homes, there has been a greater focus on the delivery of housing such as shared ownership and private sale by housing associations

Public Housing Starts and Completions Great Britain

	2019	2020	2021	2022	2023
	Actual	Estimate	Estimate	Forecast	Projection
Starts	37,925	33,725	38,447	39,216	39,608
	-0.9%	-11.1%	14.0%	2.0%	1.0%
Completions	41,510	31,929	36,399	37,491	38,241
	14.0%	-23.1%	14.0%	3.0%	2.0%
Output (£m)	6,812	4,820	5,688	6,086	6,329
	16.0%	-29.2%	18.0%	7.0%	4.0%
RM&I Output (£m)	7,931	6,959	7,655	8,038	8,359
	0.4%	-12.3%	10.0%	5.0%	4.0%

Source: MHCLG, ONS, Construction Products Association

Public Housing Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

and private house builders rather than more traditional affordable and, in particular, social rent homes. This is set to continue under the Affordable Homes Programme (AHP), in which funding covers the 2021 to 2026 period.

Funding for the five-year programme was set at £12.2 billion at Budget 2020, but the launch of the programme in September 2020 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 over the duration of the programme. The funding profile indicates £2.0 billion of funding for the current financial year, £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.

Homes England reported in June 2021 that it had delivered 21.9% fewer housing starts and 13.3% housing completions in England (excluding London) during 2020/21 when compared with 2019/20 with the falls due to the impacts of Covid-19 and affecting starts more than completions as the focus initially following the initial lockdown between 23 March and mid-May was on completing developments already started whilst there was hesitancy on starting new developments. Levels of starts were the lowest since 2015/16 and levels of completions were the lowest since 2017/18. The focus on affordable rather than social housing is illustrated clearly by the fact that 75.5% of Homes England starts were affordable, the starts for which fell by 21.5% during 2020/21 when compared with 2019/20. Of the affordable starts, 38.0% were for Affordable Rent and these fell by 37.0% in 2020/21 whilst 25.7% were for Intermediate Affordable Housing schemes, including Shared Ownership and Rent to Buy. These starts fell by 38.3% in 2020/21.

Although only 9.5% of affordable starts in England (excluding London) were for Social Rent and accounted for only 2,665 homes in total during 2020/21, this was still a 10.6% increase in spite of the Covid-19 related-delays that Homes England reported affected their delivery overall. Homes England also reported a further 7,564 affordable homes started on which the tenure to be confirmed, which is an increase of 59.6% in 2020/21 but it illustrates the difficulty in dealing with the private and public housing starts as separate entities and it tends to be more appropriate for most firms to use the total housing figures.

Separate data collated by the National Housing Federation (NHF), reported that approximately 44,000 homes of all tenures were started in 2020/21, with 38,200 completed. In terms of house building completions, housing associations completed 4,240 social rent homes, which is a fall of 13.1% on 2020. Affordable rental home completions fell by 19.0% to 16,038 and affordable homes for sale fell by 19.0% to 11,959. Total affordable home completions stood at 32,237 a drop of 18.2%.

Market rent completions stood at 1,095 during the financial year, a fall of 12.1%, whilst market sale homes dropped 19.2% to 4,910. The largest drop in development was in the area of market sale and market rental homes being started on site. Housing associations started on only 180 market rental homes in the year to March 2021, a fall of 77.5% year-on-year. Market sale home starts also fell by 35.7% to 4,557.

A total of 5,574 social rent homes were started in the year to end of March 2021, a drop of 8.8%; affordable rent starts fell by 10.3% to 20,002; and affordable homes for sale fell by 20.0% to 13,783. In terms of the wider housing sector, the NHF stated that the annual rate of all new homes completed by all developers fell by 17% between March 2020 and September 2020 to 145,000, its lowest level since 2016. The drop in private sector development completions meant that housing associations made up 28% of homes delivered in the year to March 2021, which is above the long-term average of 25%.

Within the NHF data, the highest volumes of house building delivery have historically been in London, the South East and East of England but these regions recorded the largest falls in completions in 2020/21. These three regions accounted for three-quarters (6,300) of the total decrease in completions (8,500) between 2019/20 and 2020/21. The fall in completions in London partially reflects the need for housing associations with high-rise buildings to divert investment towards building safety remediation works. By contrast, Northern regions of the North East, the North West, Yorkshire and Humber were less affected and in the North West, there was an increase in completions in 2020/21.

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 has highlighted that this may affect development plans directly as funding is diverted to improvements and remediation work. In addition, indirectly it may also 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. Despite this, the Regulator of Social Housing quarterly survey for 2021 Q2 reported that over the next 18 months the pipeline of affordable home ownership completions is estimated to be 35,273, slightly lower than the 35,998 reported in December 2020. The pipeline survey estimates represent a 53.0% increase in affordable home ownership completions compared to actual completions in the 18 months to June 2021 and a 6.0% increase compared to the pipeline of affordable home ownership completions that were planned in June 2021, assuming delivery, matches survey respondents' expectations.

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 and 46.3% in the first nine months of 2020/21. This has been slower to filter through to completions, however, with the proportion peaking at 24.4% in 2020/21. The level of GLA housing starts also appears to consistently be considerably higher than completions, particularly on social rent, which points towards significant lags between social rent starts and completions plus, potentially, 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. Although sales of these units have previously been reported as slowing by housing associations over the last few years. However, the pent-up demand in the private housing market following the initial lockdown combined with the government stimulus in the form of the stamp duty holiday and mortgage guarantees, has boosted demand for private sale and affordable homes, which is reflected in the substantial house price inflation in most regions (see Private Housing). As a result, affordable home sales to the private market are expected to rise significantly and, as a result, the CPA public housing starts and completions forecast for this year have been revised upward. In July, the Housing Association Peabody announced a 1,000-home Holloway Prison redevelopment in north London in partnership with London Square. Approximately 60% of the scheme is expected to be for affordable housing although it is difficult to know at this stage whether the starts and completions from this will be reported in public or private housing.

For local authorities, which account for less than 10.0% of public housing completions in Great Britain, constraints on borrowing for housing delivery in England and Wales were removed in October 2018, and this is expected to provide the largest impetus to public house building over the medium and long-term. The government expected this to increase local authority house building to 10,000 units per year. In the last ten years, housing completions by local authorities have averaged 1,733 per year in England, whilst local planning and development departments have seen severe budget cuts since 2010. In addition, local authorities lost £146.6 million in Housing Revenue Account income between April 2020 and January 2021, due to residential rent arrears, commercial rent arrears and vacant properties related to coronavirus.

Affordable housing provision *should benefit from the buoyancy of the* ***private sector market***

In Scotland, the Affordable Housing Supply Programme (AHSP) that ran between 2016/17 and 2020/21 had £3.5 billion in grant funding to build 50,000 homes, 35,000 of which were intended to be for social rent. Annual allocations rose each year from £592 million spent in 2017/18, to £843 million in the single-year Scottish Budget for 2020/21. An initial one-year agreement for 2021/22 allocated £300 million, which was subsequently topped up to £500 million in November 2020 following the UK Spending Review. New house building was not permitted to continue under lockdown measures in Scotland during April, May and June 2020, which the government warned could jeopardise its 50,000 affordable homes target. Scottish government figures showed that between 2016/17 and 2020/21, there were 41,353 affordable homes delivered, suggesting that the target may not have been met anyway. The full Scottish Budget for 2021/22 in January 2021 allocated £575.4 million through the AHSP and £92.2 million for affordable housing through local authorities. The full AHSP running between 2021/22 and 2025/26 was allocated £3.3 billion in the Scottish government's Infrastructure Investment Plan.

In Wales, a five-year rent-setting policy was implemented from April 2020 and following the UK Budget in March, funding for the Social Housing Grant Programme in 2021/22 was increased by £50 million to £250 million for 3,500 new affordable homes. In February, the Welsh government announced that it is likely to have exceeded its target for 20,000 affordable homes between April 2016 and March 2021, although this includes around 6,000 delivered under the Help to Buy scheme that are likely to be built by the private sector. Funding plans for beyond 2021/22 are yet to be confirmed, which is likely to hold back starts from the end of 2020.

The increasing uncertainty from housing associations regarding the extent to which they will need to refocus spending on cladding remediation and other safety measures on their existing stock will only be added to by uncertainty as to whether they will be subject to the government's Residential Property Developer Tax, which was announced in February and is aimed at private housing developers with expectations that it will raise £2.0 billion over the next decade to help pay for the remediation of unsafe buildings. Draft legislation was published in September and it will come into effect in April 2022. The tax will be applied against the profits of developers above a certain fixed allowance.

The draft legislation did not state the rate and the allowance although ministers have previously stated that the tax is likely to apply to firms with an annual profit over £25.0 million. Under the draft legislation, the levy will apply only to companies that are liable to pay corporation tax and it will exempt most charitable housing associations. However, this still means that some social landlords could remain liable, such as for-profit registered providers or housing associations registered as charities that make profits not used for charitable purposes. The levy only applies to profits on trading, meaning any liable housing association would only have to pay tax on profits from market-sale or shared ownership properties. At this point, it is unlikely that the developer tax will have a major impact on most housing association supply but at the very least the uncertainty may add extra caution for housing associations. In addition, any increased costs for private developers and housing associations on developments that reduce the viability of some developments, in turn, could mean fewer affordable housing units being delivered, particularly given rising construction costs of labour and materials. However, in October 2021, HM Treasury stated that wholly-owned subsidiary companies of a non-profit housing company would be also excluded from being treated as residential property developers for the purpose of the tax, which should exempt the majority of housing associations.

Overall, after the 11.1% fall in 2020, public housing starts are forecast to rise by 14.0% in 2021, which is an upward revision from the 10.0% forecast in Summer due to the increasingly strong relationship between the public housing sector and buoyant private housing sector. Public housing completions are also set to rise by 14.0% in 2021 as these starts feed through. In 2022, starts and completions are forecast to rise by only 2.0% and 3.0%, compared with 5.0% and 4.0%, respectively, in the previous forecast as the AHP continues to provide additional growth but a slowdown in the current private housing market leads to a more subdued housing association build out rates for the private sales market plus additional caution from housing associations as they focus on cladding remediation of their existing housing stock and a slight hiatus until they are certain of the financial implications of the government's developer tax.

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 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:

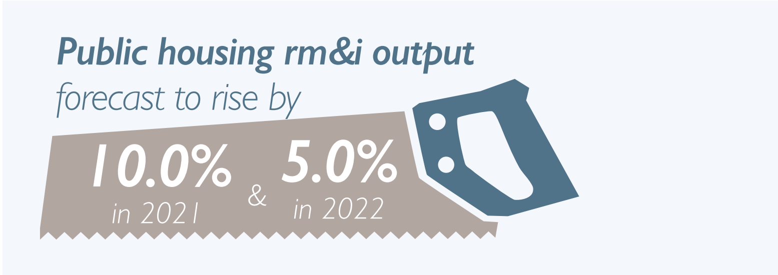
- A weakening in the housing market undermines the focus on market-linked products
- Activity to complete at the end of the SOAHP is reduced

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 forecast to increase by 20.1% by 2023 due to cladding remediation and general repairs and maintenance but growth rates have been revised down throughout the forecast period due to the impacts of supply constraints.

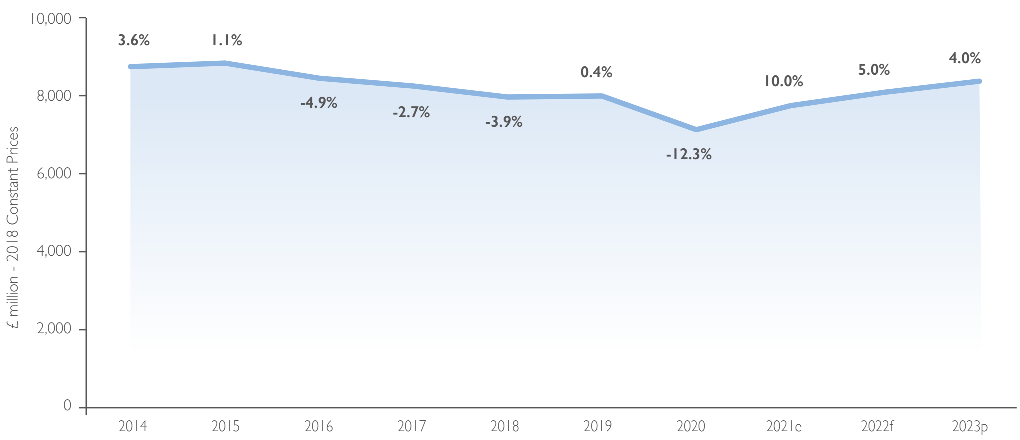
Output in the public housing rm&i sector is driven by three key areas of activity; cladding remediation, general maintenance of the social housing stock and publicly-funded energy-efficiency retrofit of council and housing association housing.



Demand remains strong in the sector but, once again, the CPA has had to revise down growth as extended lead times and sharp cost inflation for key cladding products such as pre-coated aluminium and steel as well as skill shortages are hindering growth in the value and volume of remediation activity despite funding from central government and the urgency of the work. The extent of these issues is not only going to constrain growth in 2021 but will also affect further growth rates in 2022 and 2023, which have also been revised down from earlier in the year.

Overall, public housing rm&i output fell by 12.3% during 2020 despite government making finance available to address cladding remediation. Apart from the fall in activity in 2020 Q2, which was 49.0% lower than in 2020 Q1 and 46.3% lower than one year earlier, as a result of the initial lockdown, activity in the sector has been slow to recover and in 2021 Q1 remained 9.1% lower than one year earlier. To a certain extent, this reflects cladding remediation work taking longer than expected as well as hesitancy for some local authorities to sign off projects given the high degree of uncertainty last year. However, it also reflects the fact that cladding remediation took place at the expense of general non-essential repairs and maintenance as local authorities focused on more urgent cladding-related issues and a greater extent of

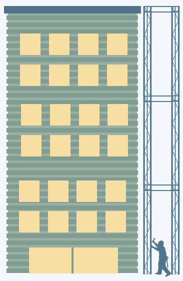
Public Housing RM&I Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

Cladding remediation *alone suggests stronger growth than forecast but* ***activity constrained by skilled labour and products supply***



concern regarding signing off projects due to the social distancing and site operating procedures that may be operating in social housing than for private homeowners. It also reflects the lack of energy-efficiency retrofit activity taking place compared to previous years with programmes such as ECO providing less activity or the Green Homes Grant providing little additional activity before it was eventually cancelled. Looking forward, the near-term drivers of social housing rm&i activity will remain focused on urgent cladding work and as remediation on towers with ACM cladding systems eventually nears completion, the pipeline will extend to other types of cladding and then to other key safety issues such as fire stops and fire doors. Given the scale of activity that will need to take place, this will not only generate growth near-term and even medium-term but will also reverse the long-term downward trend in output that has been occurring in the sector since the effective end of the Decent Homes Programme over a decade ago.

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 MHCLG's Building Safety Programme statistics indicated that at the end of August 2021, there were 160 social housing buildings taller than 18 metres that have ACM cladding unlikely to meet current Building Regulations. Remediation work has completed on 101 of these, four more than in May 2021. 59 social sector residential buildings had yet to be remediated in August 2021 compared with 63 in May. Of these, cladding has been removed on 51 buildings, of which 24 has work completed and is awaiting signoff whilst 27 buildings have cladding removed and remediation has started with a further five buildings on which remediation has started and three buildings on which there is an intent to remediate with plans in development. 143 out of the towers affected will use £277 million from the £400 million government fund, with the remainder funded through a combination of existing funds and litigation action. Progress in the public sector has been faster than in the private sector, where only 102 of the 218 affected towers have had ACM cladding remediation work completed (see Private Housing RM&I).

The Regulator of Social Housing has identified stock condition as a major issue for social housing providers, namely identifying potential issues related to fire safety and determining the investment that will be required to remediate. The MHCLG estimates that there are 6,000 residential buildings in the social sector over 18 metres, two-thirds of which have cladding, whilst similarly, two-thirds of the estimated 38,000 social sector buildings between 11 metres and 18 metres are assumed to also have cladding. Government financial support to cover the remediation of other external wall systems beyond ACM, the Building Safety Fund, was initially allocated £1.0 billion in Budget 2020, which was then increased by £3.5 billion in February 2021. It is intended to cover both private and social housing towers over 18 metres or six storeys. Details of conditions on the finance from May 2020 confirmed that social housing providers would only be allowed to apply where remediation costs would be passed on to leaseholders or costs threatened financial viability in the case of housing associations or the Housing Revenue Account for local authorities. The MHCLG 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 cost could run above £10 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 new rent-setting agreement (CPI inflation +1.0%) that began in April 2020. Housing associations themselves 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 indications that the CPA has from firms in the supply chain (contractors, merchants and manufacturers) operating on repair, maintenance and improvement works on the social housing stock are that activity on non-essential repair and maintenance activity was slow to pick up after the initial lockdown due to social distancing and other Covid-19 (coronavirus) safety concerns regarding carrying out work inside social housing tenants' homes. Whereas activity in most construction sectors picked up rapidly from June 2020, general public housing non-essential repairs and maintenance activity did not accelerate until the first quarter of this year but has continued to rise throughout this year.

