ARCADIS

Year-End Australian Construction Market View

December 2023

Lower for longer

Overview

As domestic inflation starts to fall there is a growing belief that tough monetary medicine is working. However, the cost of success will be even greater than expected. The Reserve Bank of Australia's prognosis of 'higher for longer' interest rates to root out persistent inflation will result in weak growth between now and 2025. For growth-driven sectors like construction, prospects continue to deteriorate – at least in the short term. This outlook reaffirms our tender price forecast published in June 2023.

Deteriorating growth prospects

The precarious balance between growth, inflation and monetary policy is at the heart of our latest forecast. The Australian economy has proven less robust than previously expected, with the Reserve Bank of Australia (RBA) now predicting growth of 0.9%, compared to 1.2% in the May Forecast. However, in its latest Statement on Monetary Policy, the RBA has indicated that inflation is anticipated to reduce in line with their forecasts – around 3.25% by the end of 2024 and to be back within the 2-3% target range by late 2025. As a result, the RBA has largely retained their previous growth forecasts during this period. This outlook, the consequence of the sharpest tightening in monetary policy for 30 years, is supported by a more positive update from AI Group's Australian Industry Index, with Performance of Construction Index (PCI) indicator rising by 17 points to move into positive territory for the first time since April 2023.

Whilst CPI inflation is forecast to reach 4.1% by the turn of the year, down from 6.3% in the May forecast, inflation pressures remain sensitive to market developments. Inflation has been declining steadily since December last year, from 7.8% down to 5.4% in September 2023. Conversely, wages increased by 3.6% in the 12 months to June 2023 – with construction attracting the most significant contribution to wage growth (1.3%).

Market economists and unions expect wage growth to be between 3.5% and 4% over the year ahead, before moderating over 2024/25.

It remains to be seen whether these competing indicators and increasing wage growth will give the RBA a moment of pause as to whether they should increase inflation rates further. Table 1 highlights how RBA forecasts have changed, particularly with respect to growth and interest rates.

As the economic cycle has evolved, the interest burden has become a far more material drag on viability than inflation or resource availability. Despite growing uncertainty in the market, construction costs have not fallen and are therefore unlikely to compensate for the costs of a hike in interest rates. However, the picture remains confusing. On the one hand, yields on government bonds have reached a six year high in recent weeks as investors bet that interest rates will stay higher for longer. On the other, mortgage rates have fallen steadily since July 2023 as competition for business broke out between lenders. High finance costs mean that the RBA now forecasts that housing investment will fall by around 2.5% in 2023 but increase by 1.4% by the end of 2024 – a much lower level of expenditure anticipated for this year than was being forecast just three months ago.

Table 1 RBA Forecast February - August 2023

	RBA Feb 2023 Forecast	RBA May 2023 Forecast	RBA Aug 2023 Forecast
GDP	2023: 1.6% 2024: 1.6%	2023: 1.2% (-0.4%) 2024: 1.7% (+0.1%)	2023: 0.9% (-0.3%) 2024: 1.6% (-0.1%)
CPI	2023: 4.8% 2024: 3.2%	2023: 4.5% (-0.3%) 2024: 3.2%	2023: 4.1% (-0.4%) 2024: 3.3% (+0.1%)
Wage Price Index	2023: 4.2% 2024: 4.0%	2023: 4.0% (-0.2%) 2024: 3.8% (-0.2%)	2023: 4.1% (+0.1%) 2024: 3.8%
Unemployment	Q4 2023: 3.8% Q4 2024: 4.3%	Q4 2023: 4.0% (+0.2%) Q4 2024: 4.4% (+0.1%)	Q4 2023: 3.9% (-0.1%) Q4 2024: 4.4%
Housing Investment	2023: -1.3% 2024: -5.7%	2023: +0.2% (+1.5%) 2024: -3.0% (+2.7%)	2023: -2.5% (-2.7%) 2024: +1.4% (+4.4%)
Business Investment	2023: 3.7% 2024: 3.0%	2023: 2.3% (-1.4%) 2024: 1.9% (-1.1%)	2023: 3.4% (+1.1%) 2024: 0.0% (-1.9%)

Housing leads the slowdown

Viability and demand levels remain core themes in the housing market. Recent trading updates from house builders have done little to raise spirits, with the Housing Industry Association confirming that new starts in detached houses had fallen to its lowest number since 2012.

In terms of multi-unit and apartment developments, there were just 63,510 commencements in 2022 – a decade low – with a modest increase of just 9.7% anticipated for 2023. Perhaps of greatest concern is the number of residential builders that have gone bust over the last 12 months. In the last financial year, the Australian Securities and Investments Commission (ASIC) recorded more than 2,200 business failures in the construction sector – the most insolvencies of any industry. This includes residential builders such as Porter Davis, Pivotal Homes, Condev, and, more recently, South Australian-based builder Qattro and Chatham Homes in Victoria.

The housebuilding sector was caught unaware by sudden and significant hyper escalation that ripped through the sector in the wake of the Morrison Government's HomeBuilder payments and the global surge in demand for goods and services as pandemic restrictions were rolled back. Costs surged higher than the pricing in 2021 and largely resulted in the significant cost increases being applied in 2022 as builders tried to preserve and restore margins. Across the sector, suppliers and trades are still being squeezed by rising costs – or costs that have not fallen quickly enough – and the inability to raise their own prices further to offset those costs.

While it is still too early to predict when a recovery might start, the fact that several major lenders – including NAB, Commonwealth Bank, ANZ and Westpac – have been cutting interest rates in August and September is a good sign that some competition is being injected into a moribund housing market.

Signs of a broader slowdown?

Despite the slowdown in residential development, the total value of construction work done increased for the fifth quarter in succession to June 2023, according to the Australian Bureau of Statistics (ABS). Such resilience, presently driven by the engineering and infrastructure sectors, is remarkable considering recent traumas.

Nevertheless, there are anecdotal signs of a broader slowdown in construction emerging. The 90-day Infrastructure Investment Program Strategic Review, announced and instigated by the Albanese Government in May, has only recently been finalised. The intention of this review was to reprofile infrastructure investment over the next 10 years. The review recommends the cancellation of 82 projects. Construction has not yet started on these projects, and while it is disappointing to see major infrastructure projects canceled, it does provide welcome clarity to the industry following months of uncertainty. However, the cancellation of the Commonwealth Games in Victoria earlier this year and plenty of evidence suggesting that many private sector projects are struggling in terms of viability - it is increasingly clear that there are still significant pressures across the industry. As the pipeline contracts, the prospects of a long-predicted slowdown in construction activity become inevitable.

