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TENDER PRICE **FORECAST**

for 3rd Quarter 2023 is...

3.00%

Annual UK Average

▲ compared to 2.75% Annual UK Avg. in Q2 2023

Supply conditions continue to normalise, helping to moderate materials cost inflation pressures. However, higher labour input cost pressures, coupled with the anticipated dip in demand not hitting the market quite when we thought it would, will have the effect of holding a higher level of inflation for a greater portion of the year.

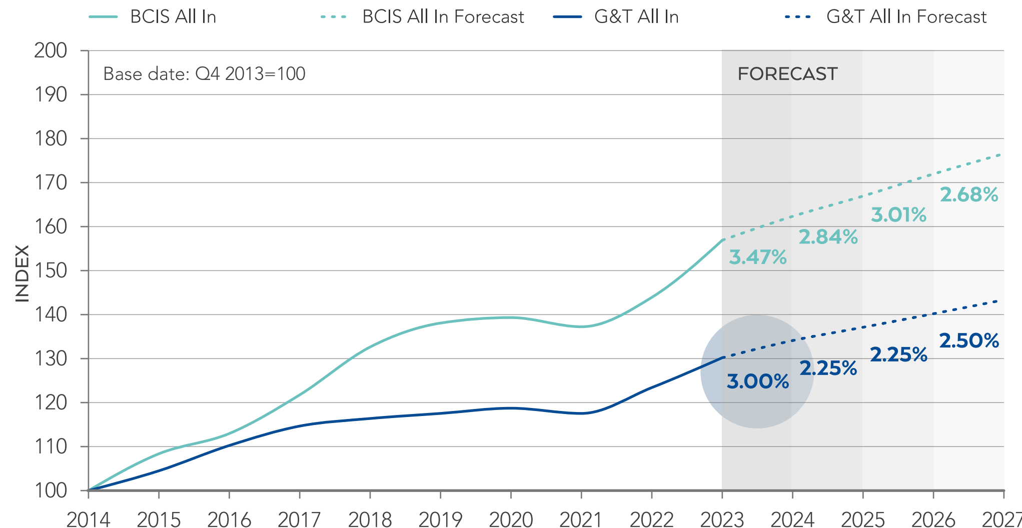
TENDER PRICE ANNUAL PERCENTAGE CHANGE Q3 2023

%	2023		2024		2025		2026	
Regional forecasts	**Now**	**Last***	**Now**	**Last***	**Now**	**Last***	**Now**	**Last***
Greater London	3.25	2.75	2.25	2.00	2.50	2.50	2.50	2.50
South East	3.25	2.75	2.25	2.00	2.50	2.50	2.50	2.50
South West	2.75	3.25	2.25	3.25	2.25	3.00	2.25	2.50
East	3.25	2.75	2.50	2.50	2.50	2.50	2.50	2.50
Midlands	3.25	3.00	2.25	2.50	2.00	2.00	2.50	2.50
Wales	2.75	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Yorks & Humber	2.00	2.50	2.00	2.50	2.00	2.50	2.00	2.50
North West	2.00	2.00	1.75	2.00	1.75	2.00	1.75	2.50
North East	2.50	2.50	2.00	2.00	2.00	2.50	2.00	2.00
Scotland	3.00	2.75	2.25	2.50	2.25	2.25	2.25	2.25
Northern Ireland	3.00	3.00	2.25	2.25	2.00	2.00	2.50	2.50
UK Average	**3.00**	**2.75**	**2.25**	**2.25**	**2.25**	**2.50**	**2.50**	**2.50**

Last* 2Q23

Our forward forecasts show annual tender price inflation (Jan-Dec)

TENDER PRICE TREND 'ALL UK TPI'



KEY CONTACTS

GAVIN MURGATROYD *Partner*
+44 (0)20 7209 3000 | g.murgatroyd@gardiner.com

MICHAEL URIE *Senior Market Analyst*
+44 (0)20 7209 4362 | m.urie@gardiner.com

HOW DO WE REACH OUR TENDER PRICE FORECAST?

We conduct a detailed industry survey and consider factors including...

INPUT COSTS

- ▲ 5.1% (High) BCIS Labour Cost Index, May 2022 - May 2023
- ▼ -4.5% (Low) BCIS Plant Cost Index, May 2022 - May 2023
- ▲ 1.8% (Medium) BCIS M&E Cost Index, May 2022 - May 2023
- ▼ -19.4% (Medium) Fabricated Structural Steel, Apr 2022 - Apr 2023
- ▼ -22.8% (Medium) Concrete Reinforcing Bars (Steel), Apr 2022 - Apr 2023
- ▼ -21.2% (Low) Imported Sawn or Planed Wood, Apr 2022 - Apr 2023
- ▲ 24.5% (Low) Ready Mixed Concrete, Apr 2022 - Apr 2023
- ▼ -33.0% (Low) Oil Prices Brent Crude, Jun 2022 - Jun 2023

KEY

Input to tender price movement of a typical project has a range of contributory impacts from:

High Cost Driver · *Medium Cost Driver* · *Low Cost Driver*

MACRO ECONOMICS

Unless otherwise indicated, figures show percentage change over 12 months

- ▲ 0.2% UK GDP Annual Growth Rate, Q1 2022 – Q1 2023
- ▲ 8.7% CPI May 2023, 12-month rate
- ▲ 11.3% RPI May 2023, 12-month rate
- ▲ 5.0% UK Base Interest Rate, Jun 2023
- ▲ 3.8% UK Unemployment Rate, Feb 2023 - Apr 2023
- ▲ 6.5% UK Wage Growth, Average Weekly Earnings (Total Pay), Y-on-Y three-month average to Apr 2023

Our advice is to review each project on its own merits. This forecast publication must be treated as a guide only, being that it is based on averages of various types and sizes of projects across a region, ascertained through our latest market research.

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Our Tender Price Inflation report looks at the movement of prices in tenders for construction contracts in the UK. The report examines a number of contributing factors and is further informed by our market survey responses and contractor consultations. This forward forecast illustrates our view of annual tender price inflation from January to December 2023 and beyond.

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OUR FORECASTS

With an economy that continues to flatline amid a stubborn inflationary backdrop, the bigger picture is one of a recovery that is likely to remain stuck in low gear as it battles a range of headwinds to growth.

Tight monetary policy, sticky inflation and restrictive credit and financial conditions will act as significant drags on growth in the months ahead, but despite all this, construction remains upbeat about its growth prospects. Although concerned about the UK economic outlook and the impact of rising interest rates, there are plenty of reasons to be positive.