The Regulator of Social Housing quarterly surveys reported that that housing associations' repair and maintenance (r&m) expenditure decreased sharply in 2020 Q2 and Q3 due to a reduced ability to carry out work in homes as a result of Covid-19 concerns. The survey for 2020 Q4 highlighted that housing associations' repair and maintenance expenditure was 52.2% higher than in 2020 Q3 but it still remained 23.5% lower than originally forecast due to ongoing delays related to Covid-19 and social distancing. As a result, routine work was reported as having been pushed back into 2021/22.

The survey for 2021 Q1 reported that repairs and maintenance expenditure was £55 million lower than forecast. In the 12 months to March 2021, expenditure on repairs and maintenance was £1.6 billion compared with £2.0 billion spent in 2019/20 and below the £2.2 billion forecast at the start of the period. Repair and maintenance expenditure in 2021 Q1 increased by 27.5% to £580 million compared with £455 million in the previous three months. Although this remains lower than the £635 million forecast in December 2020, it is the highest spending reported on public repairs and maintenance since the initial lockdown and was only 2.0% less than the level of expenditure reported for the same period in 2019/20. For the 12 months to March 2022, the 2021 Q1 survey reports that repairs and maintenance is forecast to rise to expenditure of £2.7 billion, the profile for which has been revised to include catch-up spending due to previous underspends.

General local authority ***essential repairs & maintenance*** *activity has* ***picked up since Spring 2021***

The survey for 2021 Q2, the first quarter of the financial year, reported that repairs and maintenance expenditure was £459 million. This is 30.0% lower than forecast and 20.9% lower than in the previous quarter. However, it is worth noting that it is often the case that capital expenditure falls in the first quarter of the new financial year due to new contracts being tendered and initial survey work being carried out. The £459 million expenditure is the highest first quarter of the financial year recorded since cash flow data was first collected in 2015 and although the majority (78%) of providers reported an underspend against previous forecasts, several providers also incurred additional expenditure as a result of completing works delayed from the previous quarter.

In addition to the usual seasonal delays in starting programmes, providers have also reported ongoing delays resulting from the coronavirus pandemic, including restricted access to properties, and staffing and material shortages.

In the 12 months to June 2021, capitalised expenditure on repairs and maintenance was £1.8 billion compared to the £2.3 billion forecast at the start of the period. For the 12 months to

June 2022, the sector has forecast capitalised repairs and maintenance expenditure of £2.9 billion (March 12-month forecast: £2.7 billion), which includes catch-up spend re-profiled from the previous quarter.

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 and April 2021, the number of measures installed under ECO3 has averaged 24,536 per month according to the Department of Business, Energy and Industrial Strategy (BEIS) Household Energy Efficiency Statistics, which was 40.7% below the 41,375 monthly average for ECO1 and ECO2 between January 2013 and March 2017. In November 2020, the number of measures installed was 40,784, the highest monthly total since March 2016 boosted by a catch-up in activity after the initial lockdown. From November, the monthly rate fell to below 40,000 measures installed during the relatively quiet Winter periods but there was a sharp increase in activity in March 2021 when the monthly rate reached 46,423 measures installed and there was a further rise in June to 54,846, the highest number of measures installed in a month since the start of ECO3 and the highest monthly delivery level since October 2014, under ECO1 but the latest data highlights that measures installed fell back to 12,307 in July 2021.

In August 2020, the Chancellor announced a £2.0 billion Green Homes Grant scheme with £500 million available for social housing landlords. Take-up of the £1.5 billion intended for the private sector was beset by problems and the scheme was closed in March. At the same time, government announced £300 million extra funding for energy efficiency improvements through local authorities. This is alongside the £500 million of the Green Homes Grant Local Authority Delivery (LAD) that remains, which covers social housing and has been split into three phases. The first has allocated £74 million to 55 local authorities with work and was to complete by June 2021, the second has allocated £126 million to 81 local authorities for completion by September 2021, and the remaining £300 million has been allocated to five local energy hubs, with work to be completed by December 2021. To the end of July 2021, there were 4,933 measures installed in LAD Phase 1. Both the Green Homes Grant and ECO cover insulation measures and whilst there is potential for a stream of additional work, there is also the risk that activity this year is displaced between the schemes. Under ECO3, insulation accounts for 41.6% of all measures installed whilst under the Green Homes Grant LAD Phase 1, 69.1% of measures installed were for insulation.

In the Summer Economic Update for 2020, the Chancellor announced funding of £50 million for a pilot of the Social Housing Decarbonisation Fund (SHDF), which was first announced in the Conservative Party manifesto in 2019. In March 2021, 19 applications had been approved and allocated £62 million in funding, to retrofit 2,300 homes. Following this, government has provided £160 million for the first wave of the SHDF, which will focus on local authorities and housing associations that can demonstrate a 'whole house' fabric first approach. Up to £160 million will be made available to Private and Local Authority providers in England to support the installation of energy performance measures in social homes. Bidding for funds finishes in October 2021 with winners to be announced in 2022 and work must be complete on projects funded by the scheme by 31 January 2023. BEIS has estimated that this round of funding will see up to 38,000 social homes receive energy-efficiency upgrades such as insulation or new doors, windows and heating systems. However, as with the original

Green Homes 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.

Across the other nations, the Welsh Government allocated £108 million annual funding in 2020/21 for social landlords to ensure the Welsh Housing Quality Standard. For 2021/22, the £19.5 million Optimised Retrofit Programme, which aims to fund energy efficiency measures in up to 1,000 homes owned by registered providers and councils received a £10 million top-up in November 2020 and following the Welsh Government's final Budget for 2021/22, the pot was increased to £50 million in March 2021. In turn, this forms part of the Welsh Government's Innovative Housing Programme announced earlier this year, which focuses on building new carbon-neutral homes using offsite methods. In Scotland, the government set a budget for 2021/22 that has allocated £145.6 million to improving domestic energy efficiency and fuel poverty, up from £137.1 million in 2020/21. The Energy Efficiency Standard for Social Housing in Scotland targets a minimum EPC rating of D by 2025. Only 6.0% of the 597,000 social sector dwellings in Scotland had an EPC rating below D in 2019, compared to 17.0% of owner-occupied properties and 20.0% of properties in the private rental sector.

After falling by 12.3% in 2020, public housing rm&i output in 2021 Q1 fell by 6.8% compared with 2020 Q4 and was 9.1% lower than a year earlier. Output in 2021 Q2 rose by 2.3% and was 82.3% higher than a year earlier although this is not reflective of activity as the second quarter of last year was during the initial lockdown when construction activity, particularly within homes where social distancing is difficult, was severely affected. However, output in 2021 Q2 was only 2.2% lower than the same quarter two years earlier, pre-Covid-19 and overall in 2021, output is expected to rise by 10.0%, driven primarily by cladding remediation. However, this is a revision downward to the CPA forecast of 14.0% in Summer due to capacity issues constraining growth as a result of extended lead times on some key imported construction products such as pre-coated aluminium and steel that currently have a six-month lead time as well as skills shortages in some key areas. Offsetting some of this constraint to sector growth, activity this year is also expected to be boosted to a lesser extent by a catch-up on general repair and maintenance activity on the social housing stock. Given that supply constraints are likely to be a constraint on cladding remediation activity medium-term due to the scale of activity that needs to take place, output growth in later years has also been revised down between the Summer and Autumn forecasts, from 8.0% to 5.0% in 2022 and from 8.0% to 4.0% in 2023.

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:

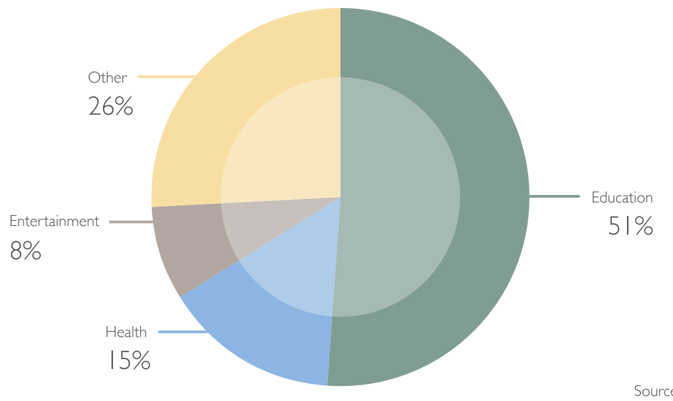
- Lack of key skills and products supply continues to hinder cladding remediation

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

As construction work peaks on projects for the Birmingham 2022 Commonwealth Games, and continues on hospital and school projects presently on site, the public non-housing sector is forecast to expand by 8.5% in 2021. However, as highlighted in the Summer forecast, output is not expected to return to its pre-Covid-19 (coronavirus) level until 2022 as concerns still remain over the Autumn start date for works on the first projects under the new School Rebuilding Programme in England.

Public Non-housing Output by Sub-sector 2020 (%)

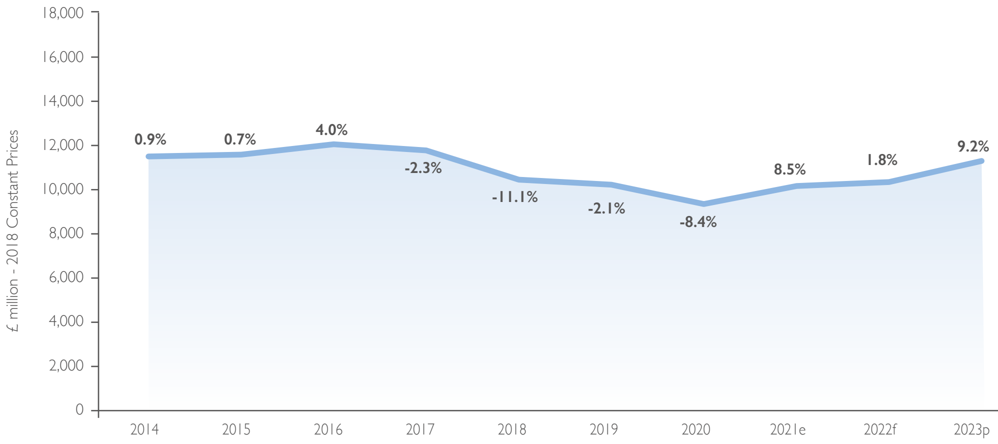


Source: ONS

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, the public non-housing sector has been in decline since 2017 due to slow progress on the second phase of the Priority School Building Programme (PSBP), the completion of large hospital projects and, more recently, the impact of the coronavirus pandemic and associated restrictions. This resulted in output falling by 8.4% to an 18-year low of £9.3 billion in 2020. However, recent data from the ONS shows that output rose 19.5% year-on-year in Q2, following eight consecutive quarters of decline, and growth for the whole of 2021 is forecast at 8.5%. Activity will primarily be driven by school projects under existing programmes across the UK, as well as main works continuing on large-scale projects in the health sub-sector, notably the two former Carillion hospitals, the Midland Metropolitan and the Royal Liverpool. Construction work is also set to peak on the two projects relating to the 2022 Commonwealth Games in Birmingham – the Aquatics Centre and the Alexander Stadium redevelopment. Despite this, output in the sector is not expected to return to pre-Covid-19 levels until 2022 as concerns still remain over the start date of the new ten-year School Rebuilding Programme in England. Sector growth is then forecast to slow to 1.8% in 2022 as approved works on the 2022 Commonwealth Games and the two former PFI hospital schemes reach completion during the first half of the year. However, as activity picks up under school, hospital and prison building programmes across the UK, output is projected to rise by 9.2% in 2023.

In the publicly-funded **education** sub-sector, activity in 2021 is expected to be driven by catch-up work, as well as projects in the second phase of Priority Schools Building Programme in England coming through the pipeline. The start of new school building programmes in England and Scotland is also expected to support activity from the second half of this year. But, given concerns around the start date of construction works under the former programme, output is expected to rise by a modest 5.5% in 2021 as a whole. As activity picks up under both new programmes, alongside the current long-term capital investment programme for Welsh schools and colleges, output is then forecast to increase by 9.4% in 2022 and a further 13.4% in 2023.

Public Non-housing Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

Activity in England will continue to be driven by the £2.0 billion second phase of the Priority School Building Programme (PSBP2), which aims to rebuild and refurbish individual blocks at 277 schools by 2025. This is 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 are expected 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 between 2021/22 Q2 and 2022/23 Q3. 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.

Alongside work under both delayed programmes, activity will also be supported by the ten-year School Rebuilding Programme that aims to deliver 500 new school rebuilding projects across England from 2020/21. In February, the government confirmed the 50 schools that would be delivered in the £1.0 billion first round of the programme. The schools include 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 on the first sites is due begin this Autumn and the majority of the rebuild projects are expected to be completed within three to five years, although delays cannot be ruled out. In July, a further 50 schools were confirmed for the second round of the programme. The government

has also committed £1.5 billion of capital funding to the Further Education Capital Estate programme that aims to refurbish further education colleges from 2020/21 to 2025/26. £100 million of this has been earmarked for 2021/22 and £300 million for both 2022/23 and 2023/24, suggesting that funding allocations are skewed towards the later years of the programme. Budget 2021 confirmed that the Department for Education's capital budget for 2021/22 will increase to £5.6 billion, from £4.7 billion in 2020/21 and £4.9 billion in 2019/20. Capital budgets from 2022/23 to 2024/25 will be set out in Spending Review 2021 at the end of October.

In Scotland, activity will be driven by the £2.0 billion Learning Estate Investment Programme that aims 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.

In Wales, the £2.3 billion second phase of the Government's 21st Century Schools and Colleges programme that aims to support an estimated 200 projects to rebuild and refurbish schools and colleges started in April 2019 and will last until 2024. The funding will be split between capital allocations from the Welsh government and £500 million through its mutual investment model, a new form of public-private partnership. So far, £448 million has been committed to 43 projects, of which 27 are under construction, 12 are in the pre-construction stage, whilst four have been completed. In its final Budget published in March, the Welsh government raised the education infrastructure budget for 2021/22 to £272 million, from £242 million announced in the draft Budget to accelerate the delivery of the 21st Century Schools and Colleges programme.

Upper Scenario:

- Activity accelerates under existing school building programmes

The upper scenario assumes activity ramps up under existing school building programmes, notably PSBP2. This, alongside work commencing to schedule under new school building programmes in England and Scotland, would result in higher activity over the forecast period.

Lower Scenario:

- Work on existing schools building programmes delayed
- 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 further exacerbate delays on existing programmes, whilst the start dates of future programmes in Scotland and England could be pushed back, hindering the pace of recovery from 2021.

The **health** sub-sector that covers publicly-funded work on hospitals, health centres and clinics is forecast to grow by 26.2% in 2021. This is an upward revision from 18.5% in the Summer forecasts, as main construction work continues to progress on large-scale projects currently on site, notably the delayed ex-Carillion PFI Midland Metropolitan and the Royal Liverpool Hospitals. As work on these projects reach completion and is only partially offset by a handful of major hospital projects, output is then forecast to decline by 8.5% in 2022. That fall, however, should be followed by a return to growth projected for 2023, which is the earliest date for when construction work is expected to start on a few major hospital schemes that are part of the government's New Hospital Programme.

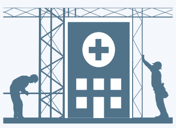
The Midland Metropolitan Hospital and the Royal Liverpool Hospital remain the largest projects in the sub-sector. Main contruction and remediation works on the £663 million Midland Metropolitan Hospital project continue as highlighted in previous forecasts and completion is intended in Summer 2022, nearly four years later than originally planned. However, in October 2021 the trust responsible stated that over the last 18 months supplies and workforce availability have impacted the build, which has led to a further year of delays.

Progress also continues to be made on the £724 million Royal Liverpool Hospital, which was orginally a £350 million project. Remedial structural works that were likely to have been packaged along with the new build element have been completed and any outstanding construction work remains on track for handover in Spring 2022, 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.