It is important not to over read a single data point, but the apparent slowdown in private sector investment is definitely a watch-out and shows that no sector is immune to a reduction in demand. However, there is a balancing factor here. Current projections indicate a rapid rise in public sector spending over the next few years, particularly in the social infrastructure sector. New South Wales, Victoria and Queensland are all embarking on more expansive programs of investment in health and education over the next five years and beyond, and this is likely to soak up any capacity that remains and offset the slowdown in the private sector.

Signs of an industry response

Sands appear to be shifting across the construction landscape, with a mixed bag of trading updates, evidence of restructuring and a disturbingly high level of business failures.

The latest data from ASIC shows that there have been 1,840 insolvencies across Australia this year through to the end of September. There were 704 business failures in construction across Australia in the third quarter of 2023 - the highest quarterly total over the last decade. The collapse of several major builders has taken substantial capacity out of the sector, particularly when you consider the knock-on effect to trades and suppliers and the levels of debt that they are exposed to. Many of the builders and construction services companies that have gone into administration over the past two years have been broken by inflation in 2021 and 2022.

The latest RBA data indicates that 30% of large residential builders are experiencing negative cash flow – meaning that costs are outstripping revenue. Hutchinson Builders, with an annual revenue of $3Bn, believe that the RBA's assessment underestimates the problem. Most builders are citing inflation on fixed price contracts as the main trigger. This situation worsens when you consider regional markets where capacity is limited and builders are competing for resources. Meanwhile, other contractors have initiated restructuring as firms target greater efficiencies and focus on sectors with a greater potential for growth. Such changes are not just confined to the main contractor / commercial market either, with house builder Metricon laying off almost 10% of its workforce late last year as it turned its focus to construction and delivery at the expense of its sales and marketing divisions.

All these measures highlight a construction sector that has endured tough times and is battening down the hatches as storm clouds gather. Our view is that it is unlikely that contractors will expose themselves to too much risk through low-ball pricing, even as markets slow in the short-term.

The Arcadis Forecast

We anticipated a significant slowdown in work and opportunity in our most recent Half-Year Market View. Uncertainty in the short-term remains a hallmark of the construction sector, although current workload remains resilient. Wages pressures are becoming the main inflationary driver and are fully priced into our forecasts.

Low growth outlook dashes hope for mid-term recovery

In our Half-Year 2023 Market View, we downgraded our forecast based on a deteriorating outlook – particularly in terms of inflation and the pathway for long-term interest rates. We asked whether the construction sector was heading towards a capitulation, a tipping point where present market conditions for workload, employment and prices can no longer be maintained.

The implication of a tipping point is that previous assumptions about behaviours, particularly with respect to contractor work winning and pricing practice needs to be revised. At present, we continue to expect that contractors will continue to price work prudently, with appropriate allowances for profit and risk. Should market conditions continue to deteriorate, it is foreseeable that some contractors and trade contractors will reduce prices to secure work in competitive tenders. We have not yet reached this point but have come closer because of recent market trends.

Despite this, the paradoxical strength of the Australian economy remains a problem, with short-term resilience potentially triggering further interest rate hikes which in turn weaken future growth prospects.

A dynamic growing economy and a healthy construction market go hand-in-hand. Businesses and families need to be confident to invest in homes, factories and plant – but increasing costs and high levels of inflation are putting pressure on this confidence.

As highlighted in the Overview, economy-wide constraints affecting Australia must be eliminated to create spare capacity to enable inflation to return to target. This includes levels of employment and investment as well as consumption. The RBA's November update is a tacit admission that more pain is required if spare capacity is to be created to eliminate inflation. For a cyclical industry like construction, this could spell trouble. Even as industry workload and sentiment remain steady, the foundations for future workload and prosperity are being undermined.

Material costs - don't believe the hype

Material costs are finally falling after two years of punishing price hikes. Currently, most of the deflation is transitory – e.g. driven mainly by falling energy prices rather than wider market factors. In our analysis, we highlight that manufacturers in the aggregate absorbed more inflation than they passed on to clients, and that energy price risk remains a significant issue.

Manufacturers are likely to bake in, through hedging, current wholesale energy costs that are twice as high as pre-Covid levels rather than remain exposed to global shocks.

There has been a consistent narrative within the market that material price escalation has now exacerbated and has returned to pre-Covid levels. While material prices have indeed fallen, they still largely remain elevated when compared with the long-term trend. So do not be fooled by the hype that material costs have 'returned to normal'.

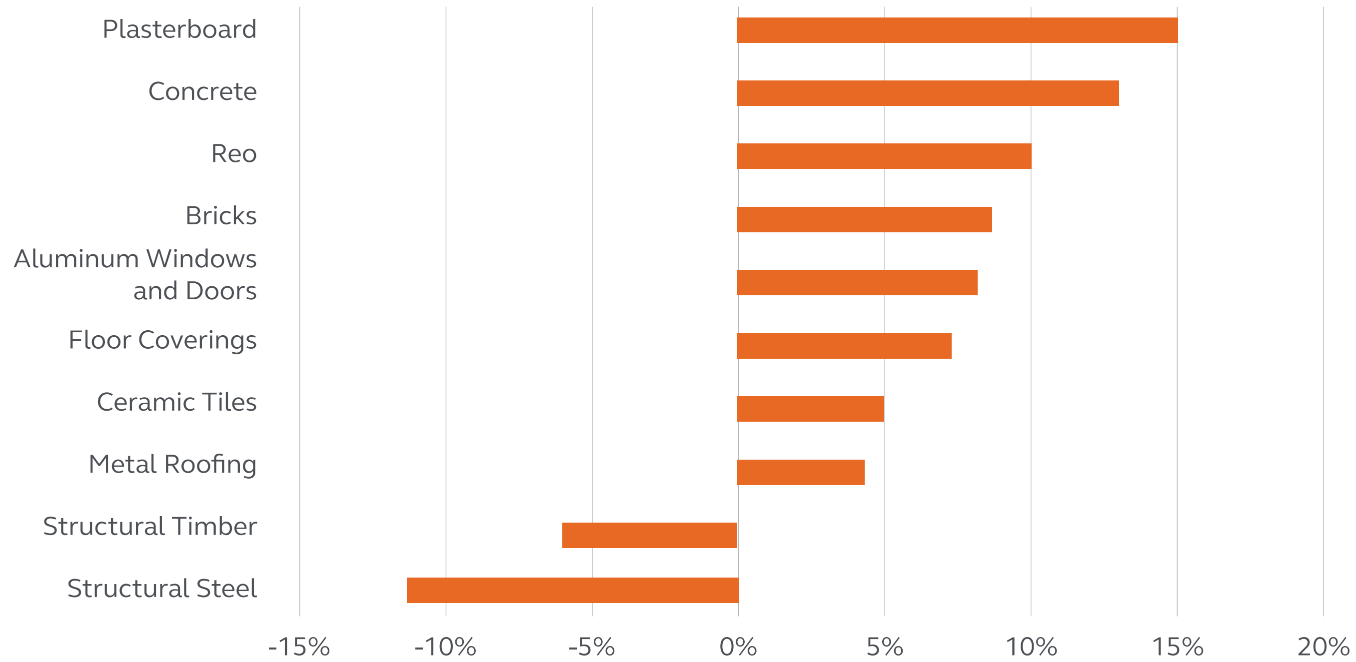
The elimination of material price risk, which we anticipate will occur over the next 6-12 months, will be a positive development for clients and contractors in that it will remove some of the need for large risk allowances that have had a negative impact on project viability and contractor liquidity.