Materials supply conditions continue to normalise, helping to moderate construction cost inflation pressures, while output and workloads on site remaining robust. Strong order books have also helped support recruitment activity and job creation, while fewer logistics bottlenecks and an improved balance between supply and demand has helped shorten lead times. Specialist labour supply remains tight with limited capacity driving higher wage rates.

Despite weaker demand in most construction sectors compared to 2022, contractors remain busy. Main contractors have secured a high proportion of their workloads for 2023 and 2024, suggesting pipelines will remain strong in the short to medium-term. The expected slowdown that many, including G&T, expected to come sooner in the year has been pushed back to 4Q 2023. Busy, risk-averse contractors with capacity issues meant that many contractors could pick and choose which tenders to pursue. However, the prospective impact of 'higher for longer' interest rates on demand will take some of the heat out of the tendering market as some projects pause to reassess.

While many will take a longer-term view of the recent economic developments and push ahead through the shorter-term issues, demand in certain sectors (ie residential) will undoubtedly be hit hard over the coming months. G&T has therefore adjusted its view on tender price inflation to factor in the weaker demand conditions caused by persistent inflationary pressures, and higher project financing costs.

The dip in input cost pressures and lower demand not hitting the market as we previously anticipated has had the effect of holding a higher level of inflation for a greater portion of the year. We have therefore readjusted our regional tender price inflation forecasts, which has pushed our UK weighted annual average TPI figure for 2023 from **2.75%** to **3%**. However, the anticipated fall in construction activity and its influence on overall tender price inflation, which we initially predicted 1H 2023, is now more likely to manifest towards the latter part of the year. Indeed, June's UK Construction PMI survey indicates that construction activity has begun to contract, correlating with our view that a fall in activity is coming, but with a time lag.

With the reduced demand likely to take a greater hold in early 2024, G&T has lowered its 2024 UK average forecast from **2.5%** to **2.25%**. While inflationary views beyond this are more speculative in nature, we anticipate that from 2024 the sector will return to a more typical inflationary environment, with annual tender price inflation levels of **2.25%** - broadly in line with our long-term average forecasts.

All forecasts in this report take account of all sectors and project sizes as a statistical average, indicating an overall trend in pricing levels. It should be remembered that individual projects may experience tender pricing above or below the published average rate, reflecting the project specific components and conditions.

THE ECONOMY

The UK economy has returned to slender growth (with GDP rising **0.2%** in April, month-on-month), but the inflationary backdrop remains troubling. Fuelled by positive wage growth and resilient consumer spending, inflation has remained stubbornly high. The Bank of England's (**BofE**) decision to raise interest rates for the 13th time in a row in June was therefore unsurprising.

The headline CPI inflation rate of **8.7%** in May was unchanged from the previous month, confounding the BoE's expectations of a fall to **8.3%**. Heated pay growth and a tight jobs market, combined with core inflation continuing to head in the wrong direction, swung the MPC into acting unusually aggressively. A 7-2 majority voted for a 50bps rise in the bank rate, lifting the official interest rate to **5%**, a level last reached in September 2008.

Core inflation rose to a 31-year high of **7.1%** from **6.8%** and services inflation (which the MPC often cites as an indicator of domestically generated price pressures) increased to **7.4%** from **6.8%**, also above the BoE's prediction. Some erratic categories such as recreation, food and air fares played a key role in keeping inflation high. However, there was one silver lining. Inflationary pressures further down the pricing pipeline (ie producer input costs and factory gate prices) continue to ease. While there is now less clarity on where rates will head next, evidence of inflation persistence will require further monetary tightening.

Activity growth across the key sectors of the economy generally show that growth is being driven by resilient spending, but this is being tempered by weaker consumer demand. Falling energy prices present a big positive for activity but on balance, the economy faces a further period of weakness and a growing risk of recession. To curb inflation, some

economists believe the BofE will have to tip the economy into a shallow recession by the end of this year.

There is also a risk that the Bank overtightens policy in its efforts to do "what is necessary" to bring inflation back down to **2%** - especially given that the full impact of previous rate increases has yet to be felt and that there are still good reasons to expect inflation will fall sharply over the remainder of the year. As such, the BoE may even opt to follow the US Federal Reserve and press pause on further rate hikes while it accesses the impact of previous rises in the economic data.

Regardless of what approach is taken, the key concern has moved away from energy prices to the labour market in recent months. April's jump in private sector regular pay growth (**+7.6%** in the three-month average of the annual rate for the whole economy) points to a tight labour market. With core inflation still high, unemployment relatively low, and evident domestic wage pressures, the situation risks a wage-price spiral. As such, BoE Governor Andrew Bailey has admitted the UK faces a longer crisis than expected in the battle to tame inflation.

CONSTRUCTION OUTPUT AND NEW ORDERS

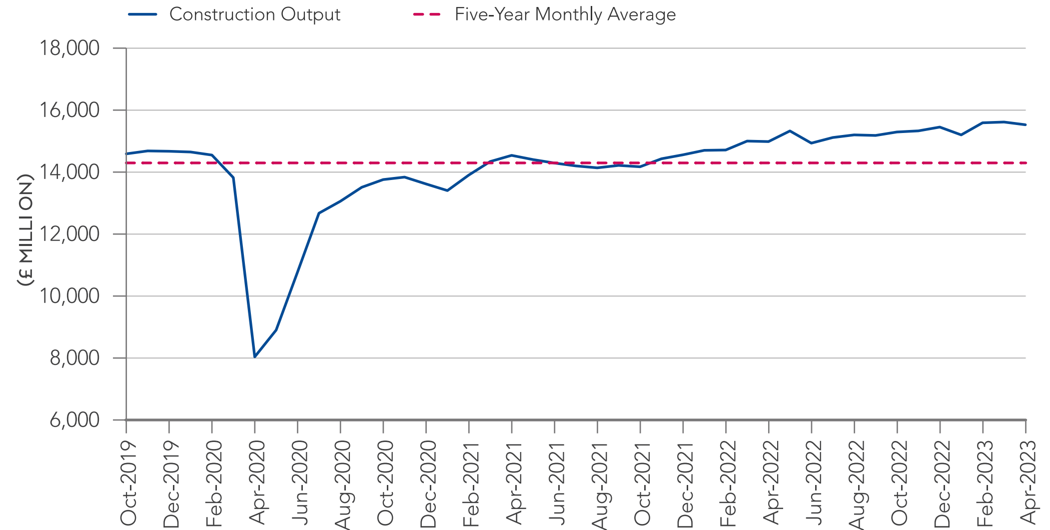
While contracting **0.6%** in value terms in April, UK construction output remains **8.8%** above the five-year monthly average figure and **6.7%** higher than before the pandemic in February 2020.