Also in the current pipeline is the Royal Sussex County Hospital's 3Ts redevelopment programme, which is due for completion in 2023/24, as well as the Extreme Photonics Application Centre (EPAC) in Oxfordshire (completion in Spring 2022) and the £150 million redevelopment of Springfield Hospital that comprises two new mental health facilities in South London (completion in late 2022). Construction work is also underway on the second phase of the Golden Jubilee Hospital expansion programme in Clydebank (completion in June 2023), 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 coronavirus. Both facilities are due to open in 2023. Baird and Anchor is one of the large projects re-entering the pipeline and will be followed by the £350 million Moorfields Eye Hospital in London, where construction is expected to start in 2022 after receiving planning permission in June. 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 on many of these projects is yet to begin, 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 as well as other projects that are merely refurbishments or new wings to existing hospitals. Initially, in September 2019, the government announced funding of £2.7 billion for six hospital projects as part of the first phase of the Health Infrastructure Plan (2020-2025). Preliminary works, however, has only begun on two projects for Leeds Teaching Hospitals NHS Trust and Barts Health NHS Trust, worth an estimated £600 million and £700 million, respectively. The remaining four projects are in design and planning stages and concerns have risen whether these schemes will be scaled back or delivered at a lower cost, after board meeting papers and anecdotal evidence indicated that government funding for Epsom and St Helier University Hospitals NHS Trust's and West Hertfordshire Hospitals NHS Trust's schemes has been capped at £400 million. In October 2020, the government announced that funding of £3.7 billion will be available to deliver the 40 new hospitals, as it revealed a further 26 hospital schemes as part of the second phase of the Health Infrastructure Plan (2025-2030). This suggests funding of around £90 million per hospital, but with two of the initial six projects costing £600 million and £700 million, this raises questions over the adequacy of the funding to deliver the full pipeline of projects. In July, bidding for the remaining eight new hospital schemes opened and a final decision is expected in Spring 2022.

Budget 2021 revealed that the Department of Health and Social Care (DHSC) has been allocated £9.3 billion for capital expenditure in 2021/22. Although this is £0.1 billion lower than the allocation set out in Spending Review 2020, it is £2.3 billion higher than pre-coronavirus funding levels in 2019/20. From the DHSC's core capital budget, £1.7 billion will be made available until 2024/25 for over 70 hospital upgrades to improve health infrastructure across the country. 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, a pattern that is unlikely to change in the near-term and, furthermore, may be exacerbated by the pandemic. Furthermore, it stated that the DHSC underspent its capital budget by a total of £2.7 billion between 2010/11 and 2018/19.



The new four-year ***£9.0bn*** **ProCure23** ***framework*** *is set to begin next Summer*

The NHS smaller works framework, the £4.0 billion ProCure22, began in October 2016 and will continue to provide a stream of work in the near-term. Since its start date, 123 major works schemes and 37 small works packages have started under ProCure22, at a value of £4.3 billion. The current framework was due to expire in September 2020, but has been extended until the end of June 2022, 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 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. 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 projects in the first phase of the Health Infrastructure Plan, 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 two years.

Lower Scenario:

- Cost rises delay health projects
- Schemes under the New Hospital Programme delayed by public funding cuts or limits
- ProCure22 extended further

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 in the first phase of the Health Infrastructure Plan is cut or capped, projects are likely scaled back or paused to review costs. In both instances, delays to publicly-funded schemes would lead to lower activity in the near-term. Since March 2020, the current ProCure22 framework has been extended twice, in part due to the pandemic. A further extension to the existing framework to cover further outbreaks, is likely to push the start date of the new ProCure23 framework towards the end of 2022 or beyond.

Public non-housing **other** covers construction work on publicly-funded facilities such as prisons and defence projects. Double-digit annual declines have been recorded in output since 2020 Q2 and given a lack of major new work in the short-term, a fall of 2.0% is forecast for the full year. As projects under prison building programmes in England and Wales, and Scotland get underway, the sub-sector is forecast to return to growth in 2022 and 2023, although the level of output is still projected to remain below its pre-coronavirus level at the end of the forecast period.

Sub-sector activity will primarily be driven by the government's £4.0 billion New Prisons Programme that aims to deliver 18,000 prison places across England and Wales by the mid-2020s. These places will be delivered through new build projects, notably the £253 million HMP Five Wells in Wellingborough (open in early 2022) and the £286 million Glen Parva prison in Leicestershire (open in Spring/Summer 2023) which are both currently under construction and were previously part of the Prison Estate Transformation Programme (PETP). Further places will be delivered by plans to build four new prisons over the next six years, which were also previously announced in October 2020. So far, outline planning permission has only been granted for one, a 1,400-capacity prison at Full Sutton in Yorkshire, where construction is expected to start in 2022 and complete in 2025. A planning application has been submitted for a 1,440-capacity prison in Buckinghamshire, whilst plans for two 1,715-capacity prisons in Leicestershire and Lancashire are in the consultation stage. Subject to planning approval, construction on all three is expected to start in 2022/23 and the new prisons could open by 2025. Together, these new build projects are expected to deliver circa 9,800 prison places. The remaining places will be delivered through the expansion and refurbishments to the existing prison estate (delivering circa 6,400 places), the Rapid Deployment Cells and Temporary Accommodation project (delivering circa 1,400 places) and the conversion of existing facilities into prisons (delivering circa 400 places). Overall, the funding profile for delivering the 18,000 prison places shows that spending is set to peak in 2023/24.

In June, 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 in 2022. It also includes the delayed and over budget HMP Highland redevelopment project, which is expected to be delivered by 2024 and HMP Glasgow, the largest project in the SPS programme, where construction is estimated to begin in 2023.

In Budget 2021, the Ministry of Defence's capital expenditure limit for 2021/22 was left unchanged at £14.4 billion from Spending Review 2020. This, however, represents a £2.7 billion increase from 2020/21 due to additional funding for strategic defence and research and development (R&D) 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 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. The bidding process started in late September.

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, 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 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. A contract notice for the restoration and renewal of the parliamentary estate is due to be published in June 2022, but any major works are expected to occur well beyond the forecast period and would be subject to approval.

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 two years.

Lower Scenario:

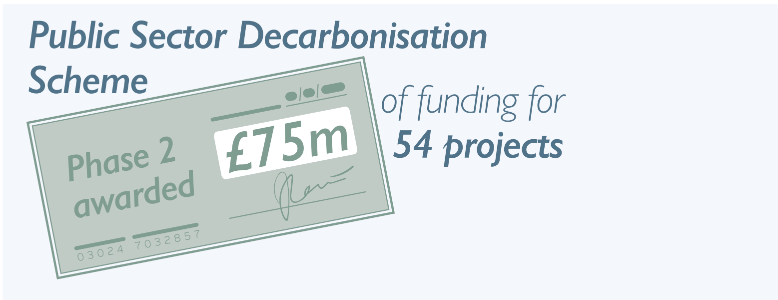
- Prison projects delayed

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.

Public Non-housing R&M

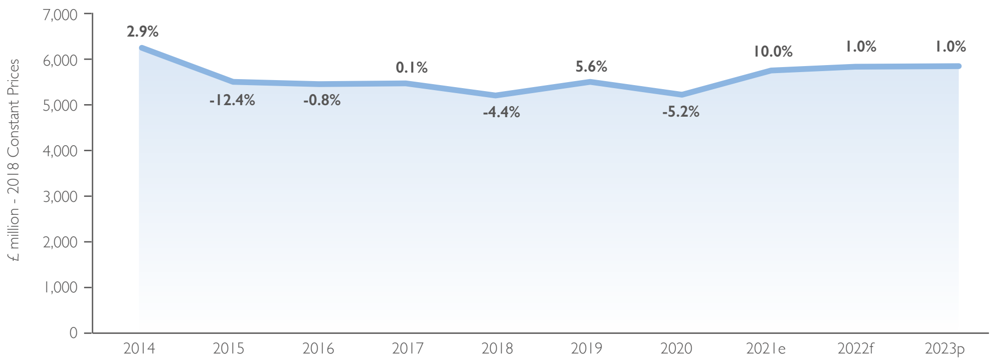
Public non-housing repair and maintenance (r&m) output is forecast to rise by 10.0% in 2021, driven by retrofit works on public sector buildings such as council offices, schools and hospitals, as part of the first two phases of the Public Sector Decarbonisation Scheme. At the end of this year, output is expected to be 6.4% higher than its pre-Covid-19 (coronavirus) level.

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 Covid-19 pandemic, although activity in Scotland was restricted to repairs of health facilities or repurposing of facilities during the first national lockdown in March 2020. Despite these exemptions, output fell at the second-sharpest pace on record during 2020 as local authorities redirected resources towards coronavirus-related work. Official data, however, showed that output increased 39.2% in Q2 compared to the record low level in 2020 Q2. This marked the third consecutive quarter of annual growth. Over 2021 as a whole, output is expected to rise 10.0% and surpass its pre-Covid-19 level driven by higher departmental capital spending planned for 2021/22, retrofit activity under the government's Public Sector Decarbonisation Scheme, as well as some degree of catch-up. Output growth is then expected to be muted at 1.0% in both 2022 and 2023 as new build projects under major hospital, school and prison building programmes across the UK get underway.



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

Public Non-housing R&M Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

to 461 projects for completion by September 2021. For the second phase, which will have a greater focus on heat decarbonisation, the government has allocated £75 million of funding for 54 projects that must be 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 total budget for Phase 3 will not be announced until after the Spending Review this Autumn, and once confirmed, 85% of the 2022/23 grant funding will be allocated to 'single year projects' and the remaining 15% will be allocated to the first year of multi-year projects that must start in 2022/23 and end in either in 2023/24 or 2024/25. 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.

As government made no further announcements in Budget 2021 in relation to improving the condition of the NHS, school and prison estates and provided no detail on departmental capital spending plans beyond 2021/22, although this is now expected in the three-year Spending Review at the end of October, little has changed since the Summer forecast.

For school buildings, the government has committed £1.8 billion of funding to maintain and improve the condition of schools buildings in 2021/22, which is higher than the average of £1.5 billion allocated each year between 2015/2016 and 2020/21. Of the £1.8 billion, £483 million has been allocated for 1,466 projects at 1,199 academies, sixth-form colleges and voluntary aided schools through the Condition Improvement Fund (CIF). Despite this increase in funding, 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 Department for Education (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, estimated at below £600 million. Data from the survey also showed that electrical services has 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 latest 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).

Budget 2021 revealed that the Department of Health and Social Care (DHSC) has been allocated £9.3 billion for capital expenditure in 2021/22, £2.4 billion lower than the outturn for 2020/21 but £2.3 billion higher than its pre-coronavirus level in 2019/20. This includes £1.2 billion of ring-fenced funding for new NHS hospitals and upgrades, £4.2 billion for NHS operational capital investment to allow hospitals to refurbish and maintain their infrastructure, as well as £165 million to replace mental health dormitories with single rooms in 2021/22. An additional £235 million has also been committed for further hospital maintenance works during 2021/22, although it is not clear whether this is new money or an allocation of existing funding pots. Despite these funding commitments, the cost to eradicate NHS's estate maintenance backlog rose to £9.0 billion in 2019/20, from £6.5 billion in 2018/19. £1.5 billion of this is classified as high risk and requiring immediate attention, whilst £3.2 billion has been classified as significant risk and should be addressed in the short-term. Furthermore, the National Audit Office stated that the top 20 NHS providers account for 45% of all backlog maintenance.

In terms of prisons, the government has committed £313 million of capital funding to improve the condition of the existing prison estate and £105 million for improvements to the court estate in 2021/22. The funding has been allocated from the Ministry of Justice's capital budget for 2021/22, which was left unchanged at £1.4 billion in Budget 2021 from Spending Review 2020 but raised from £1.0 billion in 2020/21. Despite these funding allocations, the cost of improving the condition of the current prison estate has continued to increase and HM Prison & Probation Service (HMPPS) estimates that £916 million will be needed to address its backlog of major capital works.

Meanwhile, work to remove and replace unsafe Aluminium Composite Material (ACM) cladding on high-rise publicly owned buildings (over 18 metres) will contribute little to sector growth. The Ministry of Housing, Communities and Local Government (MHCLG) monthly data for August showed that of the eight public non-residential high-rise buildings with unsafe ACM cladding, remediated has completed on seven and started on 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 economic recovery and a reduction in the impacts of the pandemic due to the successful rollout of the UK's vaccination programme would allow local authorities to revise their priorities to refocusing on routine and scheduled non-essential maintenance of existing buildings.

Lower Scenario:

- Central government and local authority funding switched to focus on coronavirus-related work
- New build projects overshadows routine r&m

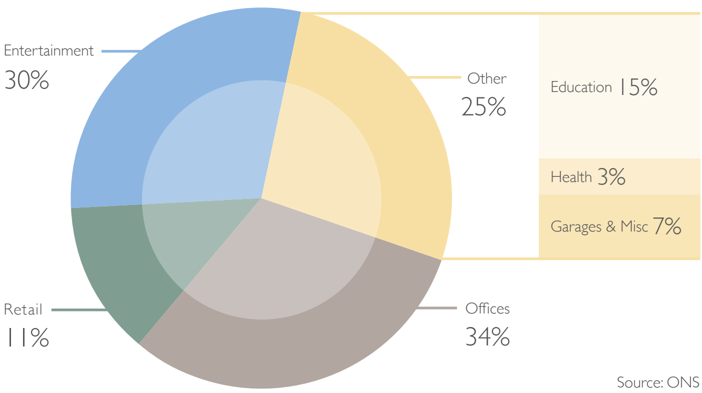
If councils and central government shift funding profiles again to tackle critical repair and maintenance work linked to the coronavirus pandemic, this would reduce sector output over the forecast period. Routine and scheduled maintenance of existing buildings is also expected to be displaced by increased focus on restarting paused new build projects.

Commercial

As questions linger over the future demand of commercial space, particularly for new office towers in cities, and the focus shifts towards fit-out and refurbishment work on existing units, the commercial sector is not expected to recover to its pre-Covid-19 (coronavirus) level over the next two years, even though a pipeline of leisure and entertainment projects is emerging.

Commercial construction output is expected to recover slowly from its nadir in 2020, when social distancing restrictions adversely affected activity across the sector, most notably in retail, hotels, leisure and entertainment. This view has been corroborated in recent data from the ONS, which showed that commercial output in July fell in monthly terms for the third consecutive month and remained 20.3% below its pre-Covid-19 (February 2020) level, despite the lifting of most restrictions. Given questions over future demand for new office towers, in-store retail, travel and leisure, commercial activity is set to remain below its pre-Covid-19 level throughout the three-year forecast period. Even before the pandemic, previous CPA forecasts and scenarios envisaged a weak outlook for the sector due to falling activity within new build offices and retail. For offices, economic and political uncertainty around Brexit had been stalling investment decision-making on large projects, resulting in falls in new orders and a gap in the pipeline of projects since 2016. For retail, a rising cost base and demand for retail space being redirected to logistics, distribution and storage facilities as part of a long-term structural shift towards e-commerce operations was affecting high street and shopping centre retail most severely. Lingering uncertainty around the strength of the economic recovery related to employment and incomes suggests that these impacts are likely to intensify, particularly given the financial toll on high street and in-store retail. However, activity on fit-out and finishing as well as conversions of existing offices and retail units remains a relatively buoyant part of the market. This involves renewing office space to attract in new tenants and increase space per worker given fewer expected workers on site simultaneously due to increased work from home. It also involves refitting existing retail units for outlets that have closed permanently to replace them with new stores that will be taking over the floor space. In addition, activity remains strong on converting commercial developments into residential and warehouses/logistics, where demand, and consequently, returns on investment, are now stronger than on offices and retail in many areas.

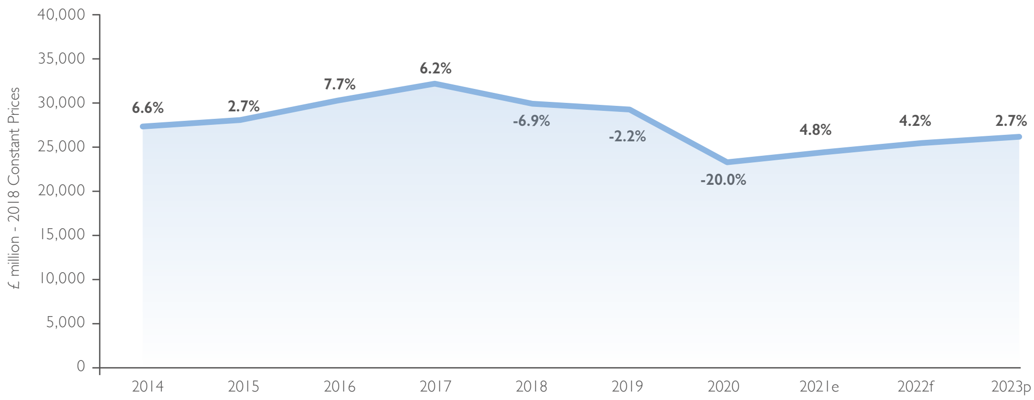
Commercial Output by Sub-sector 2020 (%)



Source: ONS

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, construction output registered a double-digit decline in 2020 due to the impact of coronavirus lockdowns and restrictions, before returning to growth in the first half of 2021, albeit from a low level in 2020 H1.

