CIVIL CONTRACTORS FEDERATION

FY2026

AUSTRALIAN INFRASTRUCTURE ENVIRONMENTAL SCAN

CIVIL CONTRACTORS FEDERATION

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Executive Summary

What is the FY2026 CCF Australian Infrastructure Environment Scan

The 2025 Australian Infrastructure Environmental Scan (EScan) considers the challenges facing Australian communities and seeks to better understand the inputs required to drive improvements by the end of this decade.

It calls out the need for a better understanding of what civil infrastructure truly means to Australians in everyday life. By deep-diving into the evolving civil infrastructure industry, the EScan highlights not only shortcomings through case studies and best practice examples, but also places a laser beam focus on how civil can mobilise the country's capacity to build a better, stronger future.

It focuses on the role that infrastructure is and how it can provide reprieve for communities in reducing the cost of living. In particular this edition will focus on housing enabling infrastructure, energy transition, disaster resilience, procurement, skills, producitvity and AI.

Our population growth has in the recent period outpaced the Housing Enabling Infrastructure: which comprises roads, water, and sewerage systems needed to support it. This shortfall is reflected not only in skyrocketing housing costs, but also in the erosion of liveability across many parts of the country. Australian subdivisions and road networks are now associated with some of the most unaffordable housing markets in the world. While headlines focus on home prices, the underlying infrastructure gap is rarely recognised or measured with sufficient granularity. Metrics on how infrastructure investment affects housing affordability, health system efficiency, or education outcomes are incomplete or absent.

Energy Transition: Australia's transition to renewable energy is critically dependent on civil infrastructure to unlock and deliver new projects. Grid-scale solar farms, wind parks, and large batteries require robust support from roads, site works, and transmission lines to reach completion. Insufficient or delayed infrastructure has slowed the rollout of clean energy, contributing to higher power prices for consumers . By contrast, timely investment in transmission corridors and grid connections is projected to enable cheaper, reliable renewable power that can reduce household electricity bills over time.

Environmental and Natural disasters are increasing in frequency and severity due to climate change, placing growing pressure on Australia's civil infrastructure to protect communities as well as enable growth. Too often, investment is reactive rather than preventative, leaving regional and peri-urban areas especially exposed. With disaster costs projected to reach $39 billion annually by 2050[i], the need to embed resilience into infrastructure planning is urgent.

Civil contractors play a critical role in delivering solutions—like flood-proof roads and bushfire buffers—but this requires coordinated planning, long-term funding, and streamlined approvals. Building disaster-resilient infrastructure is not optional; it is a national economic priority.

Procurement practices have in recent years favoured large offshore contractors, concentrating market power and placing small- and medium-sized local businesses at a disadvantage. Strategic rebalancing toward smaller-scale ($10-$500 million) last kilometre infrastructure projects is essential to unlocking housing delivery and supporting regional communities.

Trade roles in Australia are among the most expensive in the world. However, the current industrial landscape has become increasingly unbalanced—where just three days of training can qualify a stop-go traffic controller to earn twice the salary of an entry-level police officer or a university-qualified teacher responsible for educating the next generation.

Australia's civil construction workforce is under strain. Unlike other construction sectors, civil occupations suffer from a lack of nationally supported training pathways — with only 20-45% of civil workers holding a Certificate III or IV qualification, compared to 60-80% in other construction fields. This in a large part is a result of civil apprenticeships not being federally funded. We do see interior decorators, yoga instructors and farriers prioritised as an occupation as having greater technical expertise than a mobile plant operator who undertakes complex earthmoving exercises which beggars belief.

Deficiencies in **training a skilled workforce workforce** policy further compound the problem. Australia's skills and industrial settings have produced profound distortions: workers with minimal training periods, such as stop-go traffic controllers, can earn more than university-qualified teachers or police officers. Civil trades, such as mobile plant operators undertaking complex and technically demanding work, remain federally unfunded as apprenticeships, while other, less critical occupations receive prioritised support. This imbalance highlights a broader systemic failure to value and invest in civil infrastructure skills.

Australia's **infrastructure workforce** is similarly under strain. The sector faces a forecast shortage of 197,000 workers over the next five years. Critically, trades workers—plant operators, construction labourers, and supervisors—are now expected to outstrip engineers as the group in most shortage. Without urgent recognition of civil occupations in apprenticeship funding programs, and without proper workforce planning, Australia risks falling even further behind its infrastructure and housing needs.

2030 position: Invest in "Last Kilometre Infrastructure"

The lack of investment in "last kilometre" infrastructure — the roads, water, sewerage, and essential services needed before homes, schools, hospitals, and communities can be built — is crippling housing and community infrastructure delivery. While federal funding has largely focused on billion-dollar megaprojects, Engineering Construction ABS data shows roads, highways, and subdivisions have dropped from $38 billion to $27 billion year-on-year. Wider prioritisation of enabling infrastructure is critical to unlocking housing supply and essential services.

At the centre of this challenge—and its solution—is a simple truth: Australia cannot build homes, unlock new communities, or deliver energy transition projects without civil infrastructure. But that is changing with an improvement expected over this term with a civil led rebound.

Over the past year, Australia's population grew by over 550,000 people, while housing commencements fell sharply. Australia's housing delivery is falling well short of demand. Housing commencements have dropped from 220,000 dwellings in 2021 to just 165,000 in the past year, despite continued strong population growth.