April's drop follows two months of consecutive growth. Caused by a fall in new work (**-1%**) but with a small offset from an increase in repair and maintenance output (**+0.1%**) on the month, output was dragged lower by the continued slow-down in private housing. With falling house prices and low mortgage approval rates, it'll take time before volume house-building shows signs of a turnaround. More generally, economic worries and high borrowing costs dented confidence among many big investors to request work.

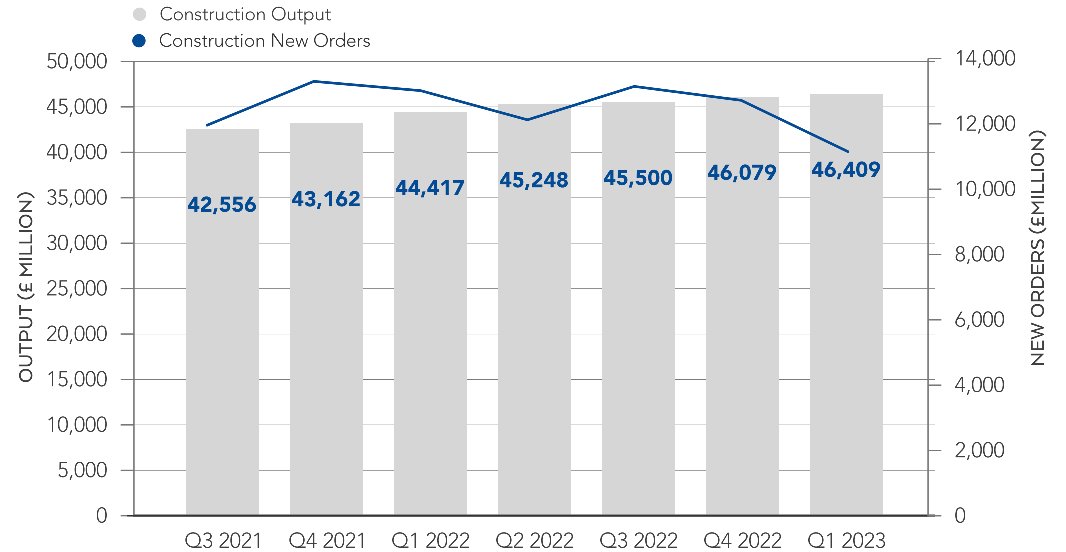
Construction output saw an increase of **1.6%** in the three months to April 2023; the increase came solely from a rise in repair and maintenance works (**5.7%**), which again prompts debate around the rate and scale of new construction projects getting underway, with new work experiencing a decrease of **0.9%**.

However, more recent sentiment-based data from June's construction Purchasing Manager's Index (**PMI**) signalled a downturn in overall construction output, but this masked divergent trends across the three major categories of construction activity. As reflected in the ONS data, the residential sector was by far the weakest performing category of activity, with output declining at the steepest pace in three years. Concerns about a subdued housing market, the domestic economic outlook, and the impact of rising interest rates have dented business expectations, prompting a downturn in business confidence for the third month running in June's PMI survey. Despite this, solid rates of output growth in the commercial and civil engineering segments are helping to offset weakness in the residential sector. Growth in these sectors helped keep June's PMI's future activity index in positive territory overall.

On an annual basis, the CPA forecasts that total UK construction output will fall by **6.4%** in 2023, according to its latest (Spring 2023) forecasts. Again, the expected contraction will be driven by sharp falls in activity in the two largest construction sectors – private new housing and private housing repair and maintenance. Total output is then forecast to recover in 2024, rising by **1.1%**, as wider economic growth boosts demand for both housing activity.



Source: *ONS*



Source: *ONS*

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Meanwhile, new order growth – a measure of the value and volume of new orders received by main contractors – dropped significantly in Q1, contracting by **12.4%** and falling below the five-year quarterly average. All sectors other than public new work (**+11.7%**) contracted Q-on-Q, led by private commercial (**-22.3%**) and new housing (**-18.5%**). An uncertain outlook carried over from last year, denting client confidence in Q1. However, as we moved further into the year the economic outlook began to improve, with bottlenecks, cost pressures on site, and materials shortages all experiencing a degree of alleviation. While the overall economic and inflationary outlook has darkened in recent weeks, creating pockets of uncertainty, client confidence has improved overall since Q1. Accordingly, new orders may make a partial recovery in Q2 2023.

G&T TPI SURVEY FEEDBACK

Workload

The construction industry is experiencing few signs of any short term drop in workloads, as contractor pipelines remain strong and ongoing projects are expected to continue being built out. However, clients are becoming increasingly concerned about project feasibility and new opportunities in some sectors have been slow to progress due to uncertainties surrounding rising borrowing costs and challenges such as planning regulation hurdles.

While projects are still being won, there have been notably fewer enquiries, requests for proposals (**RFPs**) and bidding opportunities of late. Additionally, some TPI survey respondents reported that certain schemes will likely to be paused after planning submission and will not restart until economic conditions improve and borrowing costs ease.

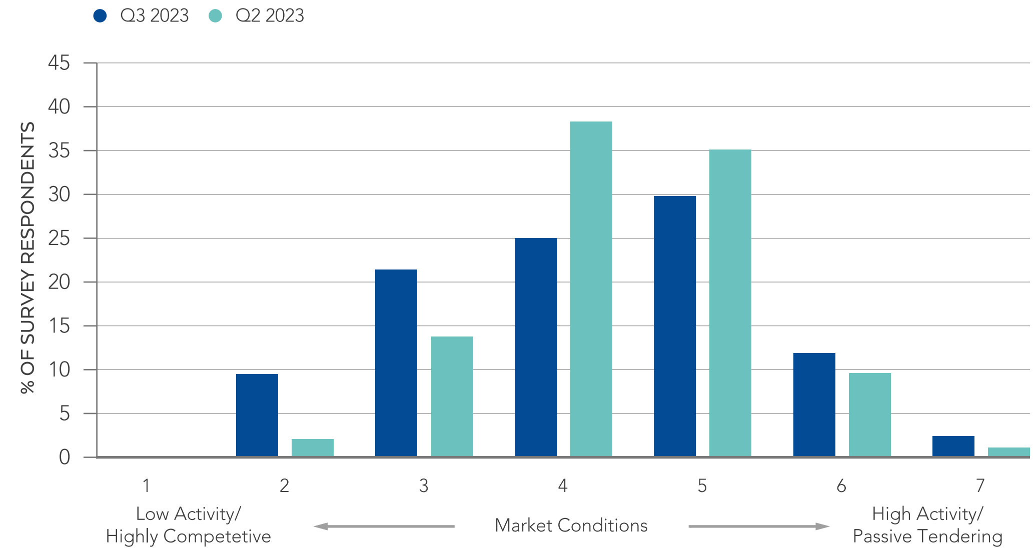
The residential sector is expected to face a protracted slowdown in the pace of construction due to rising interest rates and mortgage costs, the removal of the Help to Buy scheme and even regulatory changes to both specification and building practice. Additionally, the GLA's introduction of a mandatory second staircase requirement for new London residential buildings over **30m** has caused developers to pause residential projects as they address compliance and implementation challenges. In light of these pressures, double digit declines in output are anticipated for the residential sector in 2023 according to the CPA's latest forecasts.