Commercial Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

The sub-sector's 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 late March 2020, hotel chains and developers have embarked on cost-cutting measures and planned expansions for the near-term may be delayed or cancelled. The £100 million redevelopment of the Bargate shopping centre in Southampton saw plans revised in November 2020 to remove the hotel and reduce retail space from the scheme. This year, plans were also announced to remove the hotel from the Harlequins shopping centre redevelopment project, whilst plans for a £1.0 billion luxury hotel and serviced apartments complex in Kensington, London were scrapped.

Expectations that travel and tourism will recover beyond 2021, however, has led to an increase in projects 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. In terms of planned projects, 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 and adding to the five hotel projects over £50 million that were awarded contracts in 2020, a 16-storey hotel in Salford was approved in February 2021. In Q2, plans were submitted for a £300 million leisure scheme in Blackpool that would include three indoor entertainment centres, a hotel and restaurants, and were approved for Emirates Old Trafford's expansion for Lancashire County Cricket Club and a £60 million Anfield Road stand extension for Liverpool Football Club. Work on the latter project started in early October and the redeveloped Anfield Road Stand is expected to be completed in time for the 2023/24 Premier League season. More recently in Q3, plans for a £300 million five-storey basement extension at London's Ritz Hotel and a £60 million surfing lagoon in Manchester were given go-ahead. In the same quarter, plans for expanding the King Power Stadium for Leicester City Football Club, Center Parcs' sixth £400 million holiday village in West Sussex and a £150 million 15,000-capacity indoor arena in Cardiff Bay were also announced.

The commercial sector is dependent on investor and consumer confidence and output in the commercial sector had already fallen for six consecutive quarters between 2018 Q1 and 2019 Q2, reflecting Brexit-related uncertainty stalling investment in offices towers that typically drive activity in the largest sub-sector of commercial construction. 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 a narrowing pipeline of projects for 2021 and a reassessment of workplace and space requirements leading to lower leasing and investment activity. 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 earlier this year, and 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 are unlikely to alter the long-term downward trajectory of the sub-sector that has been occurring outside of the temporary pandemic impacts, particularly as confidence and new major investment may take a while to return. 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, some capital spending programmes were paused in 2020 Q2 and confidence to proceed with projects may be dented due to coronavirus-related costs.

Commercial new orders fell 14.2% in 2020, with falls in retail and leisure and entertainment outweighing rises in offices, health and education (albeit all three from a low base). However, in the first half of 2021, new orders increased 42.7% year-on-year and while 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. 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. As a result, after a 20.0% fall in 2020, the slow recovery in offices to reassess occupier demands and financial concerns for retail, leisure and hotels will restrict growth to 4.8% in 2021 and 4.2% in 2022. In 2023, output is projected to still be 10.4% lower than in 2019.

Offices remains the largest commercial sub-sector, accounting for over one-third of the whole sector and activity is particularly sensitive to prevailing economic conditions. Activity and new orders have already been adversely affected in previous years by Brexit-related uncertainty since the EU Referendum in June 2016 and decision-making in the near-term will be further complicated by the potential for changes to offices and workspace demand post-pandemic. Current activity levels have been buoyed by work to catch up on projects that were paused in the first half of 2020, but overall, the fundamental drivers of sub-sector activity will remain mixed over the forecast period, balancing improved macroeconomic conditions with lingering business uncertainty and a smaller pipeline of new orders that focuses on office fit-outs and refurbishments. As a result, output is forecast to rise modestly from a low base in 2020, by 5.0% in 2021 and 3.0% in 2022, but even at the end of the forecast period, activity is forecast to remain 4.4% below its pre-coronavirus level in 2023.

In London, speculative office development under construction fell **7%** *to* **7.9 million sq. ft.** *in Q2*

Source: JLL

Amid the easing of lockdown restrictions after the third national lockdown, commercial estate agents signalled a recovery in the UK offices market during the first half of 2021. Availability and vacancy rates showed signs of stabilising in H1, whilst take-up and floor space requirements rose but still remained well below their long-term trend. This is unsurprising given that many employers and investors are likely to be delaying decisions in order to reassess space requirements in the light of social distancing and homeworking for the majority of workers. In addition, some employers with leases ending in 2021 have already taken decisions to downsize their office space with decisions taken on employees working from home although it is worth noting that firms downsizing or changing office requirements has boosted demand for smaller, high quality grade A office space. Decision-making on offices transactions and new leases is also reported to have lengthened, particularly for larger floor spaces.

These dynamics were particularly apparent in London. JLL reported that leasing volumes increased for the second consecutive quarter in Q2, with 1.6 million sq. ft. let but this was still below pre-coronavirus levels and 35.0% below the ten-year quarterly average of 2.5 million sq. ft.. Knight Frank also recorded a third successive quarter of rising take-up in Q2, but at 1.7 million sq. ft., this still remained below the long-run quarterly average of 3.0 million sq. ft.. In addition, while both estate agents reported that availability continued to increase during the quarter due to tenants releasing existing space and the completion of previously-paused schemes, the rate of growth slowed. Nevertheless, vacancy rates remained above long-run averages in Q2.

Despite an improvement in occupier activity, JLL reported that speculative space under construction fell from 8.5 million sq. ft. in Q1 to 7.9 million sq. ft. in Q2. Knight Frank, however, saw a quarterly rise of 18.1% to 8.8 million sq. ft. in Q2, which was above the long-run quarterly average of 5.7 million sq. ft.. This echoes the findings of the Deloitte's Summer London Office Crane survey, which showed that new starts increased 20.0% to 3.1 million sq. ft. in the six months to March 2021. However, for the second consecutive survey majority (56%) of schemes involved the refurbishment of existing space. Nevertheless, a total of 13.7 million sq. ft. of office space was reported to be under construction in London, which is 9.0% lower than in the previous survey but still higher than the long-term average as existing schemes are now taking longer to complete due to skills shortages and issues regarding the availability of products. Higher build costs are also expected to impact development schedules in the short-term, particularly for smaller specialist contractors that are working on fixed-price contracts.

New build developments underway have a larger than average proportion of pre-lets as a means of shoring-up investor confidence at a time when commercial landlords have written down the capital values of their office portfolios, although to a considerably lesser extent than for their retail assets. There are still signs that this, and uncertainty over future demand, is affecting developer sentiment and activity, however. Land Securities has paused activity on its Portland House development in London Victoria, whilst a decision on its Timber Square development in London Southwark that would create 370,000 sq. ft. of space in two large office buildings is yet to be made this Autumn and will be subject to an assessment of the impact of the pandemic on future demand. Even before the economic and confidence shock from coronavirus, investors were placing a high importance on securing tenants before and during construction and if near-term caution continues from investors, pre-letting is likely to be crucial to projects that have been approved but are yet to start. Estate agents have widely reported a low proportion of pre-lets for projects in the current development pipeline, particularly in central London. However, three speculative offices towers were approved for the City of London in 2021 Q1; 55 Gracechurch Street, 70 Gracechurch Street and a two-tower development at 2 Finsbury Square. All anticipate a three-year construction period that aims to capture a more settled period of demand post-coronavirus. Furthermore, in Q2, a £202 million contract to build a new Chinese Embassy on the former Royal Mint site was awarded and, in Q3, plans for two office blocks at 60-68 Thomas Street and 100 Fetter Lane were approved. During the same quarter, planning permission was also granted for a 13-storey 320,500 sq. ft. office building, known as 2 Aldermanbury Square, in the City of London and construction is expected to start in early 2022. This is one of Great Portland Estate's four planned schemes (totalling 909,400 sq. ft.) that have starts in 2022. The developer has committed to a further four, bringing the total to eight schemes in the pipeline (totalling 1.3 million sq. ft.).

As coronavirus restrictions were relaxed, most office markets outside London also saw a rise in take-up and a fall in vacancy rates, particularly for grade A space, during the second quarter of 2021. According to JLL, take-up levels rose across the UK's 'Big Six' offices markets in Q2, notably in Birmingham, which recorded the highest quarterly total (203,500 sq. ft.) since before the pandemic. Birmingham and Bristol, however, were the only two regional cities that saw a further increase in vacancy rates in Q2 largely due to second-hand space coming onto the market. Meanwhile, 807,000 sq. ft. of speculative space was under construction in Birmingham during Q2, two of which are new build and account for 59% of total space under construction. Both new build schemes are expected to be completed in 2021 and 2022. The remaining space on site includes three major refurbishments, which are due to complete in 2022. In Manchester, 378,000 sq. ft. of speculative space was under construction in Q2 and in contrast to work biased towards refurbishment of existing space in London, all three schemes underway are new builds. The largest scheme that will provide 200,000 sq. ft. of office space at 4 Angel Square is not expected to be completed until early 2023, however. Similar to Birmingham and Manchester, new build accounted for the majority of speculative space under construction in Leeds and Bristol. JLL reported that activity and volumes in regional markets is expected to improve in the second half of 2021, but as signalled in Deloitte's London Crane Survey, the focus is likely to shift more towards refurbishments.

The biggest question for offices investment revolves around whether the shift towards homeworking since the start of the pandemic will become a longer-term structural change in working patterns. Although government guidance on working from home ended on 19 July in England, many office-based employees are still being advised to work from home where possible for the remainder of this year, whilst large employers have recently adopted a hybrid working model that allows employees to split their time between home and office. If such changes persist in the short-term or becomes a long-term trend, agents and landlords are likely to see further increases in vacancy rates, as existing tenants release space that no longer meets requirements for lower occupancy. That said, there is currently a shift towards refurbishments and fit-out of existing office space to accommodate the new ways of working and social distancing. This, as well as uncertainty over the levels of future demand and occupiers' space requirements is generally expected to act as a drag on the volume and size of new projects entering the pipeline.

Uncertainty over current and future demand may be most acute for flexible offices providers. The provider WeWork became the largest occupier of central London office space in 2018, only four years after the company entered the UK market, whilst the growth of other providers meant that flexible offices accounted for one-fifth of take-up in London in 2020, behind only finance and banking. However, the potential for cost-cutting or rent defaults by tenants affected by the coronavirus shutdown, as well as the potential shift towards homeworking have emphasised concerns over the sustainability and financial viability of this leasing model that the CPA has been raising since 2017. Despite these concerns, IWG reported an improvement in tenant occupancy in Q2, whilst British Land reported that activity at its flexible workspace brand, Storey, was above pre-pandemic levels in the quarter to June. This, as well as the government's signed deal with IWG in April to provide flexible office space for civil servants in ten cities outside London echoes estate agents view that demand for flexible offices space may increase in the near-term as businesses assess their accommodation needs and also those working from home but without the appropriate space and facilities may also increasingly take advantage of flexible office space as working from home becomes more entrenched for some office workers.

After two consecutive quarters of annual decline, offices new orders rose 135.3% in Q2 and although this is compared with a low base in 2020 Q2, it also reflects contracts being awarded on a £135 million refurbishment scheme in Canary Wharf and a £110 million mixed-use scheme in Piccadilly Circus, London. Given the lower volume of new build in such schemes, this points to a continuation of weakness seen since 2016, when uncertainty following the EU Referendum led to a fall in orders in each quarter between 2016 Q3 and 2018 Q2. This sustained period of decline affected the largest projects, where the expected rate of return is over a longer period and, consequently, riskier. It also means that it affects the part of the offices sector where the lag between orders and output is longer. A CPA analysis of new orders and output indicates a lag of around 12-18 months on average for commercial new build. Offices output has subsequently declined since 2017 Q2. Although new orders rose in late 2018 and early 2019 due to the award of contracts for large central London schemes, as well as after the initial lockdown period in 2020 Q3, this is now likely to longer than 18 months to filter through to starts in activity, given delays to construction work currently from earlier pauses in activity and lingering weakness in confidence. Strengthening business confidence as the economic recovery develops throughout 2021 means greater certainty for investors and the supply chain will lead to an increase in starts from the second half of the year, although the recovery will be gradual as any shift in working patterns is assessed.

Upper Scenario:

- A widespread return to offices
- Business confidence improves as coronavirus uncertainty lifts quickly

The CPA assumes in the forecast 2-3 days working from home on average for office workers. However, if office workers end up in offices more frequently than this on a consistent basis, would lead to a higher degree of business confidence in the near-term, with firms committing to existing space or moving to new premises, which, in turn, improves investor and developer confidence for currently paused developments and new starts.

Lower Scenario:

- Volatility in the UK's economic recovery prolongs the period of uncertainty and constrained business investment
- Worse financial problems for flexible office space providers

Business investment experienced contractions even before the coronavirus pandemic and any lingering uncertainty over the economic recovery and evolution of coronavirus infections is likely to restrict business investment in the near-term and lead to reticence on contract awards and project starts on the construction side. Whilst flexible office providers were a key driver of demand in cities across the UK from 2019, questions remain over their ability to weather a short period of financial stress and a potential longer-term shift away from office-based working in city centres.

Prospects for **retail** remain unchanged since the Summer and reflect the additional impact of Covid-19 (coronavirus) disruption on a sub-sector that has experienced annual falls in activity since 2015. Even before the outbreak of Covid-19 in early 2020, investor appetite and construction activity had already 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 wages mandated by the national living wage. In addition, as the CPA has been highlighting over the past decade, retail is also experiencing a longer-term structural trend of rising e-commerce shifting demand for retail premises to industrial space for storage, logistics and distribution. Although social distancing measures were lifted in Spring, the impact of three national lockdowns in the past 18 months has been to accelerate the shift towards online operations and, as a result, output is expected to remain well below its pre-Covid-19 level throughout the three-year forecast period.

Given the existing difficulties in the retail sector, it is unsurprising that investor appetite towards investment in new build retail premises has experienced a significant deterioration in recent years. Shopping centres have been the worst performing retail asset and Savills has recorded falls in investment in this category in every year since 2014. In addition, the impact of closures of non-essential retail during the national and local lockdowns since March 2020 has been profound, as rent delays and freezes led to sharp falls in rental income. Although shopping centre owners URW (Westfield) and Hammerson reported that rent collection rates improved after restrictions on non-essential retail were relaxed from 12 April, they still remain relatively low at 77% and 79%, respectively, in 2021 H1. This contrasts sharply with developers that focus on warehousing space and are benefitting from the rise in e-commerce such as Tritax Big Box, which had collected 99.5% of its rent due in H1. Meanwhile, the Local Data Company reported that the retail vacancy rate rose from 15.6% in 2020 H1 to 19.4% in 2021 H1, an increase of 3.8% in the six-month period. This marked the largest half-year increase since 2013. Echoing this, Savills reported that floorspace vacancy, as per MSCI's sample, averaged 11.7% for UK high streets (excluding South East) and 17.4% for shopping centres in June, up from 6.9% and 12.9% recorded in June 2020, respectively. Further analysis by the Local Data Company and PwC reported that 8,739 stores in Great Britain closed during the first half of this year, a decrease of 21.4% from 2020 H1 but an increase of 2.6% compared with pre-coronavirus levels in 2019 H1, reflecting a number of high-profile administrations, closures and CVAs. Shopping centre owner, Intu, also entered administration in June 2020 as the deferral of tenant rent payments worsened its existing debt

of £4.5 billion. Its 17 shopping centres have been put up for sale but given the retail backdrop, are likely to remain unattractive.

Falling rental values and writedowns to the value of retail portfolios mean that lenders, landlords and private equity firms are actively trying to reduce their exposure to the shopping centre category. Although Savills and Knight Frank reported that the volume of shopping centre investment improved in Q2, this increase is compared with 2020 Q2 when investment activity was impacted by the pandemic and reflects investors (mainly local authorities, developers, private investors) capitalising on counter-cycle buying opportunities, largely for repurposing and regeneration reasons. In addition, the two £1.4 billion major shopping centre redevelopments 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. The IPF (International Property Forum) consensus forecast from September suggests that retail assets will remain unattractive in the medium-term. A 15.2% fall in capital values is forecast for shopping centres in 2021, followed by a further decline of 4.5% in 2022 and a 1.2% decrease in 2023. Falls in rental values were also forecast for each year of the forecast period for shopping centres. For high street retail, rental values are expected to fall in both 2021 and 2022.

Within retail, niche areas of growth exist, however. Supermarket chains such as Aldi and Lidl have continued with expansion plans, benefiting from a value offering against a backdrop of challenging retail conditions, as well as increased demand and profits during the pandemic and lockdown periods, in particular, when consumers increased spending on food and drink amid the closure of all non-essential stores. Although data for Q2 showed that retail sales volumes at food stores fell in annual terms for the first time since 2018 Q1 following the easing of restrictions for non-essential retail and hospitality, Savills does not expect expenditure in this arena to return back to pre-coronavirus levels. Furthermore, 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 as part of plans to increase its total UK estate to 1,000 by 2023, 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 shift from purpose-built out-of-town sites to 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. However, these plans may be reassessed if town and city centre footfall remains low post-coronavirus. If there is a structural change towards people working from home 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, a potential structural change towards 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. In addition, this activity is likely to focus on fit-out work within existing units rather than major new developments.