Without civil works to open up land for development, housing projects cannot proceed. The consequences are felt most acutely in greenfield and brownfield development areas where delayed or missing infrastructure locks out affordable housing opportunities.

Planning inefficiencies exacerbate the problem. Development approval delays, particularly in Victoria and New South Wales, now average four months or more, pushing Australia to 23rd place out of 33 developed economies for dwellings per 1,000 people. Even with significant fiscal commitments like the Housing Australia Future Fund and National Housing Accord, the delivery pipeline is constrained by planning bottlenecks and civil workforce shortages.

2030 Position: Procurement/Productivity/Capacity/Tech

Productivity in infrastructure delivery has stagnated, limiting Australia's ability to efficiently meet housing, transport, and energy transition targets. Approval delays, infrastructure bottlenecks, and inefficient delivery models are contributing to rising project costs and slowing national economic growth. Improving productivity starts with clearing planning backlogs, fast-tracking enabling infrastructure, adopting technology and creating a more coordinated, streamlined approach across governments.

2030 position: Prioritise the civil workforce

As such, urgent reforms are needed to prioritise civil construction apprenticeships and ensure a sustainable, skilled workforce to deliver the nation's critical infrastructure.

The Free TAFE initiative needs to be extended to private Registered Training Organisations also to address this gap.

The message to decision makers

This Australian Infrastructure Environmental Scan deep dives into the evolving civil infrastructure industry in Australia to light up shortcomings through case studies and best practice, and it puts a laser beam focus on the way civil can mobilise the country's capacity to be better.

Civil infrastructure is not a luxury; it is a necessity. It is the highway that gets freight to market, the road that gets children to school, the pipelines that bring water to homes, and the foundation for Australia's energy and housing future. Without prioritising civil, Australia cannot meet its targets for affordable housing, cost of living relief, economic growth, or climate resilience.

Australia needs to reconnect with the foundational role civil infrastructure plays in the success of our towns, communities, and cities. It is only when infrastructure is missing—when the freight is delayed, when families are stranded in traffic, when new homes cannot be connected to water or sewerage—that civil construction becomes visible. Otherwise, it remains the unacknowledged missing link in Australia's broader economic and social strategy.

Here are the 12 reasons why civil matters today:

1. **Major Employer and Economic Driver**
   Civil construction directly supports over 200,000 jobs and contributes 3.8% to Australia's GDP. Every $1 million invested in infrastructure translates to $2.95 million in economic output.
2. **Unlocks New Housing Developments**
   Civil construction lays the groundwork for new communities—roads, drainage, water, and sewer services that make new housing possible.
3. **Builds the Roads and Rail That Get You Home Faster and Safer**
   From local streets to national highways and regional rail, civil infrastructure improves travel times and keeps Australians connected.
4. **Connects Your Home to Water, Waste, and Energy**
   Every home relies on civil infrastructure to deliver clean water, manage waste, and provide reliable energy services.
5. **Powers Your Home and the Nation**
   Whether it's solar, wind, hydro or gas—civil works deliver and maintain the energy infrastructure that powers our homes, businesses, and industries.
6. **Delivers Disaster Relief and Recovery**
   Civil contractors are first on the ground after natural disasters—building fire breaks, repairing roads, reinforcing levees, and restoring communities.
7. **Underpins Health and Education Services**
   Every new school, hospital or aged care centre begins with civil works—earthworks, drainage, and road access to support essential services.
8. **Drives Regional Productivity**
   Civil builds the roads, rail, and freight infrastructure that helps farmers and regional producers get goods to market—faster, cheaper, and more reliably.
9. **Leads Practical Environmental Restoration**
   From rehabilitating waterways to stabilising ecosystems, civil contractors deliver the heavy works that turn environmental plans into reality.
10. **Keeps You Connected**
    Civil infrastructure enables the rollout and maintenance of Australia's telecommunications network—connecting people to loved ones, work, and opportunity.
11. **Connecting Australia to the World**
    Civil builds and upgrades our ports and airports—connecting Australian products to global markets and helping people and freight keep moving.
12. **Securing Water for Our Future**
    From dams to pipelines, civil construction delivers the water storage and supply infrastructure that secures water for our growing cities and regional communities.

1. ENVIRONMENTAL SCAN

Economic Landscape

Australia's economic landscape in 2025 is marked by cautious optimism amid global uncertainties. The International Monetary Fund (IMF) has revised Australia's GDP growth forecast down to 1.6% from its previous 2.1% prediction for 2025, citing potential impacts from global trade tensions and domestic challenges. This would appear optimistic with June 2025 reports that Australia's economy grew by 0.2 per cent in the March quarter, and 1.3 per cent through the year, according to the Australian Bureau of Statistics (ABS). It means quarterly economic growth slowed in the first three months of the year, from 0.6 per cent at the end of 2024, and missed expectations.

Despite these headwinds, the Albanese Government's 2025 federal budget introduced $17.1 billion in tax cuts aimed at stimulating consumer spending and alleviating cost-of-living pressures. However, the 2025 Budget also projects a return to a $42.1 billion deficit, reflecting the delicate balance between fiscal stimulus and economic restraint.

The civil construction sector stands at the nexus of these economic juncture. While government infrastructure investment remains robust, with a notable shift towards renewable energy projects and utilities to support the energy transition, the industry grapples with persistent challenges.