Labour costs - no room for complacency

Our long-term view on construction market inflation has been informed by an expectation that labour costs would become an increasingly significant component, as labour scarcity bites and the direct labour model reduces the flexibility available to employers with respect to employment costs and utilisation.

In an unexpected development, Australia's construction workforce has increased by 150,000 workers since November 2021.

Chart 1 Material cost change over 12 months (to Q2 2023)



Source: Arcadis | ABS | Oxford Economics

This equates to labour growth of 13%, which is in stark contrast to 2020 and 2021, which saw a decline in the labour force of almost 36,000 (a loss of 2.8%). The total construction labour workforce now weighs in at about 1.3M workers, making it the largest it has ever been. Our interpretation is that the increase is most likely due to a return of workers into formal employment as other opportunities have dried up. However, our view is that this does not necessarily represent an increase in capacity, largely as productivity has continued to decline substantially during the last decade.

During the pandemic, rates for self-employed operatives shot up, particularly for trades associated with the booming housebuilding sector. Over the past 12 months the rate of increase in site rates has moderated. By contract, directly employed labour rates are set to increase substantially over the next few years as the latest EBAs come into force. Another area of great concern is associated with the professional, technical and scientific grades, where employment has increased by around 20% since the end of 2018. There is huge competition for these resources across many sectors and, as a result, pay has increased by 4% during the last 12 months. This compares against the longer-term wage growth trend of 1.6% per annum. This will impact contractors, consultants and other advisors, as the war for talent takes another twist.

Earnings are now beginning to show early signs of increasing at a rate that matches or is above inflation, and with mortgage cost hikes rippling through the economy, we remain cautious with respect to the changes of a labour cost-led correction in construction prices.

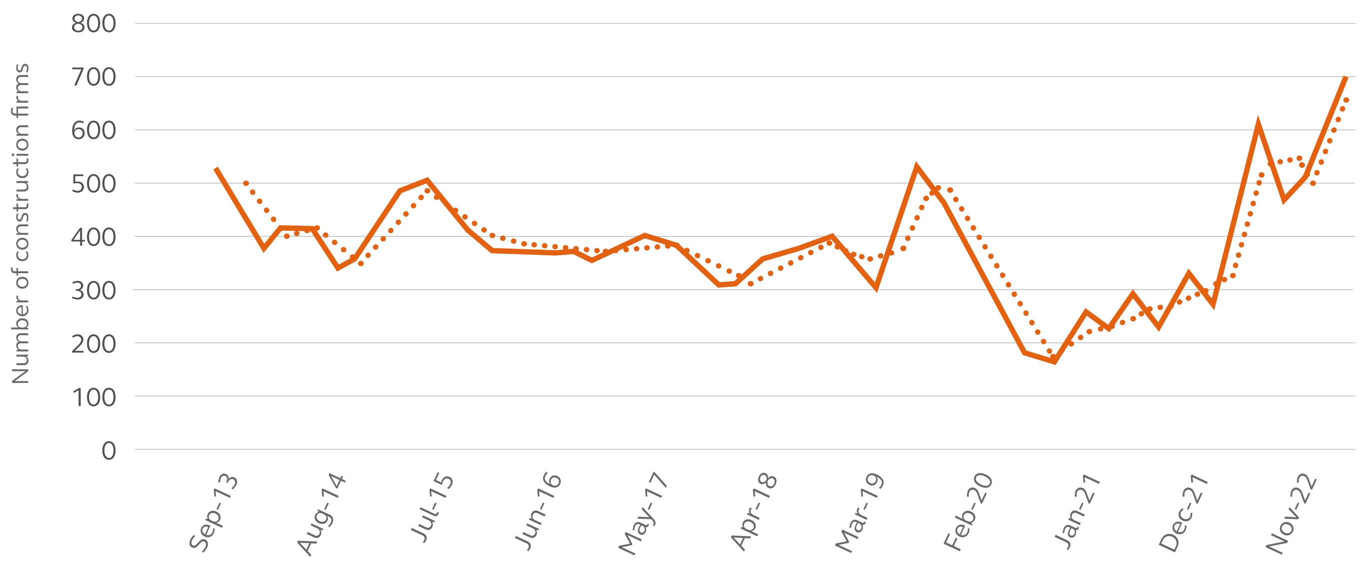
Some trades associated with housebuilding may benefit from falling day-rates, although this is likely to involve a return to typical earnings rather than a substantial rebasing.

Insolvency - a crisis of capacity?

Our Overview highlights the significant increase in insolvency numbers that has taken place in the past 18-months. Business failures in the sector are on an upward trend and are well above levels last seen after the global financial crisis in 2010 and 2011, as outlined in Chart 2. The failures of ProBuild and Grocon have taken two general contractors out of the market, with both having a significant knock-on effect as their supply chain absorbs losses on millions of dollars of unsecured credit. The Australian Constructor's Association's (ACA) latest report, 'All Risk, No Reward', paints a bleak picture in that more than half of all major builders are now carrying liabilities that are more than current assets – a technical definition of insolvency. This is emblematic of an industry that is exposed on a broad front to low margins and unpredictable cash flow and consequently exposed to a greater risk of failure as turnover falls. The sustainability of the contractor model is also likely to come under greater pressure in coming years as higher costs of finance take their toll.

The implications of this for the forecast is that industry capacity may continue to contract as workload shrinks. In turn this could create conditions for either upward or downward pressure on pricing. The outlook is far from clear, even as the slowdown accelerates.