Alongside food stores, retail parks have also 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 and social distancing more easily. As a result, Savills reported that the vacancy rate of retail parks stood at 6% in 2021 H1, compared to large city centres at 17%, whilst Knight Frank reported that the sub-sector accounted for nearly half (46%) of all investments in retail property in Q2. While restrictions on non-essential retail and hospitality have been lifted, Savills expects that the drive-to convenience, outdoor setting and the perceived Covid-19 safety will continue to underpin the strong performance in retail parks going forward. Despite this, Hammerson sold even of its retail parks in order to strengthen its balance sheet in April, and Landsec sold two of its retail parks in September, to focus on London and urban mixed-use regeneration projects.

Before coronavirus, 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. At least in the short-term, and until the economy returns to pre-coronavirus levels of activity, there is likely to be a pause on some of these plans. Projects of this type that are in the pipeline include Ikea's purchase of the Kings Mall in west London to redevelop into a mixed-use development around one of its urban stores, as part of a strategy to move away from out-of-town sites, and announcements that 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. In addition, Hammerson's 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.

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 £70 million Glassworks phase of the Barnsley Markets regeneration (nearing completion), the £300 million Borough Yards redevelopment around London Bridge (completion in 2022), as well as the £250 million multi-use redevelopment of the Whiteleys shopping centre in Bayswater, west London (completion in 2023). In addition, a £500 million mixed-use redevelopment of Maidenhead's Nicholson shopping centre led by residential was approved in March, and in June, a planning application for the £130 million redevelopment of Wigan town centre led by leisure and entertainment facilities was submitted. Subject to approval, work on the latter project is expected to start in January 2022. 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 is 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, 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. However, as non-essential retail reopened on 12 April and indoor hospitality reopened on 17 May, Q2 saw the value of online retail sales fall in quarterly terms for the first time since 2019 Q4 and proportion spent online declined to 28.7% from 35.5% in the previous quarter. Looking at more recent monthly data, however, shows that both the value and penetration rate for online retail sales picked up in August as many households continued to shop online, a trend that is set to persist in the near-term and one that would keep both indicators of warehouses and logistics demand significantly higher than pre-coronavirus levels.

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. These effects were exacerbated by lockdowns, consumer confidence (see Private Housing RM&I) and incomes. New orders also declined 6.2% on a four-quarter total basis in 2021 Q2 and given the ongoing structural rebalancing towards e-commerce activities, as well as the financial impacts of retail shutdowns in 2020 that are likely to linger and further worsen retailer and investor appetite for expansion, a muted recovery is expected from this year. Retail output is forecast to rise by only 3.0% in 2021 and 5.0% in 2022.

Upper Scenario:

- Strong labour market in 2022
- Rise in consumer confidence and spending despite inflation concerns

Consumer confidence and spending rises sharply as a significant proportion of savings accumulated during the lockdown periods is released, offsetting the impacts of rising inflation.

Lower Scenario:

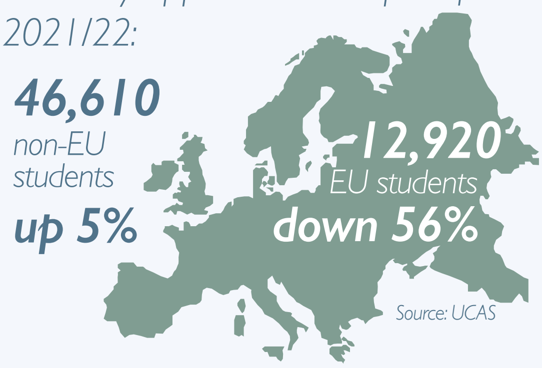
- Rising unemployment and falling incomes restrict household spending

Retailers with premises on high streets and in shopping centres are those who would experience the most severe financial impacts if the labour market, and particularly unemployment and incomes, deteriorates in 2022 Q1 and Q2 after the end of job support schemes at the end of September and as the UK economy slows in response to rising inflation and falling real household disposable income. This would be further worsened if consumers continue to hold on to most of their accumulated savings.

In the **commercial education** sub-sector, data from UCAS showed that by the final June deadline, total applications for the 2021/22 academic year rose 4.5% to the highest level in over a decade, despite ongoing uncertainties relating to the pandemic. Applications from the UK rose 7.3% and non-EU applications rose 14.4%. Applications from overseas students, and particularly those paying higher tuition fees, have been on a general upward trend since 2010, helping to lift universities' income from fees. However, EU applications for 2021/22 fell by 42.8% as this marks the first year that EU students will require visas and be subject to international rates of tuition fees post-Brexit. Subsequent data on placed applicants, however, showed that 507,610 students have been accepted for courses at UK universities in 2021, 1.6% lower than in 2020. This is largely due to a 56.4% decline in accepted applicants from EU countries, which partially offset a 1.4% and 5.2% increase in applicants from the UK and outside the EU, respectively. Reflecting this, as well as changing government policy on UK exam results and rising costs related to lockdowns, universities have taken a cautious approach on finances. Pauses to capital spending or delays to construction projects underway have been announced by institutions across the UK.

Sub-sector output has averaged £1.2 billion per quarter since 2015, compared to an average of £781 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. 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. Capital programmes still remain on pause at some Universities, notably the University of York, whilst individual projects such as a £55 million postgraduate teaching facility at the University of Exeter and Anglia Ruskin University's new campus in Chelmsford have been delayed until conditions improve this year. The Russell Group estimates that a total of £2.0 billion of projects is on hold at its 24 universities.

University applications accepted for 2021/22:



At present, there are a few projects underway, including 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 three projects at the University of Glasgow through its Campus Development Programme, of which two (Clarice Pears building and Advanced Research Centre) are scheduled for completion in 2022 Q1. At the University of Oxford, construction was due to begin on the £200 million life sciences building in Summer 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. 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 in 2022. In June, the University of Manchester confirmed its developer and investor team to deliver 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 but there is little detail on the delivery timeline. Meanwhile, a new university in Milton Keynes is in the planning stages and has some early funding committed. The plans assumed an approval in 2020 Q4, with the first phase built between 2021 and 2023. Two further phases will complete by 2034.

Alongside education facilities, purpose-built student accommodation will also provide a pipeline work, largely due to construction resuming on projects that were previously paused during the first national lockdown in 2020, whilst start dates of new schemes remain uncertain and are likely to have been delayed by the pandemic. Student accommodation developer Unite 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. Since the second half of 2020, 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, whilst received planning approval for a £57 million 700-bed development in Nottingham. Despite a pipeline of schemes, the developer has reported delays in the planning process and pressure on delivery timelines as a result of the pandemic, whilst build costs that typically accounts for 50%-70% of total development costs have risen due supply chain issues in securing materials and reduced supply of EU labour. For the 2021/22 academic year, Unite reported in October that 94% of beds are now occupied across its portfolio for the current academic year, slightly below its previous forecast of between 95% and 98%, which will lead to a rent shortfall of £10.0 million. Going forward, its strategy will focus on increasing exposure to high and mid-ranked universities, where demand is viewed to be strongest. Empiric also has a pipeline of three schemes, including a 153-bed purpose-built student accommodation development in Bristol that is now due be completed in time for the 2022/23 academic year instead of 2021/22 due to the impact of Covid-19. Work on the remaining two schemes in Edinburgh and Canterbury is yet to begin. The only other major project underway is the £100 million refurbishment and extension of halls of residence at Kingston University, which is due to be completed in 2022.

There are signs that confidence for student accommodation projects beyond 2021 appears to be unaffected, however. Over the past 12-18 months, plans were submitted or approved for student residences in Leicester and Leeds. During the same period, 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. Furthermore, in March 2021, the contract was awarded for a £130 million student village at Royal Holloway University. Construction on the project is expected to start soon after financial close in early 2022 and complete by September 2024. In August, a £98 million contract that will provide 1,262 beds at the University of Essex through Phase 2b and 2c of the Meadows scheme was also awarded. The accommodation is scheduled to be completed for the start of the 2023/24 academic year. Student accommodation development has taken place both on campus and town and city locations in recent years. However, in its planning guidance published in June, Glasgow City Council said that the development of new purpose-built student accommodation will not be supported in areas where over-provision risks undermining residential amenities, particularly in South Partick/Yorkhill and Cowcaddens.

Commercial education output declined 26.6% to a seven-year low of £3.5 billion in 2020, reflecting the pause in activity on the majority of sites from late March and the subsequent return to sites from May. New orders were also weak, rising by only 1.0% compared to 2019, as contracts were awarded on a few small projects such as the £50 million science block at Salford University and a £30 million research hub at Swansea University. More recently, in Q2, new orders rose 137.1% in annual terms, albeit from a low base in 2020 Q2. Reflecting this, as well as delays to universities' capital spending programmes and developer-led student accommodation projects, output in the sub-sector is forecast to rise by only 4.4% in 2021 and 6.0% in 2022. At the end of the forecast period in 2023, output is still projected to be 14.8% below its 2019 level.

Upper Scenario:

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

Alongside an increase in student applications for 2022 and a full return to campus increasing revenues, stronger economic recovery amid significant progress in vaccination should raise confidence to restart paused student accommodation schemes and university capital expenditure programmes.

Lower Scenario:

- Deterioration in university finances hinders the viability of university projects

The closure of university facilities for most of the 2019/20 and 2020/21 academic years prompted cost-cutting measures to protect finances. In turn, this suggests a changing risk profile for project finance due to 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 is slow, which worsens investor risk aversion. Questions also remain whether the rise in non-EU students can offset a fall in those from the EU. In the lower scenario, higher build costs due to labour and material shortages also impacts delivery timelines of planned student accommodation schemes in the pipeline.

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.

Given recent developments, 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, where the focus is on a fit-out ahead of its opening later this year. 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 2022. All funding has been raised from private donations. The first large project on the £500 million four-year Private Investment Construction Framework for

healthcare began in April 2019, for a £100 million acute care hospital in Birmingham, which is also due be completed in 2022. It is a partnership between HCA Healthcare and M&G Investments. There have been no updates on future projects in the procurement pipeline, however. At the G7 meeting in June, 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. Healthcare developer, Assura, currently has 17 developments on site, totalling £99 million. A further 19 schemes with a total cost of £121 million is 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. Excluding this and the HCA Birmingham hospital, there is still an absence of larger projects, however.

Commercial health output is forecast to rise ***8.0%*** *in 2021*

Since 2010, annual new orders have averaged only £569 million and in 2020 were £464 million, 13.5% higher than in 2019. At this low level, one or two small projects is enough to lead to a significant rise in orders, although the construction activity from these projects would be spread over two or three years and so would contribute little to output. New orders during the first half of 2021 rose 57.1% year-on-year, however, annual comparisons have been distorted by base effects. During the first half of 2021, output in the sub-sector remained broadly flat (0.5%) compared to 2020 H1, when activity was paused amid the first national lockdown. As some projects reach completion and activity is offset by a small pipeline of work, the recovery in 2021 is only expected to be muted. The start of the only major project in the pipeline at Great Ormond Street Hospital will sustain growth from 2022.

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

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.

Private Non-housing R&M

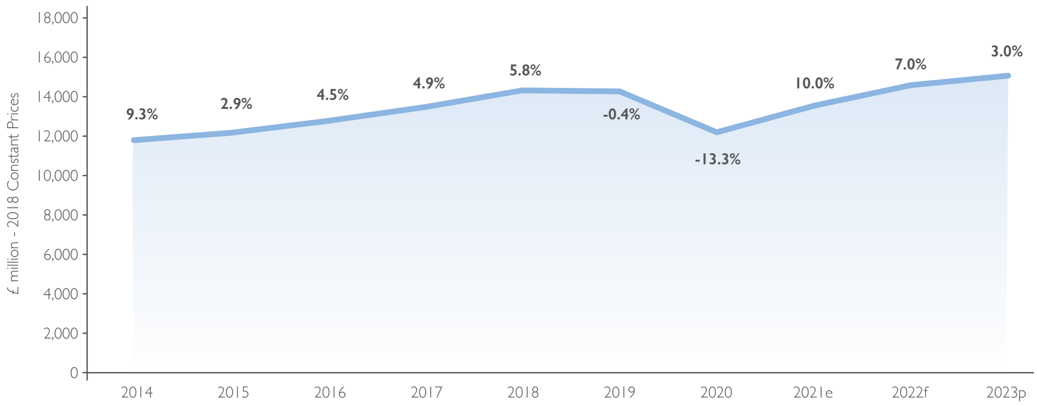
Private non-housing r&m output is expected to recover to its pre-Covid-19 (coronavirus) level in 2022 as a lack of new build projects within commercial, particularly for offices and retail, amid ongoing concerns over future market conditions and demand will underpin non-essential repair and maintenance of existing assets.

Output in the private non-housing repair and maintenance (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 during the Covid-19 pandemic, the discretionary element that is dependent on macroeconomic fundamentals related to business investment and consumer spending will have been severely affected by uncertainty.

As coronavirus restrictions were gradually relaxed, the second quarter of 2021 marked a return to growth for both business investment and household consumption from the contraction in Q1. The pace of recovery, however, varied across both sector's key drivers, with business investment still in double-digit decline compared to its pre-coronavirus level in 2019 Q4, as confidence was adversely affected in the retail and entertainment sub-sectors due to the closure of non-essential businesses, 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 as the pipeline for new work reduces, or decision-making remains reticent, in the near-term. This is also pertinent in the commercial sector, as businesses determine their post-coronavirus requirements for office space in light of increased remote and hybrid working.

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

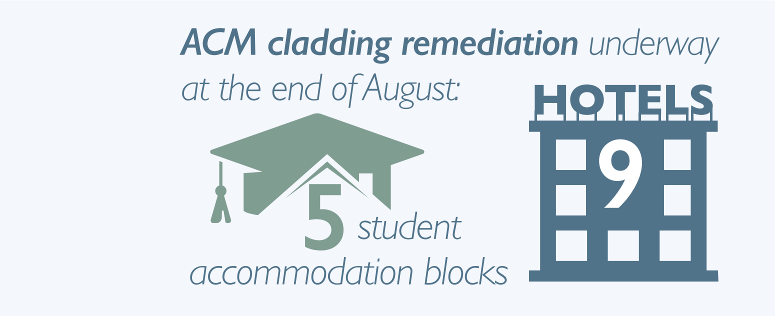
Private Non-housing R&M Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

In these previous cases, contracts were switched to alternative providers allowing work to continue, but concern has been raised over facilities management services provided by other contractors that may be at risk of financial issues given low profit margins and decreasing work volumes in commercial and public sector new build even before the financial effects of pauses in site activity in 2020.



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 August monthly update from the Ministry of Housing, Communities and Local Government (MHCLG), however, showed that cladding remediation works have completed on majority of these high-rise buildings. For student accommodation, remediation has completed on 49, underway on five sites, with two yet to start. For hotels, remediation has competed on 16 buildings, started on nine sites, with six waiting to commence.

After falling at a record pace in 2020 due to pauses in activity in Q2 and a shift in focus towards catch-up on existing new build projects in Q3 and Q4, private non-housing r&m output in the first half of 2021 was 8.5% higher than in 2020 H2. This is slightly stronger than the 5.3% growth recorded for new build output during the same period, as building owners' interest may have switched towards refurbishments and maintenance of existing buildings due to the impact of lingering uncertainty and muted business confidence on new build developments within commercial offices and retail. With this trend set to continue in the near-term as concerns remain over the future demand of new commercial space, output is forecast to rise by 10.0% in 2021 and 7.0% in 2022, before growth of 3.0% in 2023.

Upper Scenario:

- Stronger focus on r&m in 2021 and 2022
- Current and planned remediation works impacted by supply issues

A slower economic recovery from the second half of 2021 is likely to lengthen the lag between new orders already confirmed and project starts, 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 may be delayed or paused by cladding material and equipment shortages.

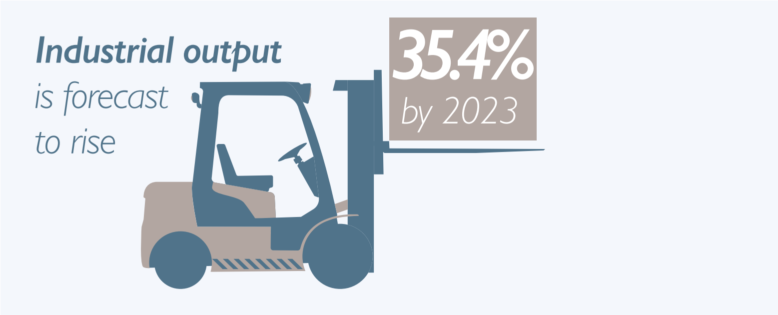
Lower Scenario:

- Priority shifts to new build

With a stronger economic recovery from 2021 Q2, the gap between existing projects completing and new ones starting is likely to be shorter, particularly in industrial factories and commercial entertainment, meaning that new build could be prioritised over r&m.