Skills shortages continue across key occupational groups, including engineers, tradespeople, and project managers, exacerbated by cultural issues that deter workforce retention. Material costs have surged, with prices averaging 30% higher than three years ago, leading to project delays affecting 7% of planned construction work[ii]. Moreover, investment patterns are shifting geographically, with movements in states like Victoria and New South Wales and growth in regions such as the Northern Territory and Queensland. These factors necessitate strategic adaptation by civil contractors, emphasising workforce development, supply chain resilience, and alignment with evolving regulatory frameworks to navigate the complex economic terrain of 2025.

The escalating risk of a U.S. recession in late 2025, driven by President Donald Trump's sweeping tariffs on imports, poses significant challenges for the global economic community, which most certainly includes Australia. Apollo's leading chief economist, Torsten Slok, forecasts a U.S. recession by mid-2025, citing disruptions in trade flows, declining corporate earnings, and reduced capital expenditures as key indicators[iii].

In response to these potential external shocks, infrastructure investment emerges as a pivotal tool for economic stimulus and resilience. The Australian Government has committed to a 10-year, over $120 billion infrastructure investment pipeline, encompassing sustainable land transport projects and supporting economic and social objectives. This strategic focus on infrastructure not only aims to bolster economic activity but also addresses long-term challenges such as housing shortages and the transition to a low-emissions economy. For the civil construction sector, this translates into sustained demand and opportunities for growth, even amidst global economic uncertainties.

Population/Migration/Housing

Australia's population has grown at a pace that is reshaping the country's economic and social landscape.

According to the Australian Bureau of Statistics (ABS), in the year to June 2024, the population increased by 552,000 people, reaching 27.2 million. Net overseas migration accounted for 446,000 of this growth, alongside a natural increase of 106,400. This surge in population places enormous stress on the housing market and the infrastructure networks that support daily life. Demand for homes, transport, water, sewage, and essential community services have surged in response, but supply has struggled to keep up. Housing commencements have failed to match the scale of new demand, pushing prices higher and intensifying competition for limited stock.

State	Population Growth - 3 years	Dwelling Supply - 3 Years	Dwelling Required - 3 Years	Shortfall / Surplus	3 year Rental Growth	3 Year Capital Growth	5 Year Capital Growth
WA	208,400	44,723	82,698	-37,975	34%	$184,853	$364,503
QLD	312,600	94,987	124,048	-29,061	24%	$123,381	$345,165
NSW	381,100	127,250	151,230	-23,980	18%	-$13,937	$274,261
VIC	419,700	155,305	166,548	-11,243	20%	-$45,115	$106,050
NT	5,200	1,384	2,063	-679	2%	$5,792	$59,116
ACT	19,700	11,652	7,817	3,835	2%	-$56,348	$182,744
SA	67,200	32,294	26,667	5,627	27%	$176,035	$330,610
TAS	4,800	7,757	1,905	5,852	11%	-$31,660	$168,445
	1,418,700	475,352	562,976	- 87,624			

To consider the impact of population on housing over this time, new home builds experienced a record decline, with ABS dwelling starts (houses and units) falling from 228,918 in the year to September 2021 to just 165,048 commencements for the 12 months to September 2024 which is insufficient to house the population growth of 552,000 people for this period.

With each dwelling housing 2.5 persons, on average we required 220,800 homes in the year to June 2024 leaving the country around 88,000 homes short in this three year period pushing up price and competition for homes to buy or rent.

In this period Victoria, New South Wales, Queensland and Western Australia each experienced a shortfall between 11,000-38,000 dwellings in housing for their growing populations in each respective state in the three years to June 2024.

This undersupply has been acknowledged by the Australian Treasury[iv] and the OECD, with Australia's housing system having been unable to build enough new housing stock to keep up with the needs of our population. As such, Treasury research reports that the supply of new homes in Australia is falling even further behind the rest of the world.

Australia ranks 23rd out of 33 developed countries for the number of dwellings per 1000 people, according to figures from the Organisation for Economic Co-operation and

Development. It is noted that the addition of more apartments has led Australia's level of housing supply to edge up slightly to 420 per 1000 people in 2022, from 403 per 1000 people in 2011, according to the OECD. Current levels of investment in Housing Enabling Infrastructure risk the Commonwealth reaching their 1.2 million new homes target by 2029.

This is translating into a lower number of homes being produced which leads to a drop in sales and rentals that are available. There is a significant relationship between housing and infrastructure as is evident below:

- Commencements in broader Housing-Enabling Infrastructure including water, roads, sewerage, electrical and subdivisions have started trending upwards, reaching an annualised figure of $84.2 billion in the September quarter of 2024 which will flow through to housing activity.
- The decline of Housing Enabling Infrastructure spend is correlated with housing commencement decline across the country.
    - As an example, recent data in the Northern Territory revealed a concerning trend in housing investment and supply. Investment in electricity, roads, water, sewage and subdivision enabling infrastructure has dropped from $1.754b in the 12 months to September 2021 down to $879.7m in the same period in 2024 representing a 59% drop in investment.
    - At the same time, Northern Territory housing commencements fell sharply—from 870 commencements in the year to September 2021 to 385 in the same period for 2024, representing an almost 55% decline.
- As will be further considered in further detail, Housing Enabling Infrastructure has a direct impact on housing commencements whereby you cannot spend a dollar on housing until a dollar has been spent in civil.