Conversely, commercial office fit-out schemes committed from previous years continue to move forward, creating above average inflation in the sector. The life sciences sector is also experiencing high demand, with a shortage of research space driving developers to explore new types of facilities to meet unprecedented needs. Higher education establishments are actively pursuing refurbishment and decarbonisation projects. Similarly, the healthcare sector remains buoyant with upcoming works in the pipeline. Since many of these clients do not rely heavily on external funding, they are less impacted by economic conditions and interest rates.

Data centres are also expected to maintain resilient workloads, as the current development pipeline is insufficient to meet the forecasted increase in demand for data storage. Several main contractors have expressed their intention to focus more on this growth market in the coming years, recognising its potential.

In summary, there is a strong early interest from clients and new opportunities continue to emerge. However, the industry is now experiencing a more natural churn of projects, with new schemes replacing completed ones rather than experiencing significant growth. Economic challenges pose significant headwinds for developers, including high debt prices, falling property values, breached loan-to-value ratios and uncertainty regarding future space requirements. As new projects come to an end, these factors will heavily influence clients' decision-making and their willingness to start new projects. Consequently, more schemes may be paused or undergo scope adjustments to address these pressures and uncertainties.

Overall, clients who have secured funding are pressing ahead with their projects, while those with projects at pre-planning stage are facing greater precarity due to the uncertain economic landscape.



MARKET CONDITIONS

Respondents to our Q3 survey noted that market conditions had shifted since last quarter, with many reporting higher market activity and more passive tendering.

Market sentiment has shown a significant improvement in recent months, exceeding expectations. Nevertheless, there are certain headwinds, including rising insolvency rates and increased financing costs, that have become more prominent. Despite short-term growth prospects looking better, signs of a slowdown in construction activity are emerging on the horizon.

Some sub-sectors continue to experience strong demand and construction cost inflation has eased due to lower material prices, lifting sentiment and activity indicators into positive territory. However, there are risk factors that could hinder this positive momentum, such as stubborn inflation in the wider economy, potential global issues like geopolitical tensions and demand shifts, as well as delays in the full impact of falling raw material costs throughout the supply chain.

Insolvencies in the UK construction sector are on the rise, leading to capacity loss and reduced competitive pricing, which may cause project delays, cancellations and financial losses for various stakeholders. This situation could erode confidence, reduce investment and harm the industry's reputation. Contractors need to be proactive in managing these risks, identifying viable projects and securing repeat business to mitigate potential project stalls.

While pre-construction opportunities seem abundant, converting them into actual construction projects is challenging and many may not proceed to site. Contractors are being selective and focusing on projects with clear mandates and stable funding. Although new order growth is slowing, the current high volume of opportunities allows contractors to choose tenders selectively. However, as competition increases in the medium-term, we can expect improved tendering competition as bidding and development opportunities slow down and spaces in contractor order books open up.

INPUT COSTS

Key inflationary and deflationary pressures

A normalisation in supply conditions in recent months has helped alleviate cost pressures across the construction sector, with the rate of overall input cost inflation easing.

The latest BCIS input cost metrics show plant costs dropped significantly (**-3.5%**) between January-May and are forecast to fall even further as lower fuel/energy prices reduce the cost of operating plant on site. However, the BCIS Materials and Labour Cost Indices rose by **3.2%** and **0.9%** respectively over the period, but it's worth noting that the index figures between March and May are provisional and may change once factory gate prices and nationally agreed wage awards are published.

The BCIS Materials Cost Index began to level off in June and dipped in the second half of 2022. This was helped by a negative economic outlook, an improved balance between supply and demand and a normalisation of supply chain conditions following the initial impact of war in Ukraine. While materials prices are still expected to rise in 2023, this will likely be at a much slower rate compared to the past two years.

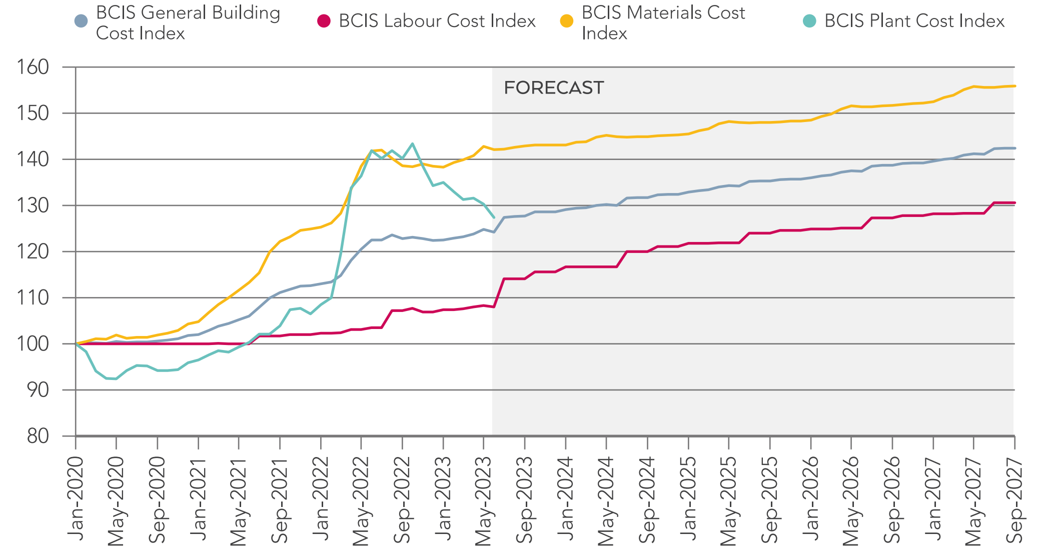
Labour is set to become the main cost driver this year. The BCIS Labour Cost index is expected to rise by **7.7%** in 2023, compared to a **5.6%** contraction in the BCIS Plant Cost Index and 3.5% for the BCIS Materials Cost Index. The long-term issue of systematic skills shortages will become a more pressing concern for clients, potentially extending lead times and forcing contractors to re-scope projects if not addressed.