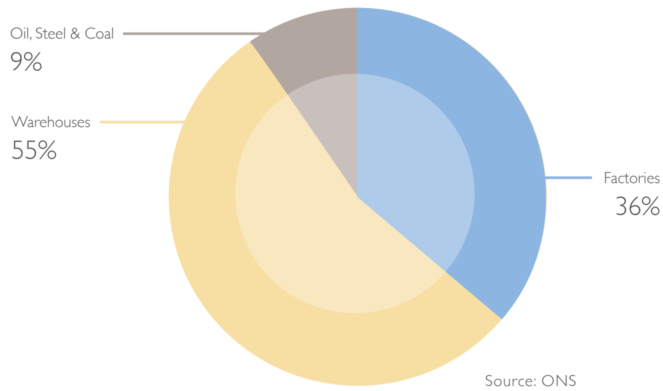
Industrial

The forecast for industrial output growth remains strong but has been revised down as ongoing supply chain issues have delayed the timelines of current and planned warehouse schemes as well as dampened the recovery in manufacturing that determines the fortunes of new factories work.



In 2021, industrial output is forecast to rise by 15.4%, down from 22.6% previously estimated in the Summer, reflecting downward revisions to activity in both warehouses and factories. Within warehouses, although the accelerated structural shift towards e-commerce continues to fuel demand for warehousing and distribution space, activity on site this year has been impacted by extended construction timelines and the deferral of speculative development starts amid ongoing supply chain disruption linked to Covid-19 (coronavirus) and Brexit. With these challenges also expected to dampen the recovery in the manufacturing sector during the second half of this year, factories construction output is expected to rise at a slower rate this year. As previously-delayed or paused warehouses schemes re-enter the development pipeline and factories construction activity picks up due main works starting on the UK's first battery gigaplant in Northumberland and manufacturers bringing forward planned capital investments in order to benefit from the government's 'super-deduction', output is forecast to return back to 2019 levels in 2022, with further growth of 7.8%.

Industrial Output by Sub-sector 2020 (%)

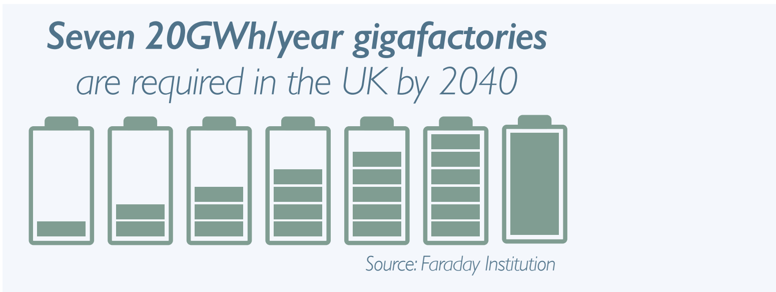


Source: ONS

Following 11 consecutive quarters of annual decline, **factories** construction output returned to growth during the second quarter of 2021. The annual growth of 31.6%, however, partly reflects the low base and the phased easing of Covid-19 (coronavirus) restrictions during the quarter, which underpinned the recovery in manufacturing sentiment and output. Although progress continues to be made on existing projects, ongoing supply chain issues brought by logistics delays and a shortage of raw materials and workers is expected to weigh on manufacturing activity in the short-term. Given this, the output growth forecast for 2021 has been lowered to 7.0%, from 12.0% in the Summer. Furthermore, while the UK's first £2.6 billion gigafactory in Northumberland has a start date of late 2021, main works are unlikely to be fully underway until next year, when sub-sector growth is forecast to pick up to 20.0% as manufacturers also revive previously-paused plans and commit to new investments. The latter will partly be supported by the government's two-year 'super-deduction' tax relief for qualifying plant and machinery expenditure (see Economy), which came into force on 1 April, which is expected to incentivise manufacturers, especially larger ones, to make additional investments and bring forward planned investments, but it is likely to make a greater impact next year as firms build new investment decisions this year into their business plans for the next financial year. At the end of 2022, output is expected to be 6.0% above its pre-coronavirus level. In 2023, output is projected to rise by a further 10.0%.

In line with the wider economy, manufacturing output, the sub-sector's key driver, returned to growth during the second quarter of 2021 as coronavirus-related restrictions were eased. Manufacturing output rose 1.8% on a quarterly basis, following a 1.0% fall in Q1, when activity was impacted by a third nationwide lockdown in England and inventory destocking following the end of the Brexit implementation period. Recent monthly data from the ONS, however, shows that the manufacturing sector remained flat in July, following five consecutive monthly increases, as staff shortages (in part due to self-isolation requirements) limited production. Manufacturers also faced difficulties filling vacancies due to a lack of suitable applicants and fewer EU applicants. As a result, only four of the 13 manufacturing sub-sectors displayed growth in July and, overall, output remained 2.3% below its pre-pandemic (February 2020) level. Furthermore, UK exports of goods recorded a second consecutive monthly fall in July, as exports towards EU countries declined. This was partly attributed to a shortage of HGV drivers caused by self-isolation requirements and a loss of EU drivers.

Industry survey data from IHS Markit/CIPS shows that supply chain problems, arising from resource and staff shortages, as well as logistics delays, continued to restrict activity in the manufacturing sector during Q3. The September survey showed that manufacturing output and new orders rose at the weakest pace since February, with latter reflecting a slowdown in intakes from the domestic market and a decline in new export work amid shipping issues, cancellations due to long lead times and capacity issues at clients (see Economy). Furthermore, employment growth slowed to the weakest since January as firms continued to experience labour shortages and difficulties recruiting skilled staff. Despite this, manufacturers maintained a positive outlook for the next 12 months, with 62% expecting an increase in output due expectations of continued economic revival in both domestic and global markets, reduced difficulties from supply chains, Covid-19 and Brexit and planned new product launches. As businesses also become accustomed to the UK's new trading relationship with the EU and manufacturers, particularly larger ones, take advantage of the government's 'super-deduction'.



Work is continuing on Forterra's £95 million new brick manufacturing facility in Leicestershire and SAICA Group's £50 million new packaging production facility in West Lothian, which are both due for completion later this year, as well as the £200 million Siemens rail factory in Hull, where the first phase of the facility is scheduled to be operational in 2023. Main construction works are set to begin this Autumn/Winter on Glass Future's £54 million glass research and innovation facility in St Helens (completion in 2022), GE Renewable Energy's offshore turbine manufacturing facility in Teesside (completion in 2022) and Britishvolt's £2.6 billion gigafactory in Northumberland that would produce lithium-ion batteries for the automotive and renewable energy sectors. The first phase of the latter facility is scheduled to open in late 2023 and, overall, it is one of many gigafactories expected to be built in the medium to long-term given the government's target to end the sale of new petrol and diesel cars and vans by 2030, and hybrids by 2035. The Faraday Institution estimates that seven gigafactories that would each produce 20GWh per annum will be needed in the UK by 2040. Given this, there are two more gigafactory projects in the future pipeline, however, a planning application for one of them on the site of Coventry Airport has been submitted for delivery by 2025. Also in prospective pipeline are Ibstock's plans to redevelop its Atlas plant and upgrade its Aldridge brick factory in the West Midlands, worth a combined £60 million, as well as Etex's £140 million expansion of its Bristol plasterboard factory. Both projects are expected to be completed in 2023.

Upper Scenario:

- Domestic and global demand strengthens
- Reduction in uncertainty post-Brexit
- Further detail and planning approval for new gigafactories across the UK

The upper scenario assumes a stronger than expected recovery in domestic and foreign demand despite concerns regarding rising inflation. A reduction in post-Brexit uncertainty that underpins an improvement in business confidence and investment, as well as further detail and planning permission for the development of new gigafactories across the UK, notably those that have already been announced at Coventry Airport and Sunderland, would raise growth prospects for the sub-sector over the forecast period.

Lower Scenario:

- Manufacturers delay or cancel investment plans again
- Weaker domestic and global demand

If economic activity slows in the final quarter of 2021 due to a resurgence of the impacts of supply chain constraints and rising inflation, particularly due to energy price rises, manufacturers are likely to delay or cancel major long-term investment plans again. This, alongside a weaker than expected outlook for domestic and foreign demand is likely to impact the pace of recovery in manufacturing activity from 2021.

Although **warehouses** continues to experience strong occupier demand for industrial and logistics space linked 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, growth forecasts for this year have been revised down. Warehouses output is now forecast to rise by 15.0% in 2021, which is considerably slower than the 25.0% growth previously estimated in the Summer, as work on existing warehouse projects has been delayed, whilst planned speculative schemes have been deferred from this year to 2022 or paused amid ongoing supply chain constraints and higher build costs. Output growth is then expected to pick up to 20.0% in 2022 driven by works starting on projects that were previously paused or delayed, and as further speculative schemes add to the development pipeline, a double-digit rise is projected in 2023.

The sub-sector's fortunes are strongly linked to economic conditions, particularly consumer spending, which rose in Q2, following two consecutive quarterly falls. The return to growth was driven by the easing of restrictions on non-essential retail and the high level of savings accumulated during the lockdown periods, whilst households' spending power has also been sustained by high employment rates, in turn, boosted by government support schemes. As a result, retail sales volumes posted the second-largest quarterly increase on record in Q2. This was largely due to strong growth in both automotive fuel and non-food stores, whilst online sales saw a record quarterly fall as consumers returned to physical stores. Recent data, however, shows that monthly online sales bounced back in August and accounted for 27.7% of total retail sales. This is higher than the proportion of 27.1% recorded in July and 19.7% recorded before the pandemic in February 2020. This suggests that many consumers maintained or increased their use of online platforms, even after the removal of legal restrictions for working from home on 19 July, a trend that is set to persist in the near-term and one that would create further demand for warehousing and distribution space.

Take-up of ***industrial and logistics space*** *hit record levels in H1*

In 2021 H1, take-up of industrial and logistics space across the UK reached record levels, with Knight Frank recording 30.8 million sq. ft. for units over 50,000 sq. ft. and Savills recording 24.4 million sq. ft. for units over 100,000 sq. ft. Unsurprisingly, online retailers accounted for the largest proportion of take-up in the first half of the year, as the structural shift towards e-commerce that was accelerated by the coronavirus pandemic led to a surge in occupier demand for warehouse space. This was followed by distribution firms and third-party logistics occupiers (3PLs), whilst take-up from manufacturers also rose. Knight Frank additionally reported that investment into UK industrial and logistics totalled a record £6.0 billion in H1, more than double the £2.7 billion recorded in 2020 H1 and 54.0% higher than in 2018 H1, as offices and retail investors sought to diversify their portfolios. With the long-term structural trend towards e-commerce unlikely to abate any time soon, commercial estate agents widely expect occupier and investor demand to remain strong going forward. Savills already logged a record 112 million sq. ft. of new warehouses requirements across the entire market at the end of 2020 Q4. Furthermore, analysis from Knight Frank in 2020 Q4 stated 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. If requirements for industrial warehousing and logistics facilities, such as freeports close to all UK exit and entry points, surges post-Brexit, this would be an upside risk.

In response to strong demand and tight supply, estate agents and industrial property specialists continue to report a strong pipeline of speculative developments. Savills is currently tracking 16.8 million sq. ft. of speculative development, whilst Knight Frank reported that nine million sq. ft. of space is currently under construction on a speculative basis. Both estate agents, however, said that some of these projects are experiencing delays, whilst planned speculative schemes for this year have been pushed back to 2022 or halted altogether. Similarly, Tritax Big Box reported that modest cost-related delays to its developments are possible. Its results for 2021 H1 revealed that 0.6 million sq. ft. of speculative space across five schemes was currently under construction and a further 0.9 million sq. ft. of speculative construction across three sites is expected to start in H2. Meanwhile, Segro reported that there was 216,200 sq. m. of space approved or under construction in H1, which captures three more data centres on the Slough Trading Estate, developments in East, South and West London, as well as four pre-lets at its new East Midlands Gateway.

Some of the major projects in the current pipeline include Jaguar Land Rover's 2.94 million sq. ft. global parts logistics centre in Leicestershire (completion in 2022) that comprises five industrial units, a 2.0 million sq. ft. multi-level logistics building at Wynyard Business Park in North East England (completion in 2022), Next's £125 million 850,000 sq. ft. warehouses in Yorkshire (completion in 2022). After receiving outline planning approval in May 2019, construction finally started on the 2.3 million sq. ft. logistics scheme at Symmetry Park in Kettering in June. Despite a healthy pipeline of work, projects are expected to take longer to complete, whilst planned schemes are likely to be put on hold or see their start dates pushed back amid higher build costs and material shortages.

Upper Scenario:

- Stronger than expected recovery in consumer spending

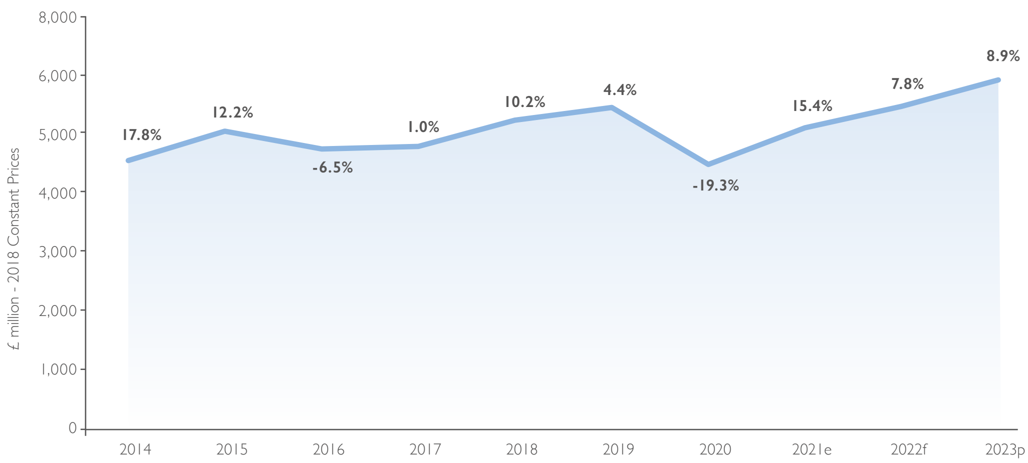
A stronger than expected recovery in consumer spending due to the release of accumulated savings, alongside stronger export growth amid a reduction in uncertainty post-Brexit could buoy retailers' and manufacturers' demand for warehousing and distribution space. Although online retail sales may resume its downward trend or even stabilise from Q4, the proportion spent online is expected to remain significantly higher than pre-coronavirus 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

If consumers rein back spending sharply in the face of rising inflation and falling disposable income following the end of government support schemes on 30 September, this would lead to lower retail sales. In this case, retailers may cut back on expansion plans, denting demand for warehousing and distribution space. Alongside ongoing economic uncertainty post-Brexit, lingering supply chain issues due to rising costs and reduced availability of construction materials may to lead to further delays or pauses on current and planned speculative developments.

Industrial Output



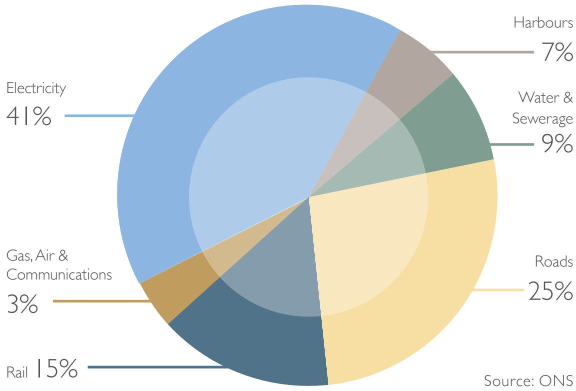
e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

Infrastructure

The infrastructure output growth forecast for 2021 has been revised up slightly to 23.9% due to improved roads activity. That said, HS2 still remains the key driver of the sector. As main works ramp up across Phase 1 sites, alongside other existing large-scale projects and current five-year investment programmes in roads, rail and water & sewerage, output is set to remain at a historically high level over the forecast period.

Infrastructure Output by Sub-sector 2020 (%)



Source: ONS

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.

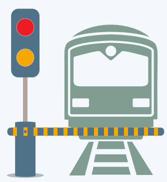
The infrastructure sector's recovery from the Covid-19 (coronavirus) pandemic is expected to be slightly stronger than in the Summer, with output forecast to rise by 23.9%. The upward revision is due to a pickup in activity in Highways England's second road period. Overall, infrastructure output is set to surpass pre-Covid-19 levels and reach a record high level this year. However, this is largely predicated on HS2, Europe's largest infrastructure project, despite the slow start on site and growing concerns over further cost overruns and delays. Enabling and main works are underway at various sites along the Phase 1 route, whilst construction is continuing apace on other large-scale projects such as Hinkley Point C and the Thames Tideway Tunnel. The five-year investment programmes within regulated sectors is also expected to provide a stream of work throughout the forecast period. Despite this, output growth is expected to slow to 9.7% and 0.6% in 2022 and 2023 respectively, as main tunnelling works on the Thames Tideway Tunnel reach completion and major offshore wind farms become fully operational. But, with main civil engineering works due to ramp up on the first phase of HS2, activity would still remain at historically high levels over the next two years.