The Australian Local Government Association recognises that local governments play a vital role in creating communities where people want to live and families can thrive. They also strongly acknowledge the connection between civil infrastructure and housing-enabling development, noting that in many cases:

> ***"they are also responsible for housing approvals and the provision of local infrastructure, without which no new housing target can be achieved."*** [v]

Take home figures: *in particular, the research shows there's a $19.4 billion gap in the funding councils receive to deliver the enabling infrastructure necessary for 1.2 million new, well-located homes. This is beyond local governments' capacity to fund, and we need better, more sustainable partnerships with all levels of government.*

Breakout 1: Impact of Planning and Development Approvals on Infrastructure and Housing

Ahead of civil works being undertaken there is planning, and the cost of developing housing is being blown out by planning and development timeframes.

At his June 2025 address to the Chifley Research Centre, Federal Minister for Productivity Dr Andrew Leigh, described the 'thicket of regulation' that is holding back housing and infrastructure.

As stated by Dr Leigh:

> *"We've designed a housing system where it is simply too hard to build... Approvals drag on. Rules Multiply. Outcomes are inconsistent. Too often the planning process is built for avoidance not delivery."*

As identified in *Appendix A*, there are many layers of red tape in the NSW planning system requiring 30-40 state and local agencies including Sydney Water, environment and heritage bodies, and energy organisations that are hindering the delivery of housing in a timely and cost-effective manner.

Development approval times have blown out to four months in NSW and VIC, exacerbating a supply crisis that is driving up rents and house prices. State planning department data shows its waiting times for development approvals for VIC have been gradually getting worse over the past decade.

Councils and state agencies in both NSW and VIC are the slowest in the country, with average development approval waiting times at 114 and 144 days respectively, as reported by the Federal Treasury says in recent analysis of the housing market.[vi]

Energy and the Cost of Living

Infrastructure Australia's latest Market Capacity Report states that Australia's infrastructure investment landscape is undergoing a structural shift, with transport's share of the national pipeline falling by $32 billion to $126 billion, as governments redirect funding. The report forecasts a six-fold increase in renewable energy construction over the next five years.[vii]

Governments at both federal and state levels are pursuing programs - such as **Rewiring the Nation** and Renewable Energy Zones - to coordinate infrastructure delivery, expedite the energy transition, and **ease cost pressures on household budgets.**

Just days after the last Federal Election Minister for Climate Change Chris Bowen commented on the 2025 election as a referendum on Australia's energy choices, stating *"Peter Dutton described the 2025 election as a referendum on Australia's energy choices. And the results of that referendum are clear: in uncertain times Australians want an affordable plan, backed by the experts."*[viii]

After being sworn in for a second term with a strengthened mandate from the Australian people, the Federal Government is set to accelerate Labor's clean energy revolution, aiming to achieve its ambitious target of 82 per cent renewable energy in the electricity grid by 2030.

Australia's transition to renewable energy is critically dependent on civil infrastructure to **unlock and deliver new projects.** Grid-scale solar farms, wind parks, and large batteries require robust support from **roads, site works, and transmission lines** to reach completion. Insufficient or delayed infrastructure has slowed the rollout of clean energy, contributing to higher power prices for consumers[ix]. By contrast, timely investment in **transmission corridors and grid connections** is projected to enable cheaper, reliable renewable power that can **reduce household electricity bills** over time.

Grid-scale renewable energy developments (large solar, wind, and battery projects feeding the national grid) rely on extensive civil infrastructure.

Key requirements include:

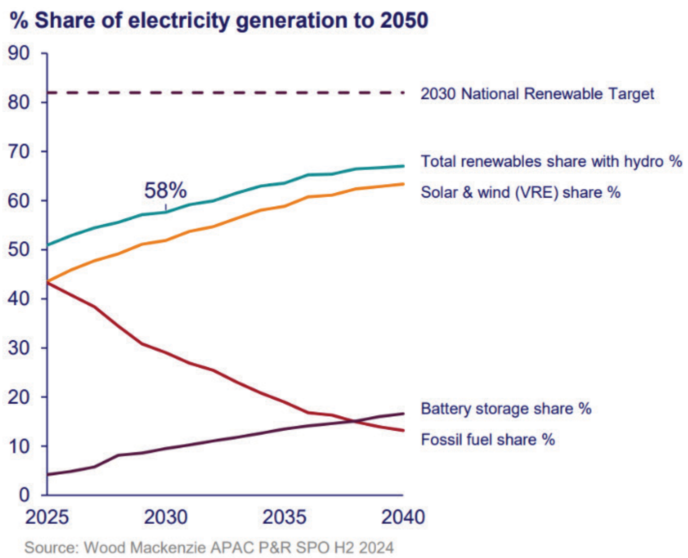
- **Site Access Roads and Transport** - Heavy-duty roads are needed to transport massive components (wind turbine blades, transformers, etc.) to often remote sites. For example, turbine blades exceeding 60-70 meters in length must be hauled via highway convoys because many rural roads cannot accommodate their size[x]. Upgrading and building access roads and bridges is an essential upfront investment so that construction equipment and materials can reach project sites safely.

- **Site Preparation and Facilities** - Civil works are required to prepare sites: leveling ground for solar arrays, building turbine foundations, installing drainage, and establishing onsite facilities. These preparatory works enable the installation of generation equipment and are often significant projects in themselves (e.g. constructing dozens of kilometers of service roads within a large wind farm).