Chart 2 Construction Sector Insolvencies



Source: ASIC

Since the publication of our June 2023 construction forecast, conditions for our markets have deteriorated. Borrowing costs have increased substantially over and above base rate hikes and are expected to remain high for the next two years to help eliminate persistent inflation. As the RBA reserves to keep its powder dry in terms of unleashing further firepower in order to create slack in the economy, our conclusion is that prospects for the investment economy including housebuilding and commercial development are likely to be further downgraded.

Forward pipeline is strong and resilient

Another factor that further points to the juxtaposition of the construction sector is the fact that the forward pipeline remains relatively robust, with more than a decade of planned investment in transport, social infrastructure, and energy transition across multiple states. Despite the current slowdown, the robustness of the future pipeline has improved long term confidence and sentiment across the industry. It is currently anticipated that the next surge of construction activity will start to hit the sector in the latter half of 2024 and build from there. Until then, it's a waiting game.

In the meantime, coupled with a reduction in market capacity due to soaring insolvencies and a worsening labour crisis, builders remain relatively busy and are being extremely sensitive and selective about which projects they price. In view of the downgraded forecasts published earlier this year we retain our view on price inflation across building and infrastructure in 2023. We highlight that there is a slightly negative outlook for prices in 2024 but retain our projection beyond this in advance of seeing further market-backed evidence of correction. Our central prediction for the period 2024 to 2025 remains low inflation, not deflation. However, in the light of worsening data, particularly in connection with the housebuilding sector, we highlight that there is now a material downside risk to a competitive price correction.

Our unchanged June 2023 forecast is set out below:

- We have extended our forecast for Buildings and Infrastructure through to 2027. In reviewing our projections for Infrastructure, we have now, for the first time, provided individual forecasts for Heavy Civil and Rail Infrastructure.
- Looking forward to 2026 and 2027, we set-out long-term inflation expectations across all sectors in recognition of the likely upward pressure on labour markets and earnings.
- 2022 Buildings cost escalation has been updated in line with the latest ABS data. Broadly, actual cost escalation was significantly higher than what was previously forecast.
- We anticipate that Buildings cost escalation in Brisbane will start to significantly outstrip other cities due to a combination of a shallow supply chain, reducing capacity, and a heavy pipeline of work associated with social infrastructure, transportation, and 2032 Games assets.
- Buildings forecasts for 2023 have been retained.
- Buildings forecasts for 2024 and 2025 in Brisbane and Melbourne have been increased due to the anticipated increase in workload associated with government expenditure.
- With the Labor Party now in control of State and Federal Governments across Australia, trade unions are beginning to show signs of pushing boundaries when it comes to worker pay rises. It is currently anticipated that wage increases from August 2023 could peak at 25% over the next three years (excluding allowances and penalties). This anticipation has significantly impacted forward-look assessments.

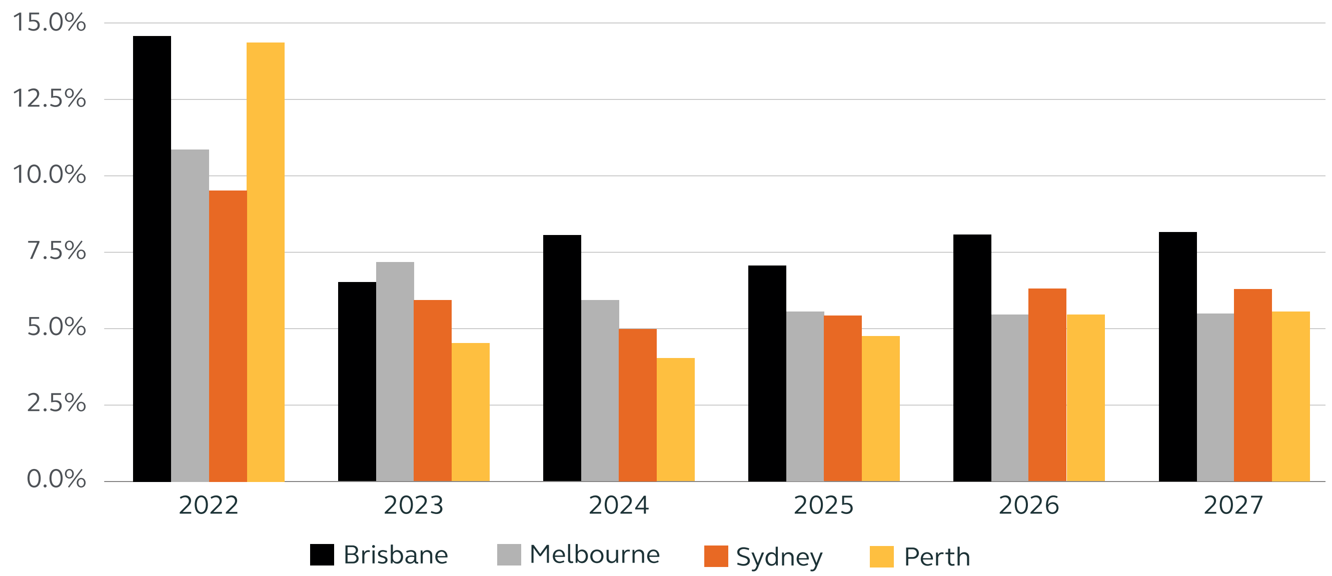
The forecast has three major components, in line with our June 2023 projection:

1. Input cost inflation affecting labour only will continue to result in higher construction costs, even as workload falls.
2. Material cost escalation has not yet evaporated, and this will continue to impact construction costs for at least another six months.
3. Infrastructure will continue to be affected by materially-higher inflation than for buildings, enabled by cost-reimbursable contract models as well as competition in the resilience and energy transition sectors.