Material Costs

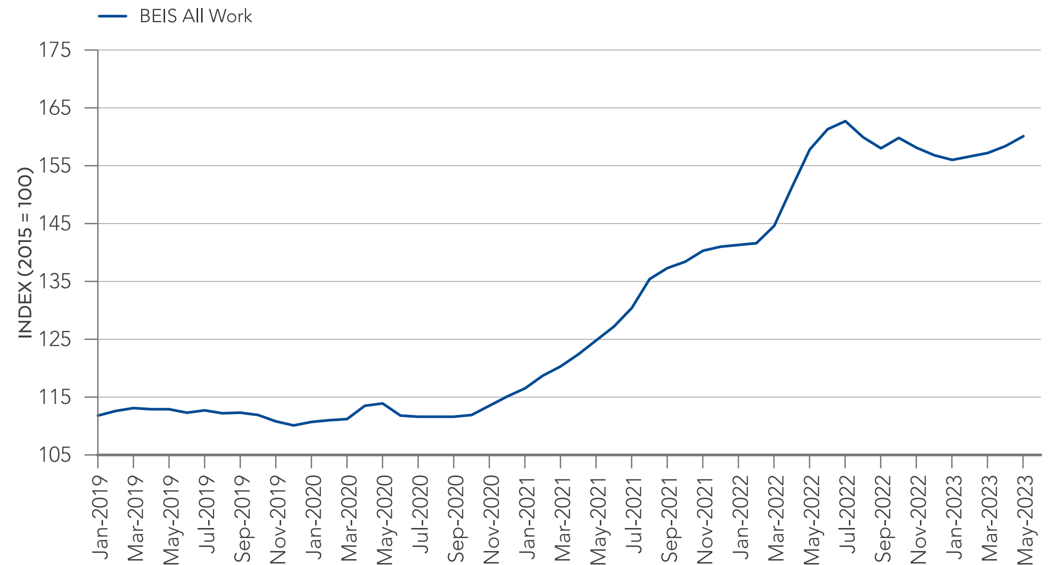
Falling wholesale energy prices and improvements in product availability following a series of supply chain disruptions have helped soften material price inflation.

According to the BEIS All-Work index (a basket of goods that tracks price movements for construction materials), material prices in May 2023 were **1.5%** higher than they were a year ago. The collective easing in the rate of material price inflation was driven by price falls for a handful of key materials, such as imported timber, structural steel and rebar – some of the most heavily inflated materials over the past in 2021/22. However, prices for some product categories (eg insulating materials, concrete/cement) are still rising.

Although volatile energy price movements remain a significant upside risk to material prices in 2023, on the demand side, economic uncertainty and a slowdown in the new-build sector cause a drop in demand for heavy



Source: *BCIS*



Source: *BEIS*

materials such as steel, bricks and timber. This has allowed manufacturers to rebuild inventory/stock levels for these products and improve the supply-demand balance.

Issues around materials shortages have largely been resolved, with availability returning to pre-pandemic levels of most materials. However, a few pressure points remain and delays therefore need to be managed for materials/products such as electronic chips, MEP component parts, insulation, sprinklers and even cladding. Overall, though, main contractors are reporting increased stability in lead times. Although very little is 'off the shelf' anymore, most materials are available providing the project cost base is correct and the design is completed early enough to allow for supply chain lead times.

Although price volatility has calmed, further hikes to materials are still an acute risk. Potential risk factors include an escalation in the war in Ukraine (causing further energy price destabilisation), rising wages pushing up the cost of manufacturing materials and increasing scrutiny from regulators with regards to how manufacturers test and market their products. Due to the effects of lags and energy hedging, it may also take some time for the benefits of stabilising material prices to fully filter through the supply chain. Furthermore, to recover past losses resulting from their inability to fully transfer the initial surge in input costs, manufacturers will also want to maintain elevated prices for as long as possible.

For now, the combination of factors that drove inflation in 2021 and 2022 appear to have passed. Energy pressures, excess demand and supply chain bottlenecks have largely fallen away. Additionally, the reopening of China did not see demand for raw commodities and materials ramp up as much as many expected. Chinese demand for iron ore and steel has collapsed in recent months, driving prices lower. Weakness in China's construction sector has also undermined other metals, such aluminium, prompting some processors and trading firms to sell inventories into a weakening domestic market rather than store it for later sale to end-users. Accordingly, aluminium prices have trended lower.

With energy prices also set to fall out of the equation, we would expect prices for many construction materials to soften.

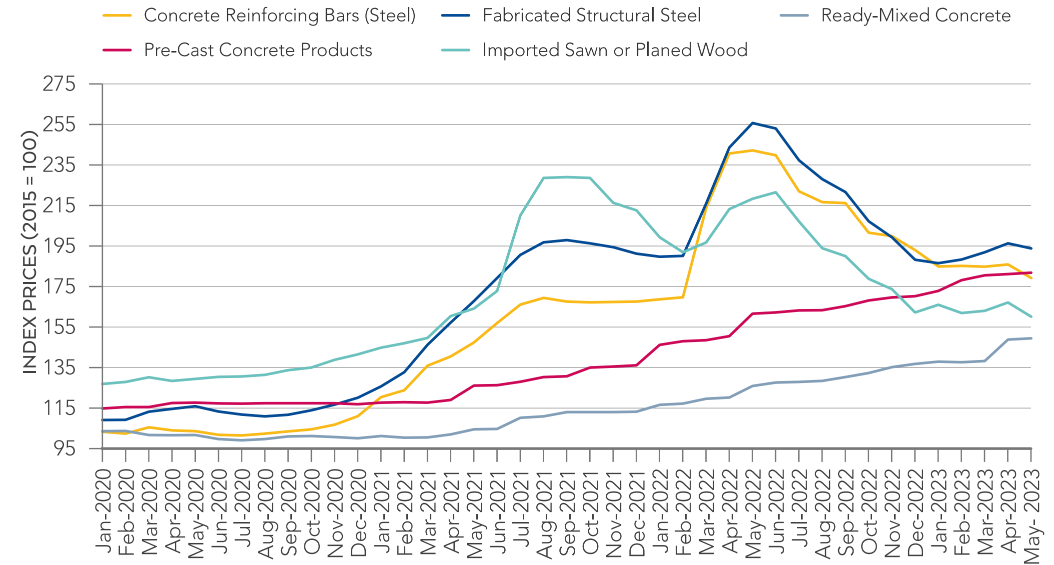
Labour

Labour supply issues and skills shortages continue to put pressure on input costs. In G&T's recent survey of main contractors, respondents explained that the decline of the Eastern European workforce post Brexit was a key contributing factor to the low levels of availability of project labour resource. Others attributed the current labour availability issues to increased staff mobility, the poaching of resource driven by supply and demand factors and pressure on wages to retain labour. The post-pandemic phenomenon of falling participation (both in terms of the ageing of the population and higher rates of inactivity among those of working age) has also tightened labour supply over the past couple of years.