- **Transmission Lines and Grid Connection** - Perhaps the most crucial infrastructure for grid-scale projects is the **electrical grid connection**. New high-voltage transmission lines or network upgrades are often needed to link renewable-rich areas to the existing grid. Large solar and wind farms are typically built in regional areas with abundant land or wind/solar resources, which requires building long transmission corridors to transport the power to cities. According to the Australian Energy Market Operator (AEMO), about **10,000 km of new transmission lines**[xi] will be needed in the next decade to connect planned renewable projects under its Integrated System Plan. These transmission investments include major interconnectors and lines to Renewable Energy Zones (REZs).

Renewables tracking or falling short?

Wood Mckenzie who are a global consultancy and industry forecaster estimates Australia would fall substantially short of the 2030 82% renewables goal with its modelling showing green energy only reaching 68 per cent by the end of this decade.



This forecast will undershoot the 2030 renewable energy target by 14 percentage points due to delays in delivering big solar and wind projects. It has been reported that Rystad Energy in March predicted 65 per cent renewables by 2030, noting that the shortfall would be compounded by infrastructure bottlenecks and longer supply wait times which would hamper the rollout of renewables and energy storage, significantly affecting energy security. Renewables' share of generation in the national electricity market was about 40 per cent in 2024 and is likely to grow to between 44 and 46 per cent this year, according to the Clean Energy Regulator.[xii]

Despite a bulging pipeline of renewable projects proposed by developers, Wood Mackenzie pointed to delays in permissions, funding sign-off, construction, commissioning and connection to the power grid for a lag in delivering new supplies into the system.

Case Study: Crookwell 3 Wind Farm

Despite improvements in construction timelines, approval delays remain one of the most significant barriers to the rollout of renewable energy projects in Australia. A recent case is the Crookwell 3 Wind Farm near Canberra, where CCF Member Divall's served as the principal contractor. The major project application was first lodged in March 2010, but it took more than a decade—until October 2020—to secure approval for 16 wind turbines.

In stark contrast, once construction commenced in late 2022, progress was swift. Civil works were completed by Divall's in August 2023, and turbine installation wrapped up just two months later in October 2023. This clearly shows that Australia doesn't have a problem building renewable energy projects—once approvals are granted, the industry can deliver efficiently and to a high standard. The real issue is not in the construction, but in the time it takes to agree to build them. Addressing this approvals bottleneck must be a national priority to meet our energy transition goals.

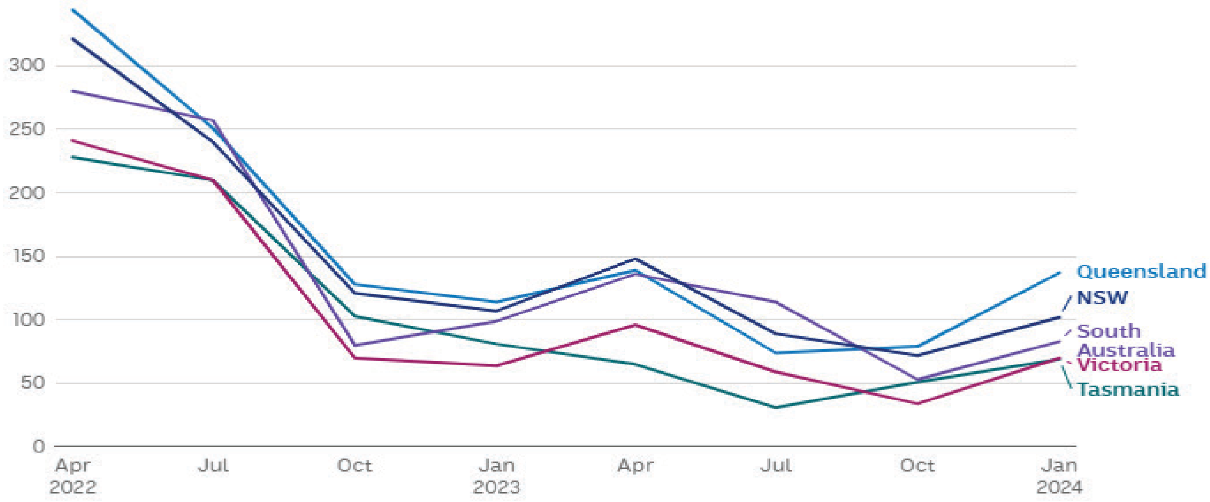
Infrastructure Constraints and Impacts on Energy Prices

A lack of adequate civil infrastructure has become a **key bottleneck in Australia's renewable energy rollout**, with direct consequences for energy prices and reliability. In recent years, delays in building transmission and other critical assets have meant that new renewable generation cannot be delivered fast enough to replace aging coal plants or meet growing demand. This mismatch has contributed to **higher wholesale electricity prices**, which feed into household bills.

Higher Prices from Delays: Modeling and industry analysis consistently show that delays in infrastructure lead to more expensive energy. A 2024 analysis of AEMO's system plan by *Nexa Advisory*[xiii] *found that* the increased wholesale electricity costs caused by delayed transmission buildout flows through to consumer bills. This mostly impacts consumers in New South Wales, resulting in almost $1,100 in additional costs if transmission projects are delayed by three years - the average length of delays observed in recent years.

In effect, when transmission build-out is slow, the grid cannot access enough low-cost solar and wind, forcing greater reliance on expensive fuels and causing more frequent network constraints. The Clean Energy Council warns that if Australia "stalls the pace" of building new renewable projects, household energy bills would be about **30% higher by 2030** than otherwise - roughly **$450 more per year** for the average home.[xiv] This is because delaying renewables keeps the system dependent on older coal and gas generation, exposing consumers to higher fuel costs and volatility.