Inflationary Factors	Deflationary Factors
High levels of workload	Structural deflation after 2022 peak
Sector-specific demand	General economic slowdown
Core inflation	Order book replacement in commercial and residential sectors
Labour and skills shortages	Lower fuel costs
Wage increases due to union pressures	
Loss of industry capacity	

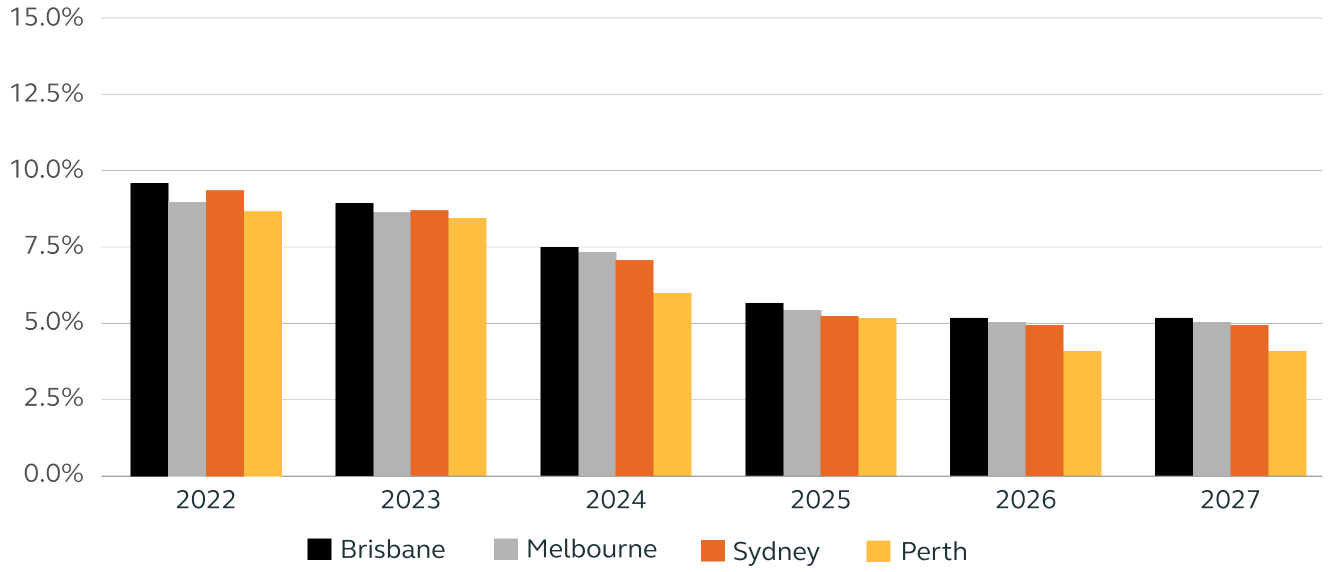
Arcadis Buildings Cost Escalation Forecast

	Brisbane	Melbourne	Sydney	Perth
2022	14.3%	11.6%	9.8%	14.4%
2023	6.9%	7.2%	5.9%	4.8%
2024	7.8%	6.0%	5.0%	4.2%
2025	7.2%	5.4%	5.2%	4.8%
2026	7.9%	5.5%	6.4%	5.4%
2027	7.9%	5.5%	6.4%	5.4%
Total	**52.0%**	**41.2%**	**38.7%**	**39.0%**



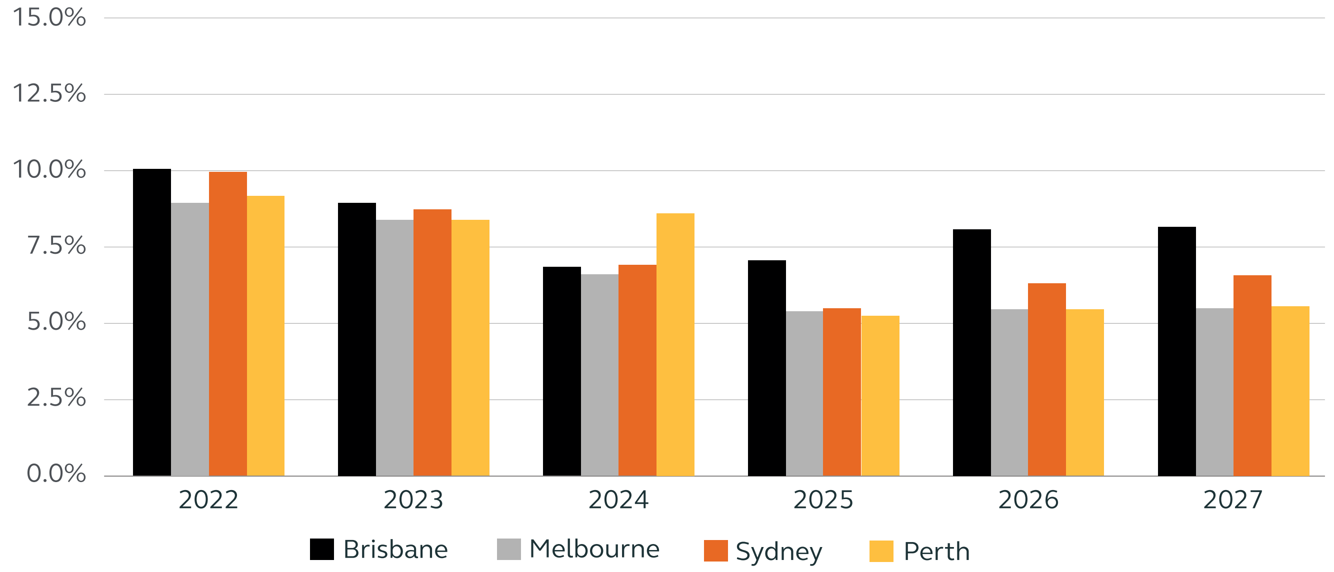
Arcadis Heavy Civil Infrastructure Cost Escalation Forecast

	Queensland	Victoria	New South Wales	Western Australia
2022	9.8%	9.4%	9.6%	9.2%
2023	9.3%	9.0%	9.1%	8.8%
2024	7.5%	7.2%	7.1%	5.9%
2025	5.8%	5.6%	5.4%	5.0%
2026	5.1%	5.0%	4.9%	4.2%
2027	5.1%	5.0%	4.9%	4.2%
Total	**42.6%**	**41.3%**	**41.0%**	**37.3%**