For many, labour shortages have become an increasingly limiting factor to growth. Recruiting good quality candidates to fill roles has become increasingly difficult and there are growing premiums to secure certain trades and staff roles.

With availability issues compounding with cost-of-living pressures, construction average weekly earnings continue to rise. According to the ONS, construction wages were up **4.8%** in April 2023 in the year-on-year, three-month average series – still well above the long-term average annual change of **3.1%**.

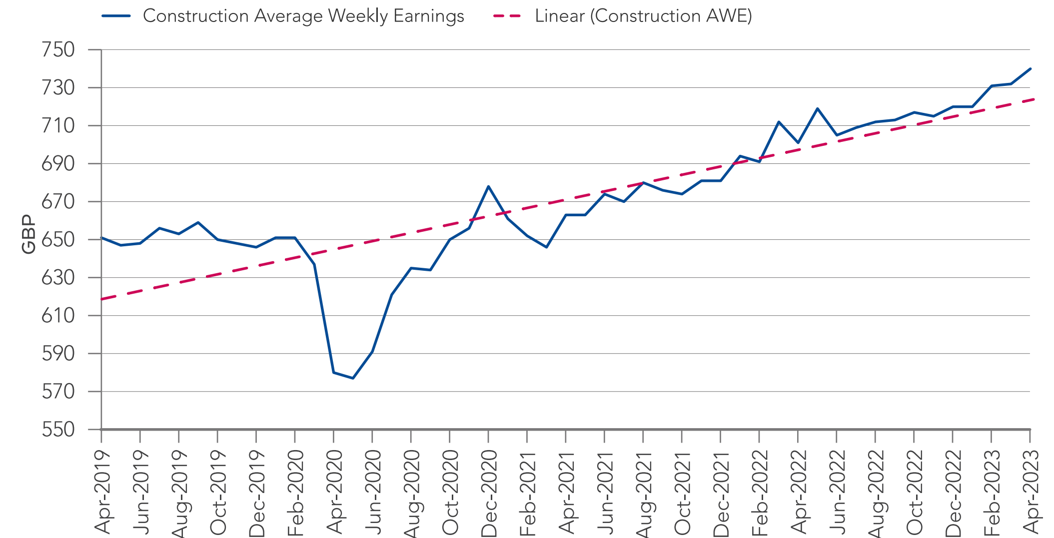
BEIS: PRICE INDICES OF CONSTRUCTION MATERIALS (UK)



Source: BEIS

AVERAGE WEEKLY EARNINGS (UK CONSTRUCTION)

Seasonally adjusted



Source: ONS

A reduction in the number of construction vacancies of late has not been enough to reduce pressure on construction earnings either. UK construction vacancies fell to **40,000** in Q1 2023 but remain significantly higher compared to historical average levels of **c.24,000** over the last 25 years.

Recruitment activity and job creation may have eased (perhaps making it a little easier to fill existing vacancies) but construction output has held up so far in 2023. Strong, current levels of activity on site, sustained high vacancies and skills shortages will continue to exert upward pressure on earnings and, in turn, tender prices as contractors pass on higher costs.

There is a possibility of some shorter-term relief to construction labour cost pressures on the horizon. The Construction Leadership Council **(CLC)** is pressing for immigration restrictions to be eased for a wider range of construction trades. An updated version of its report of shortage occupations in construction – which builds on its first report that was successful in securing the inclusion of certain occupations like bricklayers – calls for more roles to be added to the Government's shortage occupation list. Roles such as carpenters and joiners, as well as plasterers, dry liners and ceiling fixers have been included. The CLC argues that the successful execution of nationally prioritised infrastructure projects relies on filling these specific roles with workers that are inherently in short supply.

Initiatives like the widening of the shortage occupation list may help to ease pressure on wages by bringing down vacancy rates and alleviating certain recruitment pressures. If, as anticipated, output and new order growth also continue to ease, construction wage growth should return to more normal levels in the medium-term.

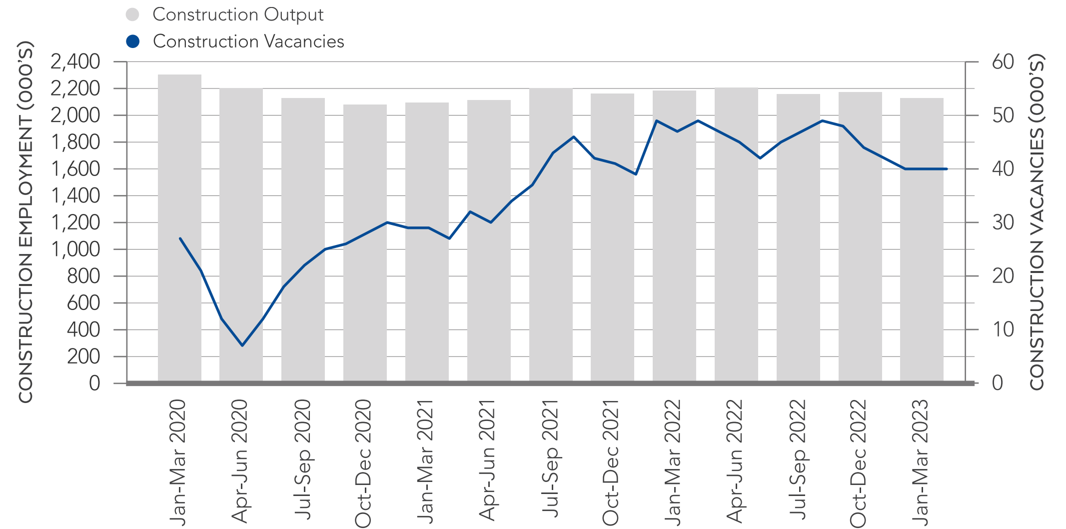
On-costs:

In 'percentage-of-total-project-cost' terms, project preliminaries saw no real change in Q2 2023, but overall preliminaries costs continued to rise due to fixed energy-related factors/ consumption on site, as well as staff wage increases. Main contractor Overhead and Profit **(OH&P)** also remained stable given that the volume of opportunities across most sectors meant that contractors could still pick and choose which tenders to pursue.