Current Household Bills: As reported by the Australian Energy Regulator below[xv], wholesale energy prices ($/MWh) have fallen by two thirds from their local peak in 2022. Yet despite the wholesale drop, Australian households have been experiencing increases. The **average annual electricity bill** for a household in 2023-24 was in the order of $1,600-$1,800 (varying by region).



Kenji Sato / Source: Australian Energy Regulator / Get the data

Government price relief measures (including temporary bill rebates and coal/gas price caps) have helped cushion the increase. However, these short-term fixes do not address the underlying issue: the need for new infrastructure to deliver more affordable energy.

As noted by the Australian Energy Market Commission (AEMC), reaching a cheaper, cleaner energy future "**hinges on new transmission lines and large-scale generation such as windfarms progressing on schedule**"[xvi]. If critical projects are delayed or under-built, the supply-demand balance tightens and prices stay higher than they should.

Volatility and Reliability: Underinvestment in infrastructure doesn't only inflate prices - it also **jeopardises reliability**. Aging coal plants are retiring and can be unreliable, yet new renewables, storage and wires need to be delivered to reach consumers. Transmission constraints have led to instances of renewable energy being curtailed even when it was available, while consumers pay more for power generated elsewhere. In the worst case, insufficient grid capacity could lead to unserved energy (blackouts) or the need to retain costly legacy generators as a backstop.

Australian Energy Market Commission (AEMC) has recently highlighted that further urgent investment in the grid is required to maintain reliability as the energy mix shifts.[xvii]

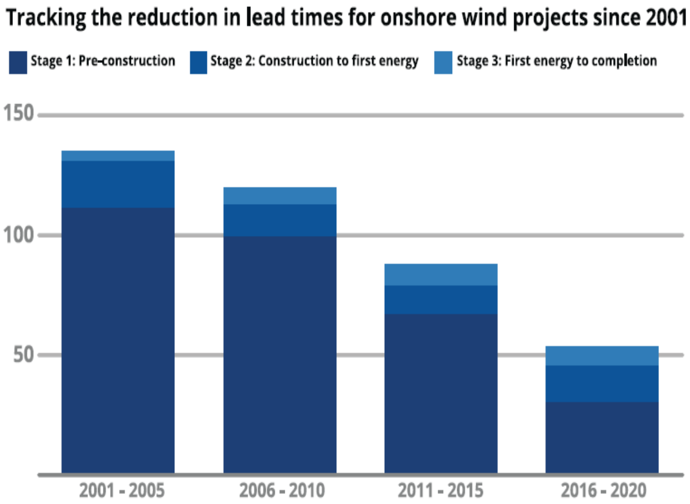
In summary, every delay in civil infrastructure - whether a slow environmental approval for a wind farm, or a holdup in building a new transmission line - **translates into higher costs and risks for consumers**. Ensuring infrastructure keeps pace with the renewable build-out is thus essential to stabilise and reduce energy prices.

Breakout 2: Impact of Planning and Development Approvals/Energy and Environment

An analysis by the Australian Energy Market Operator found that 15 out of 79 major new energy projects (almost one-fifth) that were considered essentially assured have hit delays, together representing about 3.5 GW of capacity - a total capacity larger than the country's biggest coal power station.[xviii]

Whilst there are challenges, there is optimism that the pace of renewable energy project delivery in Australia has improved over the past decade.

Analysis of 170 onshore wind and solar projects completed between 2000 and 2023 by the ANU reveals that average lead times have significantly decreased—onshore wind projects now take approximately 53 months from concept to commissioning, down from 88 months pre-2016. Solar farms have seen even greater gains, with typical delivery times halved from 83 months to around 41 months today.[xix]



The most time-consuming stage remains the pre-construction phase, which includes planning and regulatory approvals. Improvements in this phase—particularly in states like South Australia and Victoria—have been the key driver behind shorter project durations. South Australia in particular, has demonstrated the benefits of streamlined approval processes, with some of the fastest lead times in the country.

Despite these gains, delivery times are still too long to meet Australia's 2030 renewable energy targets—now just five years away. Construction and grid commissioning phases have also experienced modest delays, partly due to regulatory changes introduced after the 2016 South Australian blackout. While some of these, such as the "do no harm" system strength assessment, have since been repealed, others continue to add unnecessary complexity.

To accelerate progress, the report highlights a need for more transparency and coordination. A publicly accessible pipeline tracking system—similar to the Australia and New Zealand Infrastructure Pipeline—would allow developers, planners and regulators to benchmark performance and identify bottlenecks. A single-agency approvals model, clearly defined steps, and firm response timeframes would remove uncertainty. Additionally, enabling fast-tracked approval of project expansions near existing assets could meaningfully reduce duplication and red tape.