Arcadis Rail Infrastructure Cost Escalation Forecast

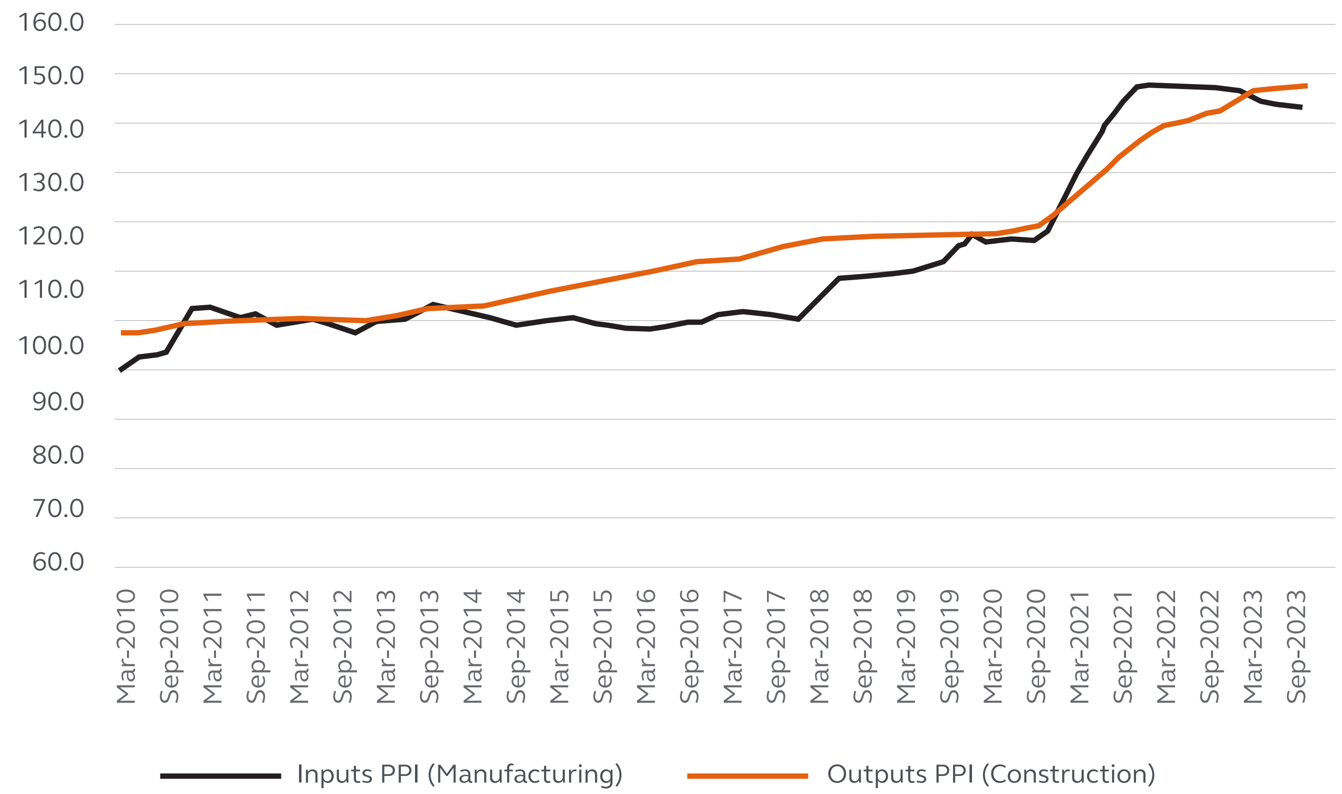
	Queensland	Victoria	New South Wales	Western Australia
2022	10.1%	9.2%	10.0%	9.3%
2023	9.2%	8.5%	9.1%	8.5%
2024	7.0%	6.8%	7.1%	8.2%
2025	7.2%	5.5%	5.8%	5.3%
2026	5.5%	5.5%	5.5%	4.2%
2027	5.5%	5.5%	5.5%	4.2%
Total	**44.5%**	**45.6%**	**43.0%**	**39.5%**



Zoom into:
Materials inflation risk

The dominant feature of the construction inflation environment since 2020 has been the cost of materials. Recent figures suggest that the tide has started to turn. Trading updates from across the sector highlight that materials price inflation is moderating. Is this a temporary, demand-led reversal or the start of a return to long-term stability?

Chart 3 Australia Input and Output Producer Price Index (PPI) Values



Source: ABS

Input costs

Commodity prices have had a big role to play in the inflation story. Globally, market conditions were benign in the years leading to 2020 but metals and minerals prices rose by about 40% after the initial lockdown period in 2020. Gas and electricity costs in Europe increased by much more than the global trend due to the Ukraine crisis and remain at double the levels seen before 2020. Prices for both energy and for metals and materials have levelled off since the start of 2023, albeit at materially higher price levels.

Greater stability in global markets has already been reflected in the Australian manufacturing sectors. Overall, the costs of manufacturing inputs fell by 2.5% in the year to September 2023. This is an accelerating trend, and the current negative growth rate is the lowest since March 2015. The main driver is a near 40% fall in the price of crude oil in the last 12 months.

Lower prices only matter if they flow into the wider economy. Australian terminal gate prices appear to have eased slightly in the last month on the back of falling gas and oil prices. This has been reflected in a slight reduction in average petrol and diesel prices across Australia.

Further, and notwithstanding the horrible impact of the unfolding human tragedy in the Middle East, the impact of new hostilities do not appear to have had a material impact on global oil prices…yet.

Are construction materials prices falling yet?

As highlighted in our introduction, construction output has been forecast to fall in 2023, even as the Australian economy continues to remain resilient. Pricing of construction materials is therefore much more likely to be exposed to demand-led deflation as well as repricing enabled by falling input costs.

Latest data from the ABS shows that input prices to housing construction remained steady in the September quarter following 16 consecutive quarterly price rises since December 2019. Prices rose in other materials and ceramic products but were completely offset by price falls in structural timber and steel products. Prices for reinforcing steel and timber have been falling for some time, but has, up until now, been offset by increases in other categories including insulation materials. However, in the past three months there has been very little upward inflation whilst downward pressure has remained on rebar and so on. The one exception is ready mixed concrete, which is up 13% in the year.

Have costs reached a new baseline?

Between 2018 and 2020, the price of construction materials increased at 1-2% per annum. Materials were the stable part of the price equation. Margin, risk and labour costs were far less predictable. Since June 2022, prices have returned to a more stable trajectory, albeit with more fluctuation as categories like insulation and rebar have shot up and down in price. Looking forward, have prices reached an equilibrium? Could they fall? Or worst of all, could there be a price hike around the corner?

There are several factors that could influence the future trajectory. The first centres around energy. Europe's globally sourced LNG imports are far more sensitive to supply disruptions. Natural gas prices surged 40% in early August at the prospect of strikes in Australia. Goldman Sachs – a leading bank in commodities – has warned that European prices could double or even triple this winter. And make no mistake, this would impact the Australian economy.

By contrast, the risk of a spike in demand for commodities from China has dissipated. Quarter on quarter growth fell to just 0.8% in Q2 2023 and exports in July 2023 fell by 14.5% year on year. A weaker Chinese economy places less competition on supplies of natural gas and on goods such as steel, which should help further quell price pressures elsewhere.