With sustained workloads at present, contractors aren't being squeezed to reduce OH&P, or even preliminaries. However, looking ahead, we would expect stiffer tendering competition as new orders ease, putting some downward pressure on OH&P. With regards to preliminaries, many anticipate that construction firms will have to compete harder for labour resource, potentially pushing preliminaries costs higher unless cooled by reduced demand.

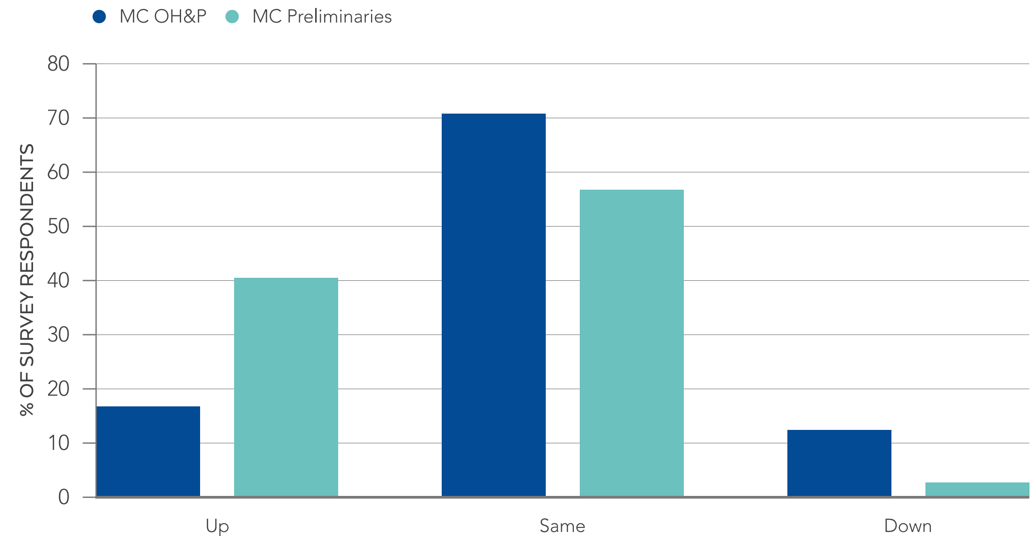
Other pressures acting to increase OH&P and preliminaries costs include rising borrowing costs, higher insurance costs, sustainability measures, and onerous Local Authority requirements. Contractors will naturally look to cover these additional costs by raising their preliminaries levels and OH&P.

VACANCIES IN UK CONSTRUCTION (SA) V CONSTRUCTION EMPLOYMENT (NON SA)



Source: *ONS*

INFLATIONARY PREDICTION FOR MAIN CONTRACTOR OH&P AND PRELIMINARIES OVER THE NEXT 12 MONTHS



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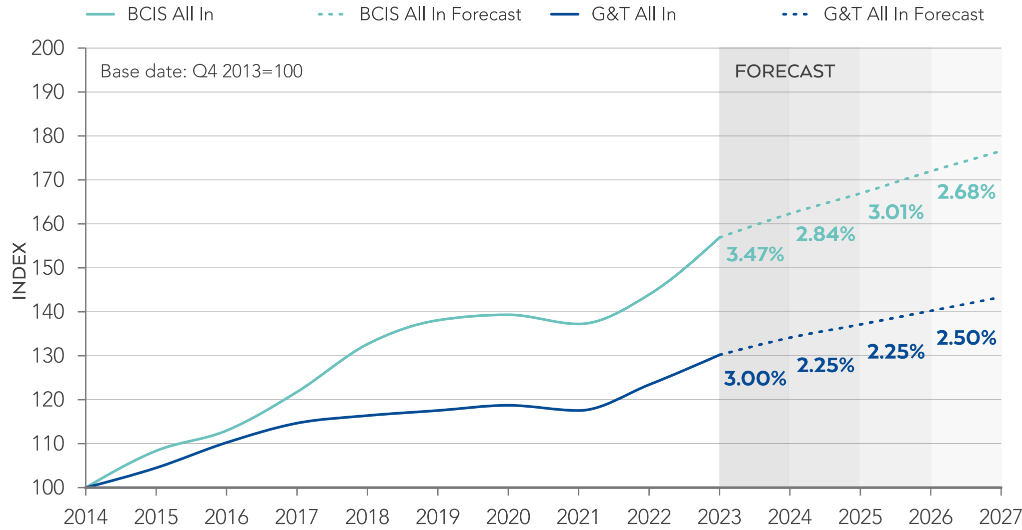
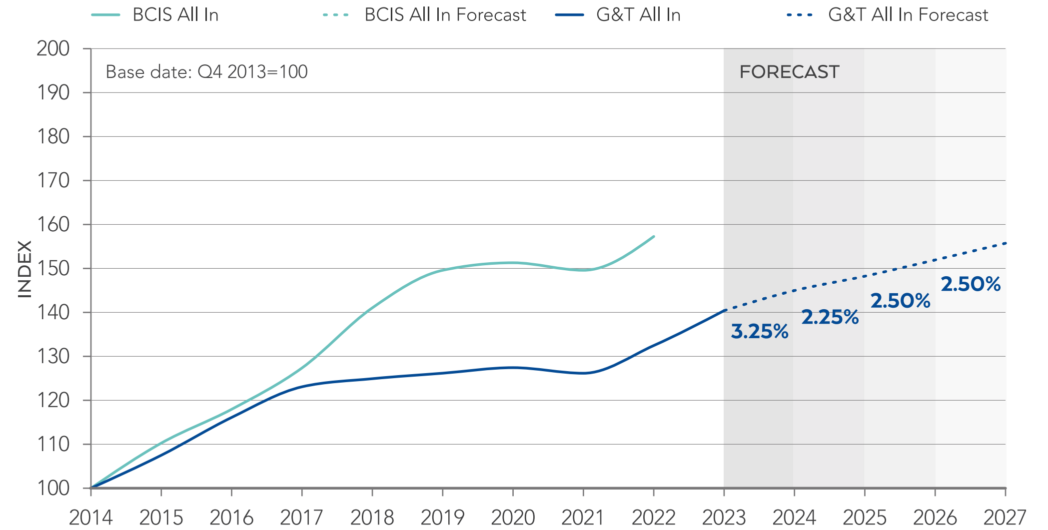
TENDER PRICE TREND 'ALL UK TPI'



TENDER PRICE TREND 'LONDON TPI'