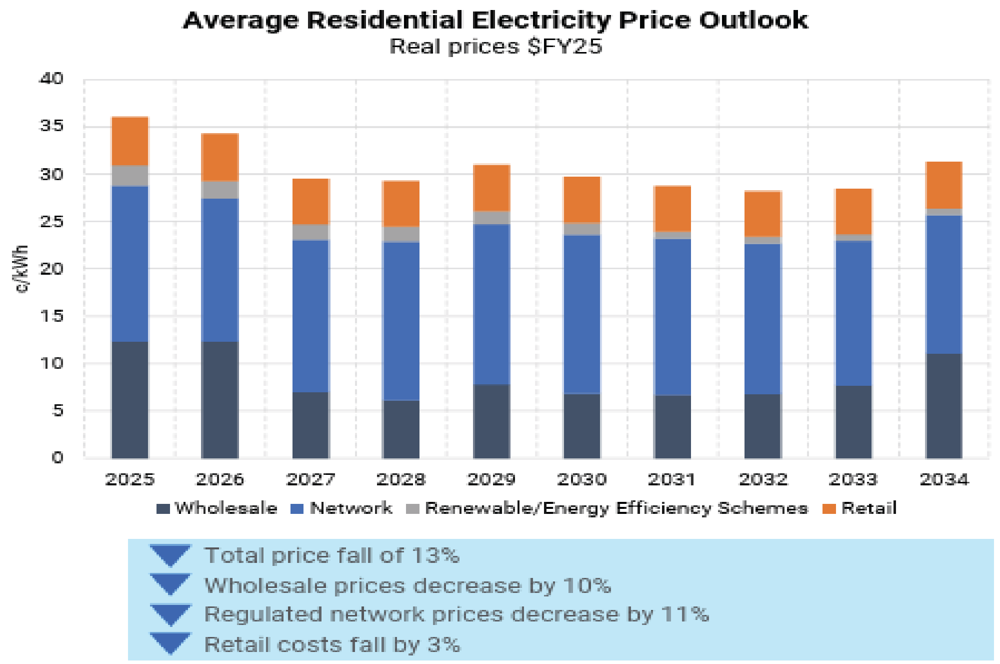
The civil construction industry stands ready to deliver on this challenge. However, meaningful reform in approvals, grid access, and regulatory coordination is essential to realise the full potential of Australia's energy transition.

While some of these delays were minor, others exceeded a year, underscoring how approvals, supply chain issues, and other bottlenecks are impeding timely delivery of renewable infrastructure. These setbacks in schedule directly impact the sector's productivity and Australia's ability to meet its energy transition targets.

These trends highlight structural issues that must be addressed through policy and industry action.

Benefits of Infrastructure Investment: Lower Costs Ahead

Investing in the necessary infrastructure not only avoids these problems but actively **delivers savings to consumers**. Multiple projections show that a modernised grid with abundant renewables can drive energy bills down.



Source: AEMC [xx]

For instance, the AEMC's 2024 price trends report forecasts that under a fast renewables transition scenario (with supporting transmission built on time), residential power prices could be **13% lower in ten years' time** than today.

This outcome is driven by the introduction of low-cost generation - solar and wind have no fuel cost - replacing expensive fossil generation.

The 2022 **Integrated System Plan** (ISP) identified around **$12.7 billion of transmission investment** that would enable a huge renewables build-out and yield **net market benefits of $28 billion** by 2050 (in fuel savings and avoided costs).[xxi] In other words, every dollar spent on critical grid infrastructure returns more than two dollars in benefits to consumers through lower energy costs. These benefits ultimately appear as downward pressure on wholesale prices and thus, cheaper electricity for homes and businesses.

In short, **properly targeted infrastructure investment is an investment in affordable energy.** It unlocks Australia's vast renewable resources - solar in the outback, wind in the regions - and makes them available to population centers, thereby driving down the long-term cost of electricity supply.

Climate Change, Circular Economy and Disaster Resilience

Infrastructure is responsible for up to 79% of global greenhouse gases and consumes 60% of the world's materials. This data shows the essential role that infrastructure, and the circularity of infrastructure, have in the move to decarbonisation and sustainability.[xxii]

Circular infrastructure is infrastructure that:

- Enables circular economy activity (e.g. enables re-use, recycling, or recovery of waste), and/or
- Minimises or eliminates the amount of raw material used across the infrastructure

lifecycle or supply chain, thereby reducing the embodied carbon of infrastructure assets, and helping maintain the security of the supply of critical materials.

Yet, the circular infrastructure is receiving too little attention, and too little investment.

Reducing CO2 in large projects

In an Australian first, Fulton Hogan, in collaboration with ABFI Steel Group, implemented a circular economy initiative to recycle steel bridge pile liner offcuts during Contract 2 for the Department of Transport and Main Roads Bruce Highway Upgrade - Caboolture-Bribie Island Road to Steve Irwin Way (Exit 163) project.

Completed in 2024, Fulton Hogan upgraded a 5.5 kilometre stretch of the Bruce Highway between Pumicestone Road and Steve Irwin Way (Exit 163) from a four-lane to a six-lane divided carriageway, constructed six new bridges, and upgraded existing interchange ramps.

Recognising the infrastructure sector as a major consumer of natural resources and generator of waste, Fulton Hogan has embraced circularity as a key element of sustainability. Traditionally, steel pile liners are cut to size onsite, with offcuts discarded as waste. However, the project team identified a more sustainable solution—returning the offcuts from construction of the first stage of southbound bridges to the supplier for splicing with existing liners for use in sacrificial zones of the second stage of northbound bridge construction.

Of the 101.4 lineal metres of offcuts returned, 63.7 lineal metres were deemed suitable for recycling, avoiding approximately 87 tonnes of CO2-equivalent emissions and saving thousands in project material costs. Transport emissions were also reduced by backloading the offcuts during deliveries.