In conclusion, most of the transitory effects of energy cost reductions have passed through the materials supply chain, but not all the price hikes were passed to clients in the first place. With commodity markets stable and with wages anticipated to start increasing faster than background inflation, manufacturers will be careful to defend current price levels rather than engage in repeated rounds of discounting during an extended slowdown. With continuing risks around energy prices, clients should take the discounts where they find them, but not bank on falling material prices as a panacea for strained capital budgets.

Bringing into focus: Construction markets by state

While there are many factors impacting the construction industry across Australia, each state continues to face local challenges as well as opportunities.

Queensland

- Queensland is embarking on a new cycle of construction activity fuelled by a growing population, an ambitious net zero transition, and the 2032 Olympic and Paralympic Games. Hospitals, schools, sports venues and stadiums, and energy transition projects. It's all seemingly happening in Queensland and will be for much of the next decade. The construction pipeline is now at an unprecedented level and far beyond the capacity of the market to service it.
- However, the regional outcomes are varied as more than 50% of the current pipeline is concentrated in the Brisbane Metro and South East Queensland areas. According to the Queensland Major Contractor's Association (QMCA), the bulk of construction work outside of this area is largely unfunded, which raises an element of pipeline risk for regional areas.
- Since April 2022, the construction labour force in Queensland has been steadily increasing adding more than 51,000 workers through to August 2023, building to a total labour force of circa 293,000 workers. This is encouraging but is anticipated to be a relatively short-term trend, with the increase largely attributed to inter-state migration from Victoria and New South Wales.
- Looking forward, it is anticipated that a further 33,000 works on average will be required from now through to the end of 2028 to deliver the current pipeline. To put this in perspective, the total labour force in 2028 would need to be somewhere in the region of 424,000 workers, equating to an increase of 45% over the next four to five years. New South Wales achieved this between August 2021 and May this year, increasing their total labour force by 40%. It remains to be seen as to whether Queensland can achieve the same feat.
- Regardless, the main contractor and subcontractor pools remain relatively fixed despite the increase in labour. There are only so many contractors and trades available to deliver the project pipeline and many of these are already engaged in extensive procurement or pre-construction activities. It will be this lack of depth in the market that will continue to drive construction costs in an upwards trajectory, and this is what has been reflected in our forecast.

New South Wales

- In September the Minns Government released its first budget. Despite a level of economic uncertainty and several global headwinds, the budget pledges $72.3Bn on infrastructure spending over the next four years. The highlights include:
  - $13.8Bn to deliver health facilities across the state including new hospitals.
  - $7.9Bn to deliver Sydney Metro to Western Sydney Airport, with six new stations to service the future Western Sydney International Airport.
  - $3.5Bn to deliver 15 new schools across the state, as well as the upgrade of nine existing schools.
  - An additional $1Bn investment in Sydney Metro City and Southwest.
  - $307M for a rapid bus network in western Sydney.
- The private sector has been impacted the most by recent construction cost increases, meaning that many projects have now become unviable. Risks only increase when developers have to allow for extended planning periods, which only serve to increase uncertainty and the impact of market volatility. Investors have therefore been reducing capital spend, while others have refocused their efforts on asset repositioning. This was certainly the theme that was first explored in the Arcadis International Construction Index that was released earlier this year.
- Between May and August 2023, New South Wales construction workforce reduced by 5% (circa 21,500 workers). While this is a concern we shouldn't panic just yet as the workforce increased by more than 6% (circa 25,000 workers) in the previous quarter. The broader concern is the projected demand. According to Infrastructure Partnerships Australia, the infrastructure labour force in New South Wales will need to grow by 56% by 2024, with rail and social infrastructure underpinning much of this demand.

Victoria

- As well as the perceived embarrassment on the world stage, the cancellation of the Commonwealth Games has created a significant level of market uncertainty. A balancing factor to this is that it has also improved regional market capacity constraints. In addition, the Melbourne Airport Link has once again been paused as part of the Federal Governments 90-day infrastructure review.
- The commercial office development pipeline in Victoria is smaller in 2023 compared with previous years, indicating that there may be future issues with supply. For now, there is evidence of a 'flight to quality' in the Melbourne CBD with prime assets in high demand despite rising vacancy rates and recent additions to the market.
- Construction activity in Victoria has been slowly increasing since 2014, forming a steady boom period between 2018 and 2022. Despite the impediments of lockdowns during the pandemic, overall activity was elevated and was indeed one of the highest and most consistent in Australia. This demonstrates how resilient the Victorian construction market can be when it faces adversity.
- Looking forward, construction activity across the state will increase significantly from 2025 through to the end of the decade. It is anticipated that construction activity will eclipse $70Bn per year with more than 20% of this spend comprising major projects. A further challenge is the available workforce to deliver this pipeline of work – which is very much the same challenge that is being seen in other states. Victoria's labour force reduced by 11.5% (or 43,500 workers) since February 2023.
- Victoria remains an extremely challenging market due to a combination of challenges such as a reducing workforce, elevated construction costs, rising insolvencies and increased short-term uncertainty.

Western Australia

- Western Australia continues to be a relatively turbulent market with patches of volatility and uncertainty that seem to follow one another. This makes it extremely challenging to predict market responses and the impact on future construction costs.
- Commodities still reign supreme, and the mining sector continues to plunder the industry for materials and workers, creating a two-speed labour market in the process. In addition, $10Bn is being spent on public infrastructure projects, which only serves to absorb the available labour force.
- This is squeezing the private sector considerably and developers are now struggling to secure suitable contractors to deliver their projects. The apartment sector is struggling to cope under this pressure and this only adds to the deepening housing affordability crisis.
- The Cook Government announced a new Construction Migration Office earlier this year. This is a new service providing comprehensive support for employers in the building and construction sector looking to hire skilled migrants.

Spotlight on:

Overcoming the construction cost conundrum

The construction industry is confronted with a range of challenges, including poor productivity, escalating material and labour costs, increasing industry insolvencies and reducing market capacity. To address and offset these challenges, it is crucial that the industry wakes up and adopts appropriate solutions. In this article, we will explore insights and recommendations from various sources to tackle these obstacles and pave the way for a more resilient, sustainable and efficient construction sector.