Source: Infrastructure and Projects Authority

The CPA, however, has consistently highlighted that uncertainty, delays and cost overruns on major infrastructure projects 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 Transforming Cities Fund (totalling £2.5 billion) and the Levelling Up Fund (totalling £4.8 billion), which aims to support a range of high-value local projects such as local transport schemes, urban regeneration projects and culture assets between 2021/22 and 2024/25. From the latter Fund, £600 million has been allocated for 2021/22. 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 respectively. 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 slightly 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 procurements, the Infrastructure and Projects Authority estimates that over 425,000 workers will be required, annually on average, 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 will inevitably raise public sector net debt, with the OBR expecting it to peak at 109.7% of GDP in 2023/24, the highest level since 1958/59 (see Economy), which raises key questions regarding whether government's focus will be on as much infrastructure investment as announced pre-coronavirus.

The outlook for the **rail** sub-sector remains unchanged since the Summer and points to a relatively strong recovery from 2021, despite the slower than expected start on Phase 1 of HS2, Europe's largest infrastructure project. Although the project also faces the prospect of further cost overruns and delays, enabling and main construction works across stations and tunnels on the Phase 1 route are underway and along with ongoing work on existing TfL projects, this is expected to support growth of 25.0% in 2021. Network Rail's five-year Control Period 6 (2019-2024) will also provide a stream of work throughout the forecast horizon, 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. With main construction work on the first phase of HS2 expected to ramp up next year, output is forecast to rise by a further 20.0% in 2022 and 10.0% in 2023.

HS2 Phase 1 was rated as amber/red
(successful delivery in doubt)
in 2020/21



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 101.7% in 2018 and, a further 5.6% to a record high of £7.9 billion in 2019, even though CP5 concluded in March 2019 and main construction 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 39.9% in that year. The divergence between new orders *and output has meant that the levels of output appear inflated in 2018 and 2019. More recently in 2020, output fell by a record 59.2%, 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.*

With the Northern Line Extension to Battersea now open, there are only two major Transport for London (TfL) projects underway. This includes the £700 million Bank station capacity upgrade, which is expected to enter 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 expected to be completed in late 2022, 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 its revised Budget published in July, TfL reported that it now expects a funding gap of £1.9 billion in 2021/22, down from £2.7 billion in the March Budget due to higher operational savings, some deferrals of elements of the capital programme into later financial years and use of own cash. Of this, £1.4 billion has been secured through funding agreements with government, notably the third funding and financing package of £1.08 billion for the period 1 June to 11 December, although this is contingent on TfL identifying £300 million of savings, on top of the £730 million of recurring savings to be delivered by 2023. A shortfall of £500 million still remains for the current financial year and with a funding gap of £1.2 billion forecast for 2022/23, this suggests further revisions to TfL's capital expenditure that may be cut or deferred, and raises concerns whether previously-paused schemes planned for the capital will re-enter the pipeline and replace works completing on existing major projects in 2022. A revised medium-term capital investment programme that would reflect TfL's current financial position and future demand post-coronavirus is expected to be confirmed in the Autumn Spending Review. Meanwhile, construction is underway on the £150 million upgrade of Gatwick Airport's railway station, despite the suspension of its capital investment programme, and is due for completion in 2023.

Progress has also been made on the Crossrail project, with station enhancement works now complete on the eastern section of the Elizabeth line and continuing on the western section (Ilford and Romford) for a completion in early 2022. As a result, the focus is now largely on testing and commissioning activity ahead of the opening of the central section of the line in 2022 H1, which is significantly later than the original December 2018 date. In December 2020, the government committed an extra £825 million of funding to complete works on the project, after a shortfall of between £800 million and £1.1 billion emerged in August. A National Audit Office report published in July revealed that the current funding package totals £18.8 billion, £120 million lower than the project's estimated cost of £18.9 billion (originally a £14.8 billion project). It added that current funding is expected to be exhausted by 2022 Q3, before the full opening of the Elizabeth line in May 2023 and there are still significant issues that could impact the cost and schedule. Reflecting this, as well as concerns over the loss of key workers as the project nears completion and other infrastructure projects gain traction, 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.

As Crossrail and major TfL projects reach completion and drop out of the pipeline, sub-sector activity will mainly be driven by HS2, which was given government go-ahead in February 2020, but with Phase 1 (London to Birmingham) combined with Phase 2a (West Midlands to

Crewe), and Phase 2b (West Midlands to Leeds New Lane) delivered as part of an Integrated Rail Plan under a new separate body, consistent with the recommendations of the Oakervee Review. The Integrated Rail Plan was due to be published at the end of 2020 but has been delayed. Phase 1 of the scheme 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 in 2022. Main construction work is underway at the Old Oak Common station, whilst enabling works are set to continue at Euston station until 2023, when its planned to enter the main construction phase alongside Birmingham Curzon Street, according to HS2 Ltd's three-year Corporate Plan published in July. Meanwhile, tunnelling works beneath the Chiltern Hills are currently underway and the construction of further tunnels in Warwickshire, Birmingham and London is set to begin in a phased way between 2021 and 2024.

Civil engineering works on Phase 1 of HS2 are planned to end in 2025, with services along the route (Old Oak Common to Birmingham Curzon Street) commencing between 2029 and 2033, although HS2 has previously warned of some pressures to the earliest delivery date due to the pandemic and delayed handovers from enabling works. The target cost for the first phase also remains at £44.6 billion, which includes £9.9 billion of contingency. So far, £12.9 billion has been spent on Phase 1, £12.4 billion has been contracted out and £0.8 billion of the total contingency has been used, leaving £18.5 billion left in its budget of £44.6 billion. A substantial amount of Phase 1 is yet to be procured and with cost pressures of £1.3 billion and the full impact of Covid-19 still unclear, although HS2 Ltd now estimates that this could add as much as £700 million to the bill, a Public Accounts Committee report from September signalled further cost increases and delays, particularly given the slow progress at Euston station. Corroborating this, the Infrastructure and Projects Authority rated Phase 1 as amber/red (successful delivery of the project is in doubt) in 2020/21. Meanwhile, Phase 2a of HS2 was given Royal Assent in February but the initial focus will be on environmental and enabling works along the route, with main works expected to occur beyond the forecast period. The cost range for Phase 2a is £5.2-£7.2 billion and the range for opening services is 2030-2034.

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, the ORR reported that £1.6 billion was spent on enhancements in 2020/21, 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 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 underway on the £760 million route between Bicester and Bletchley for a completion in 2025, and electrification of key routes on the Midland Mainline (MML) electrification programme. As part of the latter programme, the bidding process to upgrade the £500 million route from Market Harborough

to Sheffield is due to begin in September 2022. Also taking place in CP6 is the £1.2 billion upgrade to the East Coast Main Line, where progress has been hindered by the pandemic and engineering challenges, as well as the £2.9 billion upgrade to the TransPennine Route between Manchester and Leeds, which has been allocated a total of £906 million funding so far to cover civil engineering and electrification works. Overall, all projects were given an amber rating (successful delivery appears feasible but significant issues already exist) by the Infrastructure and Projects Authority in 2020/21.

Upper Scenario:

- TfL revenue improves amid a recovery in passenger numbers

If passenger numbers in the capital recover quickly following the easing of coronavirus-related restrictions, this would improve TfL's revenue and, in turn, prospects for new capital investment alongside existing projects in the pipeline. As a result, stronger growth rates would be expected over the forecast period.

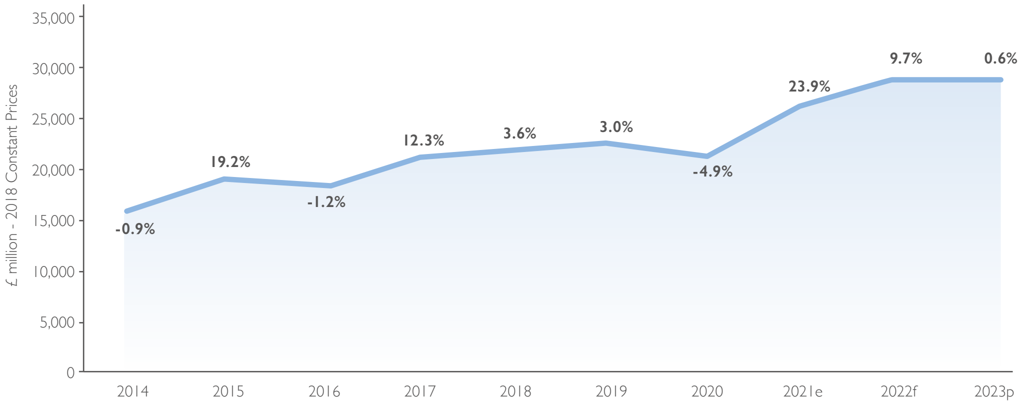
Lower Scenario:

- 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-coronavirus 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 inflationary pressures and economic uncertainty. If office-based workers continue to work from home for more than 2-3 days post-coronavirus 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 will also have a major role in driving the overall sector's recovery from 2021 due to a pipeline of offshore wind projects and major works taking place at the UK's first nuclear power plant in a generation, Hinkley Point C. Near-term activity will additionally be supported

Infrastructure Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

by ongoing work around the National Grid power connections, which includes the £1.0 billion second phase of the London Power Tunnels (LPT2) project to construct a new 32.5km cable tunnel over a six-year period in South London. Tunnelling work began in May and the project is due to be completed and fully operational in 2026. Furthermore, in its Business Plan for 2021 to 2024 published in March, the Nuclear Decommissioning Authority reported that expenditure on site programmes is set to rise slightly to £3.2 billion in 2021/22, from £3.1 billion in 2020/21.

The development of energy from waste (EfW) facilities will also underpin activity. Construction on Covanta and Green Investment Group's four EfW projects across the UK are currently underway, with one due to open in 2022 (Rookery), two in 2023 (Newhurst and Earls Gate) and one in 2024 (Protos). Construction is also underway on Copenhagen Infrastructure Partners and SSE Thermal's £400 million EfW plant in Slough for a completion in 2024, and is set to start on EP Waste Management Ltd's £300 million EfW power station in Lincolnshire this year. A decision to increase the latter power station's capacity to 95MW is yet to be made, however. In February, planning permission was granted for Low Carbon and PMAC Energy's £300 million EfW facility in Teesside, which is set for completion in 2025. In addition, 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. Meanwhile, progress has only recently been seen on a handful of planned gas-fired power station projects, with others paused or, in the case of Drax, cancelled to focus on renewable energy.

Renewable energy is expected to remain a key driver of sub-sector activity over the long-term, given the government's target to deliver 40GW of offshore wind capacity by 2030, including 1GW floating wind. Looking at the offshore wind pipeline, turbine installation has been completed on the 860MW Triton Knoll offshore wind farm, located off the Lincolnshire coast, and is underway on the 1.4GW Hornsea Project Two, off the Yorkshire coast in the North Sea. Both projects are due to be completed in 2022. Onshore construction on Dogger Bank A and B, the first two phases of the 3.6GW Dogger Bank wind farm project that have a total cost of £6.0 billion is well underway, with offshore works due to begin in 2022. Dogger Bank A and B are expected to be completed in Summer 2023 and Summer 2024 respectively, and once fully complete in 2026, Dogger Bank would produce enough renewable energy power for more than 4.5 million homes per year, equivalent to 5% of the UK's electricity demand. Onshore works on the 1.4GW Sofia wind farm on the UK's North East coast are also underway, with offshore construction set to begin in late 2023. In Scotland, turbine installation on the £2.6 billion 950MW Moray East has been completed and the wind farm is due to be operational in 2022. Nonetheless, activity in the country continues to be supported by works on the 448MW Neart na Gaoithe and the 1.1GW Seagreen offshore wind farm projects, which are both due to complete in 2023. Construction is also underway on the 457MW Viking onshore wind farm project for a completion in 2024. In terms of the future pipeline, two major offshore wind farm projects have secured consents, the 2.4GW Hornsea Project Three and the 1.4GW East Anglia Three. Moreover, in September, Ørsted announced plans to invest £12.0 billion directly with Scottish companies on developing and constructing offshore wind farms in the country 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 mix of fixed and floating wind farms. However, a decision on Vattenfall's 1.8GW Norfolk Boreas offshore wind farm has been delayed to December, whilst development consent for its second 1.8GW Norfolk Vanguard offshore wind project has been revoked. Onshore wind farm projects are also to return to the pipeline after government reversed its four-year subsidy ban on supporting developments in March 2020.

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 at Hinkley Point C are progressing and the number of workers on site have risen to 22,000, from 1,500 at the peak of the pandemic in 2020. However, given the impact of social distancing restrictions, EDF now expects the first reactor to be commissioned in June 2026, compared to end-2025 initially anticipated, and the project is now expected to cost between £22.0 billion and £23.0 billion, compared to £21.5-£22.5 billion previously estimated in 2019. The risk of further delays at unit one and two, of 15 and nine months respectively still remain present, and if realised, EDF expects this to increase costs by a further £700 million. 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 10-point plan published in November 2020, the government announced £525 million of funding to help develop large and smaller-scale nuclear plants, and research and develop new advanced modular reactors. This was reaffirmed in the Energy White Paper published in December 2020, which also set out an aim to bring at least one large-scale nuclear project to the point of final investment decision by the end of this parliament, subject to clear value for money and all relevant approvals. EDF's second nuclear power station, Sizewell C in Suffolk, is currently the only large-scale nuclear power project in the prospective pipeline after Hitachi cancelled plans for the Wylfa Newydd nuclear project on Anglesey in September 2020. A planning application for the Sizewell nuclear power station was submitted to the planning inspectorate in May 2020 and, if approved, 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 well beyond the forecast period. Apart from this, there is little in the way of large-scale nuclear projects and given increased focus on smaller-scale nuclear power plants, concerns remain over the long-term prospects of the sub-sector.

Output in the electricity sub-sector declined 15.1% in 2019 even though main civil engineering works above ground on Hinkley Point C started in September 2019. That fall was followed by strong growth of 63.3% 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.

In line with the Summer forecasts, electricity output is set to rise 32.0% in 2021, which reflects construction work ramping up at Hinkley Point C over the year and site activities fully remobilising on nuclear decommissioning projects. Renewable energy projects, notably offshore wind farms, are also expected to support activity this year and in 2022, when output is forecast to rise by a further 10.0%. Thereafter, output is projected to fall 5.0% in 2023 as work completes on a few major offshore wind projects and passes its peak on Hinkley Point C.

Upper Scenario:

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

If investor confidence improves amid a stronger than expected economic recovery, this would allow large-scale projects to get off the ground, particularly offshore wind farms. The new National Infrastructure Bank (which aims to replace funding from the European Investment Bank), which was officially launched in Spring would also underpin investor appetite for new energy infrastructure projects if it can lend at similar volumes and terms. Taken together, these factors point to stronger growth rates over the next two years.

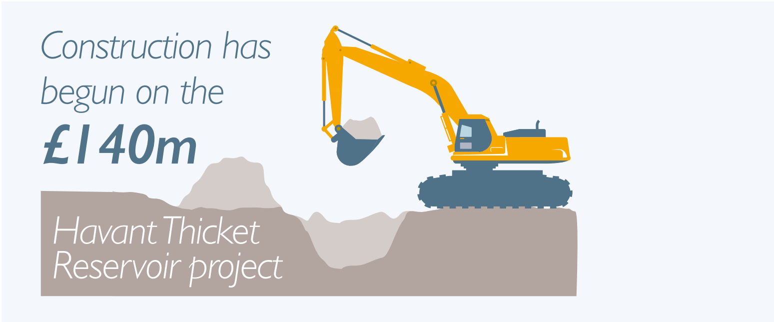
Lower Scenario:

- 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 Spring, 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,** near-term growth will largely be underpinned by the Thames Tideway Tunnel, the largest water infrastructure project in the UK. Around 20km of the 25km tunnel has been completed, with work underway to complete the remaining section by 2023, a year later than previously planned. The overall completion date of the project has also been pushed back by a further nine months to 2025 H1 due to the pandemic and associated social distancing measures, whilst the total cost for completing the project (tunnel infrastructure budget) has increased by a further £233 million to £4.133 billion.