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Yorks & Humber	2.00	2.50	2.00	2.50	2.00	2.50	2.00	2.50
North West	2.00	2.00	1.75	2.00	1.75	2.00	1.75	2.50
North East	2.50	2.50	2.00	2.00	2.00	2.50	2.00	2.00
Scotland	3.00	2.75	2.25	2.50	2.25	2.25	2.25	2.25
Northern Ireland	3.00	3.00	2.25	2.25	2.00	2.00	2.50	2.50
UK Average (weighted)	**3.00**	**2.75**	**2.25**	**2.25**	**2.25**	**2.50**	**2.50**	**2.50**

Last* **2Q23**

COMPARISON OF PUBLISHED FORECASTS FOR TENDER PRICE CHANGE

G&T UK AVER. Q3 2023	**BCIS** UK AVER. Jun 2023	**G&T** LONDON Q3 2023	**AECOM** UK Q2 2023	**ARCADIS** LONDON Summer 2023	
% CHANGE					
3.00	3.47	3.25	4.50	2.00	**2023**
2.25	2.84	2.25	3.40	1.00 to 2.00	**2024**
2.25	3.01	2.50	N/A	3.00 to 4.00	**2025**
2.25	2.68	2.50	N/A	4.00	**2026**
N/A	3.32	N/A	N/A	4.00	**2027**

Note: Arcadis' TPI figures are for its 'London Building Construction TPI' series.
Aecom's baseine forecasts are from Q2 2023 to Q2 2024 and Q2 2024 to Q2 2025

Our advice is to review each project on its own merits. This forecast publication must be treated as a guide only, being that it is based on averages of various types and sizes of projects across a region, ascertained through our latest market research. The quality, both of design and desired end product, procurement route (particularly ownership and transfer risk), delivery timescales, complexity of design and desire of contractors to tender should be carefully considered in project specific estimates and their outturn cost. Suitable allowances should be made for project specific designs, site conditions and local market conditions, which should be reviewed regularly with your Gardiner & Theobald team to determine the appropriate base cost.

GT

Infrastructure's role in

TACKLING CLIMATE CHANGE

As the global transition to net-zero emissions gains momentum, the infrastructure sector will experience big changes, ranging from the buildout of renewable-power capacity and electricity grids to the decarbonisation of existing assets around the world. In striving to meet the ambitions of the Paris Agreement, the speed and the scale of the transformation is already presenting significant capacity challenges to the supply market.

NEW TECHNOLOGIES

Carbon Capture Usage Storage (**CCUS**) is one of the technologies that can play an important role in tackling global warming.

The Intergovernmental Panel on Climate Change (**IPCC**) highlighted that, if we are to achieve the ambitions of the Paris Agreement and limit future temperature increases to **1.5°C (2.7°F)**, we must do more than reduce emissions – we also need to deploy technologies to remove carbon from the atmosphere.

CCUS is a suite of technologies that enables the mitigation of carbon dioxide (**CO2**) emissions from large point sources such as power plants, refineries and other industrial facilities, or the removal of existing CO2 from the atmosphere and storing it underground.

There are three steps to the CCUS process:

1. Capturing the carbon dioxide for storage. The CO2 is separated from other gases produced in industrial processes, such as those at coal and natural-gas-fired power generation plants, steel or cement factories.
2. Transport. The CO2 is then compressed and transported via pipelines, road transport or ships to a site for storage.
3. Storage. Finally, the CO2 is injected into rock formations deep underground for permanent storage.

Leading organisations including the International Energy Agency (**IEA**), International Renewable Energy Agency (**IRENA**), IPCC and Bloomberg New Energy Finance (**BNEF**) have all produced long-term energy outlooks that rely on a rapid expansion of CCUS to limit global temperature rise to **1.5°C**.

THE UK'S POSITION

The CCUS Net Zero Investment Road Map was published this year by the UK Government confirming commitment to carbon capture schemes:

"Carbon capture, usage and storage (CCUS) will play a critical role in the transition to net zero by 2050… The UK is a first mover; we are aiming to support the establishment of two CCUS clusters by the mid-2020s and a further two by 2030, through which we aim to capture 20-30MtCO2 per year"

This could provide opportunities for the construction industry to respond to a new market, with the Secretary for Energy Security and Net Zero announcing **£3bn** of Net Zero projects in March 2023, including the Net Zero Teesside project which G&T is currently delivering.

G&T EXPERIENCE

Net Zero Teesside will become the world's first gas-fired power plant with carbon capture and storage facilities, producing up to **860** megawatts of electricity, enough to power around **1.3 million** homes. Up to two million tonnes of CO2 emissions from the power station will be captured per year and transported offshore for storage.

It is estimated this multi-billion-pound mega project will create up to **5,500** jobs during construction with the plant coming online in 2028.

G&T is providing specialist cost estimating services to our client for the Net Zero project, as well as providing insights into the tier 2 market which is critical to successfully delivering a project of this scale.

MARKET CONTEXT

Recognising the significance of electrical and mechanical components in energy-related projects, it is important to understand how these components prices are moving in the context of the wider global market. Projects are subject to price adjustment formula, so it is vital to select appropriate indices that will be representative of commodities in their relative proportions, on which G&T can assist.

LABOUR

The graph below shows the difference between the increase costs between general construction labour and mechanical and electrical specialist labour over the past five years.

General labour increased by **12%**, mechanical and electrical labour increased by **17%**.

PRODUCTS & MATERIALS

A similar trend can be seen in products and materials used in energy related projects, the graph below details a range of specialist components and assemblies, all outstripping general materials inflation.

General construction material and plant (according to BCIS) increased by **c34%-39%** over the past five years. By comparison, examples of the specialst components which are critical to the energy sector, as listed below, have all outstripped the general materials results.

1. BEAMA Distribution Transformer - **62%**
2. BEAMA Basic Iron & Steel - **65.5%**
3. BEAMA BISPA Index for Materials - **76%**
4. BEAMA Factory Built Assembles - **93%**
5. TDE GOES Super High Grade Steel - **116%**

Understanding the materiality of these project components along with how risks and opportunities are managed is an essential part of our advice at G&T in project development and delivery.

CONCLUSIONS

There are significant supply constraints within the mechanical and electrical market - which can represent as much as **70%** of capital investment for energy programmes such as Carbon Capture.

The scale of programmes will require the expansion of current market capacity and the adoption of new delivery methods and technologies. Maximising market appetite for these upcoming significant opportunities will therefore be vital in securing the capacity needed to deliver the forecast demand, through early engagement and transparency of programmes.

With a potential downturn in traditional sector workloads given economic uncertainties, the growth of carbon capture can be a significant new opportunity.