Investing in digital skills and embracing technology

The construction industry is notoriously poor and slow at embracing and adopting new technology and digital solutions. According to Deloitte's March 2023 report, The State of Digital Adoption in Construction, the most common barrier to adopting digital technology was found to be a lack of digital skills in the workforce, followed by uncertainty about future skills and capability and a lack of investment. Building Information Modelling (BIM) continues to be rolled out as a solution to solve many of the industry's ills, but adoption is slow and utilisation throughout the supply chain remains a prevailing challenge. When utilised and invested in appropriately, BIM allows stakeholders to collaborate, identify clashes and optimize designs before construction begins, reducing errors and rework. Real-world examples of successful BIM implementation include the Shanghai Tower in China, where BIM was used to coordinate complex building systems, resulting in smoother construction processes and improved project outcomes.

Additionally, the use of drones in construction has gained momentum. Drones equipped with cameras and sensors can capture aerial imagery, collect data and monitor construction sites. This technology allows for more accurate site surveys, progress tracking and safety inspections. In partnership with Niricson, Arcadis has recently launched its Bridge Health service offering. This combines advanced AI and machine learning with drones and robotics, computer vision and acoustic technology to improve and digitize the inspection process of bridges to inform maintenance regimes that are targeted and efficient. As well as improvements in safety and speed, there are significant sustainability benefits too. By eliminating unnecessary interventions, carbon emissions are reduced from the lack of need in transporting large amounts of equipment to and from the bridge. Keeping the bridge open while the inspections take place also means more efficient traffic routes and the avoidance of congestion that would otherwise result in car emissions as they sit static with the engine running.

Moreover, the Internet of Things (IoT) is transforming construction processes. IoT devices, such as sensors and wearables, can monitor environmental conditions, equipment performance and worker safety. For instance, Triax Technologies developed a wearable device that tracks worker movements, detects potential hazards and provides real-time alerts, promoting a safer working environment. The adoption of IoT in construction has the potential to enhance productivity, reduce costs and improve overall project efficiency.

By embracing these disruptive technologies, investing in digital skills and capability, and leveraging digital transformation, the construction industry can address challenges, streamline processes, and achieve better project outcomes.

Adopting innovative practices and materials

In addition to embracing disruptive technology, adopting innovative practices and materials is crucial for overcoming current challenges. Modular construction and prefabrication are now gaining considerable traction in the industry, but this is still far from being mainstream. One of the main barriers appears to be through a false perception that modular solutions should be significantly cheaper than more traditional construction methods. The reality, depending on the solution, is that modular construction is often just as expensive as a traditional project and sometimes will incur a premium. However, the offset here is that these solutions often result in less time spent on site – bringing a whole host of safety and sustainability benefits – and improving cost certainty.

A component of modular construction is Design for Manufacture and Assembly (DfMA), which involves designing and planning construction projects with a focus on optimising the manufacturing and assembly process. By considering the manufacturing and assembly aspects during the design phase, DfMA aims to enhance efficiency, reduce costs and improve project timelines. DfMA promotes the use of modular construction and prefabrication techniques. Clients that have a longer-term project pipeline can generate additional savings where the same components can be utilised again and again, generating greater economies of scale, and reducing the cost of manufacture over time. However, as with anything in this life, nothing comes for free and to benefit from these future savings an element of upfront investment is required. Examples of successful modular construction projects include the 461 Dean Street residential tower in Brooklyn, New York, and the Crossrail project in the UK, where modular components were used for station construction.

Enhancing collaboration and communication

Effective collaboration and communication are vital for overcoming construction challenges and ensuring project success and the use of digital collaboration platforms and improved communication practices have become increasingly prevalent across the industry. Digital collaboration platforms, such as Procore, BIM 360, and PlanGrid, enable real-time information sharing and seamless collaboration among project teams. These platforms provide a centralised hub where stakeholders can access project documents, drawings, and communications. For example, during the construction of the Salesforce Tower in San Francisco, the project team utilised BIM 360 to facilitate coordination between multiple subcontractors, ensuring accurate information exchange and timely issue resolution.

In addition to utilising digital collaboration platforms and improved communication practices, the adoption of appropriate contractual frameworks is essential. One such framework gaining traction in Australia is the NEC4 (New Engineering Contract) Contract Suite, introduced by NEC Contracts. It is designed to promote collaboration, transparency and flexibility throughout the construction process and provides a comprehensive set of contracts and associated documents that facilitate effective project management and risk mitigation. The suite includes contracts for a wide range of construction projects, from design and construct to professional services.

The NEC4 contracts emphasise collaboration and clear communication among project participants. They encourage early engagement, defined roles and responsibilities and a proactive approach to problem-solving. For instance, the Early Warning mechanism in NEC4 contracts allows parties to raise potential issues promptly, fostering a collaborative environment where problems can be addressed in a timely manner. This promotes transparency, reduces disputes and enables efficient project delivery. Furthermore, the NEC4 contracts support the use of digital technologies and information sharing. They align with BIM principles and encourage the integration of BIM processes within the contract documentation. This alignment enhances collaboration, coordination and the exchange of information among project stakeholders.

Interestingly, these contracts also recognise the importance of data management and cybersecurity, facilitating the secure sharing and protection of project data. Australia is behind the eight ball when it comes to adoption of NEC4, particularly when compared with the rest of the world where there is plethora of examples and case studies.

For instance, the Hong Kong Housing Authority utilised NEC4 contracts for the construction of public housing developments, resulting in improved collaboration, better risk management and successful project outcomes.

By enhancing collaboration and communication practices and utilising the NEC4 Contract Suite, the construction industry can overcome challenges related to contract management, disputes and project delivery. Effective collaboration, supported by appropriate contractual frameworks, fosters a cooperative work environment, ensures clear communication, and promotes successful delivery.

In conclusion

Unfortunately, there is no silver bullet or magic wand that can solve the cost of construction conundrum. The construction industry faces significant challenges, but real-world solutions can help offset these obstacles. By embracing technology, investing in the right skills and capability, adopting innovative practices and promoting collaboration and communication in everything that we do, the industry can collectively overcome these challenges.

The examples provided here demonstrate that there are solutions that are both practical and effective – but they all require a different approach to delivering construction. We therefore need to disrupt ourselves and our own narrow thinking rather than waiting for someone or something else to disrupt the industry for us.

It is crucial for all industry stakeholders, policymakers and construction professionals to learn from these examples and work together to drive positive change. By doing so, the construction industry can become more resilient, efficient and sustainable, ensuring long-term success.

Arcadis

Arcadis is the world's leading company delivering sustainable design, engineering, digital and consultancy solutions for natural and built assets. We are more than 36,000 architects, data analysts, designers, engineers, project planners, water management and sustainability experts, all driven by our passion for improving quality of life.

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