Sub-sector activity will also be supported by work under the five-year Asset Management Plan (AMP7), which began in April 2020 and will run until March 2025. The start date, however, coincided with the onset of the pandemic and the first national lockdown, whilst some major contractors that have secured contracts and long-term framework positions on the AMP7 programme cited delays during the transition from the previous five-year asset management period, AMP6, which ended on 31 March 2020. Nonetheless, 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. This includes £13.0 billion for new and improved services, and to tackle challenges facing the environment. It also includes plans to build a £400 million pipeline between Essex and North Lincolnshire. Work on the first section of the 500km pipeline between Lincoln to Grantham is currently underway, and overall, the new network is due to be completed by 2025. Furthermore, preparatory work on the new £140 million Havant Thicket reservoir in Hampshire was due to begin in September, subject to receiving final planning permission. The contract for main works is due to be awarded in March 2022 and the reservoir is scheduled to be operational by 2029. Meanwhile, Ofwat 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 whether some of these targets are achievable given that some water companies struggled to meet their targets during AMP6.



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 19.7%, 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 63.9% in 2016 (albeit from a low base), followed by a further 55.2% to a five-year high of £2.2 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.

The CPA's view for the sub-sector remains unchanged, with the output growth forecast of 30.0% for 2021 largely hinged on main construction works occurring on the Thames Tideway Tunnel, as progress in the early years of the five-year regulatory period, AMP7, has been slow due to delays during the transition from the previous AMP6 and the impact of Covid-19. As activity picks up under AMP7, output is projected to increase 10.0% in 2022, before remaining flat in 2023 as tunnelling works on the Thames Tideway Tunnel come to an end.

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 construction activity 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 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.

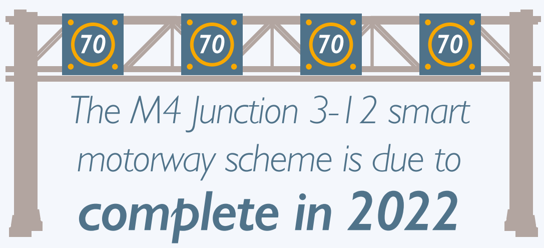
Although activity in **roads** not only continued throughout the Covid-19 (coronavirus) pandemic, in line with the overall sector, it also benefitted from the periods of lockdowns and restrictions when Highways England and local authorities took advantage of quieter roads to carry out more work. During the renewed lockdown period in 2021 Q1, output in the sub-sector increased 47.7% on an annual basis as Highways England continued to operate in a coronavirus-compliant way, whilst roads construction work also continued in Scotland unlike during the first lockdown in March 2020, when activity was restricted to only essential repair and maintenance. In 2021 Q2, output rose by a further 26.2% compared with Q1, and overall for the year, growth is forecast at 12.0% in 2021. This is an upward revision from the 10.0% growth estimated in the Summer forecasts, reflecting an increase in activity during Highways England's second road period (RP2) and works underway on the Silvertown Tunnel project. Growth will also be underpinned by work on smart motorway schemes that focus on technology and signage rather than new roads construction. Looking ahead, output is forecast to increase by 3.0% in 2022, as activity peaks in RP2, followed by growth of 2.0% in 2023.

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 increased 14.3% to £5.3 billion and although Highways England 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. Data from the Mineral Products Association (MPA) showed that sales volumes of asphalt sales declined 8.6% in 2020, whilst survey data from the Civil Engineering Contractors Association (CECA) showed that workloads in both motorways/trunk roads and local roads remained broadly weak during the year. 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 Highways England's Road Investment Strategy 2 (RIS2), which has £27.5 billion of confirmed funding for the second road period (RP2), running from 2020/21 to 2024/25. This is higher than the original budget of £27.4 billion as government announced a further £146 million of funding to accelerate the delivery of A66 Northern TransPennine scheme in the Spending Review 2020. Consequently, the capital funding allocation for road enhancements schemes has risen slightly to £14.3 billion from £14.2 billion, whilst £10.8 billion has been earmarked for operations, maintenance and renewal schemes. At the Spending Review, the government also agreed to a reprofiling of Highways England's capital funding for RIS2, 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. The changes to the RIS2 portfolio have not affected the number of enhancement schemes planned to start in RP2 (43), but has raised the number of schemes scheduled to open by one to 53. However, the Office of Rail and Road's (ORR) annual assessment of Highways England Performance published in July revealed that delays in obtaining Development Consent Orders (DCOs) for 20 schemes yet to start work in RP2 remains a significant risk and may lead to underspends, works being carried out concurrently than originally planned, particularly towards the final years of the road period or the deferral of some project start dates beyond 2025 as was previously cautioned.

The ORR's annual assessment revealed that £12.8 billion of the £14.3 billion enhancements funding has been allocated to deliver schemes under construction or planned to start construction in RP2. In the first year, 2020/21, £2.0 billion was spent on enhancements, £395 million (16.3%) lower than initially planned, largely due to the funding reprofiling and DCO planning delays on a few schemes. Furthermore, in the same period, work completed on three schemes and started on five others. This added to the pipeline of projects, valued below £200 million, currently underway, including the A1 Scotswood to North Brunton, A585 Windy Harbour to Skippool and the A2 Bean and Ebbsfleet schemes, which are all due for completion in 2022/23. Construction is also underway on a few major road schemes such as the £355 million A63 Castle Street, the £282 million M42 Junction 6, the A1 Birtley to Coal House, the A303 Sparkford to Ilchester and the £330 million A30 Chiverton to Carland Cross, which is being partly funded by an £8.0 million contribution from the European Regional Development Fund. 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. In March, the Scottish government gave the go-ahead to complete the statutory procedures for more schemes on the route. Outside of RIS2, enabling works are well underway on the £1.2 billion Silvertown Tunnel project that comprises a new twin-bore road tunnel under the River Thames in east London. Main tunnelling works are due to start in Spring 2022, with completion scheduled for 2025. However, given the impact of the coronavirus pandemic on TfL's finances, as well as ongoing environmental concerns surrounding the project, delays and cost overruns are likely.

Although Highways England expects activity to peak in 2022/23 as further planned schemes enter the pipeline, many are subject to DCO such as the A428 Black Cat to Caxton Gibbet, which was awarded a £507 million contract in Q1. In Q2, contracts were also awarded for the A358 Taunton to Southfields upgrade (worth £328 million), the A27 Arundel bypass (worth £250 million), the A1 Birtley to Coal House (worth £370 million) and the Norwich Western Link (worth £100 million) schemes, however all are subject to development consents and construction on most of them is expected to occur beyond the forecast period. The National Infrastructure and Construction Pipeline 2021 revealed that four major road contracts are to be awarded by 2021/22 Q4, two of which are worth £4.0 billion each for a National Highways six-year Scheme Delivery Framework and the Lower Thames Crossing, which has experienced a 12-month delay in resubmitting its planning application. It also reflects a £2.0 billion contract for the A303 Amesbury to Berwick Down (Stonehenge) project, which is now subject to a judicial review. Further delays and cost overruns to both projects, as well as others planned in the pipeline cannot be disregarded 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 scenarios and forecasts.



Near-term activity will also be underpinned by smart motorway schemes, which focus on the use of technology, electrics and signage rather than solely new roads construction. Following a review into the safety of smart motorways, the government announced an 18-point package of measures to improve safety and public confidence in March 2020. This includes abolishing dynamic hard shoulder motorways, installing ten additional emergency areas on the existing M25 smart motorway and more traffic signs. According to Highways England, eight schemes are currently underway, including the M4 Junctions 3 to 12, which is due for completion in 2022. Construction on two more schemes is set begin during the forecast period. The National Infrastructure and Construction Procurement Pipeline from June 2020 revealed that a 10-year £7.0 billion Smart Motorways Alliance contract, the largest roads contract in the pipeline, was due to be awarded the 2020/21 financial year. However, contracts worth up to £4.5 billion have been awarded so far.

Upper Scenario:

- Road schemes receive go-ahead
- Highways England 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 two years. Activity in the pipeline would also increase if Highways England 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

If availability and cost issues for products and labour increase 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. 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 recovery of the **gas, air and communications** sub-sector is set to be slow, with output set to rise by 10.0% in 2021, following a decline of 28.7% in 2020, as work to expand full-fibre broadband networks would be partially offset by a weak pipeline of airports work. Within airports, the focus continues to be on finishing work on a limited of number of projects in the current pipeline, whilst major expansion plans have been paused and capital investment programmes have either been cut or deferred until a recovery in air travel demand materialises, which is unlikely to reach pre-coronavirus levels until at least 2023/24. As a result, output is not likely to recover to its pre-coronavirus levels until 2023, when growth is projected to pick up to 20.0%, from 12.0% in 2022.

Although the UK's new simplified travel system came into force on 4 October, quarantine and testing requirements still remain in place, particularly for red list countries and unvaccinated passengers, and given the varying degrees of travel restrictions across the world, many airports across the country have halted expansion plans and deferred or reduced capital investment programmes for the foreseeable future. Heathrow Airport has a £3.95 billion capital investment programme for the five-year Q6 regulatory period, which was extended by an additional two years to the end of 2021. In H1, total capital expenditure was £96.0 million, 67.6% lower than in 2020 H1 and 76.7% lower than in 2019 H1, pre-coronavirus. Heathrow Airport's revised business plan published in December 2020 set out a £3.5 billion capital investment plan for the next five-year regulatory period, H7, covering 2022 to 2026, with the Civil Aviation Authority expected to publish its initial proposals later this year. 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 and, as a result, this announcement is not expected to have an impact on the sub-sector's outlook.

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. Only critical projects are continuing or those nearing completion, whilst over half of the projects in delivery have been paused. However, in September, a 12-week public consultation on its £500 million plan to transform its existing northern runway into a second runway between 2024 and 2029 began. Similarly, 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 economic conditions normalise. 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. 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-coronavirus levels until 2023/24 at the earliest. At Luton Airport, work is well underway on the new £225 million light rail system that will allow trains to run directly into the terminal for a completion this year, whilst plans to build a second terminal have been delayed. Despite receiving approval in February, plans to build a £150 million three-storey terminal at Leeds Bradford Airport have also been delayed due to concerns over the project's environmental impact.

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. This has been revised from 20 million premises by the mid-to-late 2020s. Furthermore, Virgin Media O2 (VMO2) plans to invest £10.0 billion in fibre broadband and 5G infrastructure over the next five years. VMO2 also aims to roll out gigabit broadband to nearly 15 million homes by the end of 2021, whilst the existing Project Lightning programme to extend its fibre network has reached 2.6 million premises since its launch in 2015. Other investments in full-fibre networks include Hyperoptic's £500 million project to extend its fibre network to five million premises (both residential and business) 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, the remaining £1.5 billion worth of build contracts that would connect three million premises were awarded in March. Furthermore in June, new broadband infrastructure firm, Upp, announced a £1.0 billion investment plan to deploy a Fibre-to-the-Premises (FTTP) network across one million premises in eastern England by 2025. The government has also committed £5.0 billion of funding to support the roll out 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. The funding breakdown shows that £100 million has been allocated for 2021/22, £300 million for 2022/23 and £400 million for 2023/24.

Upper Scenario:

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

A better than expected recovery in air travel demand due to the lifting of domestic and international travel restrictions would allow major airports across the UK to restart planned capital expenditure earlier over the next two 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 domestic and international travel restrictions are extended or reimposed in destination countries in the near-term amid increases in coronavirus cases, or if tourist travel does not return back to pre-coronavirus levels in spite of the removal of restrictions,, 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.

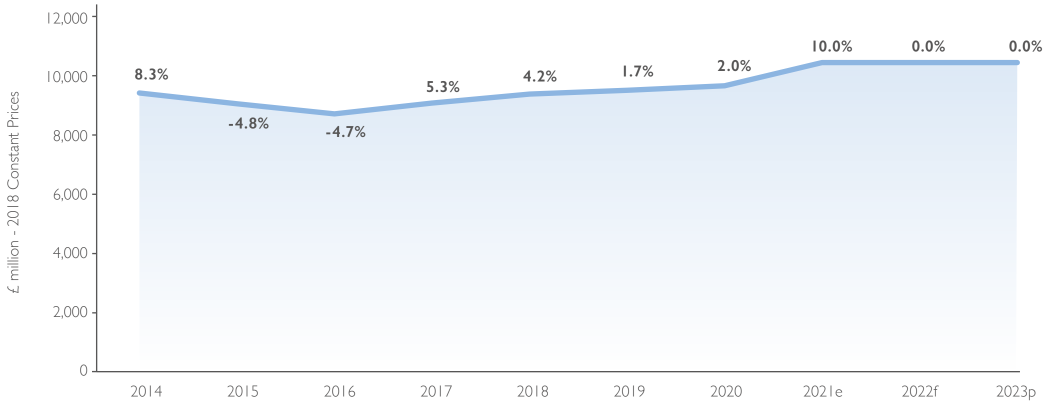
Infrastructure R&M

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 largely continued throughout the pandemic.

Infrastructure r&m work has continued throughout the Covid-19 (coronavirus) pandemic as it is deemed critical to the running of the country's infrastructure, however during the lockdown periods, infrastructure providers and local authorities shifted priorities to address only essential r&m. This was echoed by the Asphalt Industry Alliance, which stated that some planned works were delayed, whilst certain activities were unable to take place due to social distancing restrictions, mainly in urban and residential areas. That said, there were indications that local authorities and Highways England had both taken advantage of quieter roads across the UK during the lockdown periods by bringing forward scheduled repairs and maintenance work that is often capital intensive. Although the pandemic temporarily affected the profile of the sector in 2020 and 2021 Q1, the underlying drivers of activity remain unchanged from previous forecasts and scenarios, and will continue to support activity throughout the second half of this year, following the removal of Covid-19 restrictions.

In its second Road Investment Strategy (RIS2), Highways England has committed £5.8 billion of capital funding for operations, maintenance renewals and business costs during road period 2, running from 2020/21 to 2024/25. The Office of Rail and Road's (ORR) annual assessment of Highways England's Performance published in July revealed that £760 million was spent on renewals in 2020/21, £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 Highways England accelerated maintenance works by taking advantage of underspends on other budgets. However, local authorities manage 97%

Infrastructure R&M Output



e = estimate f = forecast p = projection

Source: ONS, Construction Products Association

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. For 2021/22, the £500 million is expected to repair 10 million potholes. Furthermore, the government has allocated £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. Combined with other announcements, more than £1.1 billion is expected to be spent on local roads maintenance across England in 2021/22. However, given that funding for road maintenance is not ring-fenced, local authorities may use this funding on other priorities.

Despite these funding allocations, the Asphalt Industry Alliance's 2021 ALARM survey revealed that there was a 10-year backlog for local roads maintenance in England, London and Wales, at a cost of £10.2 billion. Although this is 8.1% lower the £11.1 billion one-time catch-up cost estimated in the 2020 ALARM survey report, it is still higher than the figures recorded in 2019 (£9.8 billion) and 2018 (£9.3 billion). The survey also reported that 9% of the overall network is classified as RED (unchanged from last year), meaning that around 18,500 miles of roads are likely to require maintenance within the next 12 months. Furthermore, 31% or 64,000 miles of the network is classified as AMBER (up from 26% last year), indicating some deterioration is apparent. The Asphalt Industry Alliance stated that a longer term approach to local funding is needed, 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.

Highways England Road Investment Strategy 2 (2020 - 2025)

						£ million
	2020/21	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**Total**
Operations and maintenance (Opex)	1,034	1,014	1,037	1,050	1,119	**5,254**
Operations and maintenance (Capex)	296	328	233	257	272	**1,385**
Renewals	706	863	853	872	972	**4,267**
Enhancements	2,140	2,311	2,940	3,296	3,421	**14,108**
Designated funds*	161	184	190	205	195	**935**
RP3 preparation and development	31	45	83	94	103	**357**
Running the network (Opex)	167	146	162	171	174	**820**
Running the network (Capex)	76	85	66	66	85	**379**
Total	**4,612**	**4,977**	**5,565**	**6,012**	**6,339**	**27,505**

Note: Some activities are classified differently in this table compared to the Statement of Funds Available (SoFA)
*Ring-fenced funding to support environmental and community wellbeing, users and communities, innovation and modernisation, and safety and congestion across the Strategic Road Network (SRN)

Source: Highways England

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 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. Given a pipeline of work under the five-year regulatory periods in the water & sewerage, rail and roads sub-sectors, infrastructure r&m output is forecast to rise by 10.0% in 2021. As activity on new build projects ramps up, output growth is expected to remain flat in 2022, and also in 2023, as CP6 draws to a close and offsets any r&m works elsewhere.

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
- Infrastructure r&m is likely to be output overshadowed by new build activity rather than basic maintenance

Local authorities are likely to prioritise the repair and maintenance of critical infrastructure over routine r&m if their finances deteriorate due to spending on local health and social care needs. In this scenario, government's focus on infrastructure spending and delivering large new build projects to stimulate economic recovery would shift the focus further away from r&m activity, hindering growth prospects for the sub-sector.

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