These outcomes demonstrate innovative supply chain improvements for an emissions-intensive product and highlights the benefits of engaging and collaborating with local suppliers. The use of recycled materials, such as steel, is crucial in the transition to circularity, offering a viable alternative to traditional practices that rely on virgin resources.

Fulton Hogan's innovative approach to recycling steel pile liner offcuts clearly demonstrates the benefits of circularity and their commitment to sustainability and creating a positive environmental legacy.

Climate Change, Natural Disasters and the Role of Civil

Climate change is already driving a rise in the frequency and severity of natural disasters across Australia. Extreme fire weather is becoming more frequent and intense than in previous decades, placing increasing strain on emergency services, communities, and ecosystems.

At the same time, while average rainfall may remain steady or even decline in some areas, more intense rainfall events are expected—leading to sudden downpours that heighten flood risks, particularly in urban areas where impermeable surfaces like concrete and tarmac prevent water absorption. Low-lying coastal communities are especially vulnerable, with sea level rise compounding the destructive impact of storms and heavy rainfall. Floods remain Australia's most expensive natural disaster, costing the economy an average of $8.8 billion annually in insured, tangible, and intangible losses.[xxiii]

These impacts are shaped not only by the weather itself—such as rainfall intensity, frequency, and duration—but also by the characteristics of the landscape and the vulnerability of the people and infrastructure within it.

Now, what can Australia do to mitigate these disasters?

While the role of civil construction in enabling the green energy transition to mitigate climate change is detailed above, its importance in building climate resilience is just as critical. Civil contractors design and deliver infrastructure that directly reduces the impact of natural disasters—such as flood levees, stormwater systems, evacuation routes, and reinforced bridges. Through major earthworks, they help stabilise slopes and reduce landslide risks in vulnerable areas. Investing in this kind of disaster-mitigating infrastructure not only protects lives and property but also reduces long-term recovery costs, strengthens community preparedness, and ensures our built environment is better equipped to withstand a more volatile climate.

Geospatial intelligence, which can provide immediate, detailed, insights of affected areas through aerial surveillance and AI data, can play a crucial role in helping governments and local authorities prepare forand respond to bushfires, floods, severe storms, and other catastrophes. It can provide detailed, near real-time assessments of the damage caused by a natural disaster and allow response and recovery efforts to be directed with greater accuracy. Aerial mapping can also be used to provide detailed flood plans and vegetation assessments ahead of disasters so that risks can be minimised and managed and response plans prepared.

> *"The power to leverage technology, data and insights, such as Nearmap location intelligence, is a key step in helping prepare for a response to disasters in the most effective way possible," said Dan Paull, Executive Vice President and General Manager of Nearmap in Australia and New Zealand.*

Post Disaster Role for civil

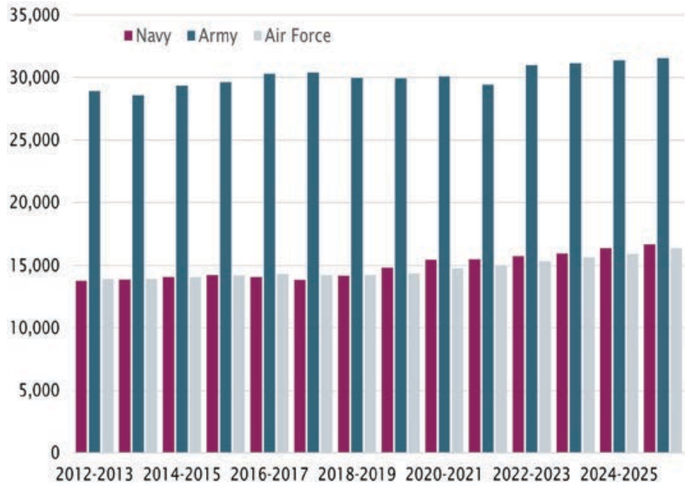
Once disaster strikes, civil contractors become a vital part of Australia's emergency response and long-term recovery. From clearing roads blocked by landslides or fallen trees to restoring damaged bridges, levees, and essential utilities, their role is critical in getting communities back on their feet.

Members of the CCF are regularly mobilised to assist with flood clean-up efforts, conduct emergency stabilisation works, and repair vital infrastructure that supports access to homes, hospitals, and emergency services. Their expertise, equipment, and ability to act quickly mean they are often among the first responders on the ground once conditions allow. Where possible, CCF plays a key role in supporting this response—rapidly contacting contractors in impacted regions and helping ensure personnel and machinery are deployed efficiently, delivering practical support when it's needed most.

Defence Infrastructure

As Australia undergoes its most significant strategic reorientation since World War II, the role of the domestic civil construction sector in supporting national defence cannot be underestimated.

The Australian Government is investing tens of billions of dollars into critical defence infrastructure across the country—from ports and airfields to base redevelopments and logistics hubs—as part of the Defence Strategic Review (DSR) and broader force posture changes. These projects are not simply capital works; they are essential enablers of sovereign capability, regional deterrence, and alliance cooperation.



Defence annual reports from 2012–13 to 2020–21 and Portfolio budget statements 2022–23: budget related paper no. 1.3A: Defence portfolio.

In May 2024, the Federal Government announced $3.1 billion in new defence infrastructure spending in the Northern Territory alone, as part of its 2024-25 Federal Budget commitments. This includes upgrades to key defence precincts in Darwin and Katherine, enhancements to port and road access, and the expansion of key assets such as RAAF Base Tindal to support visiting U.S. aircraft and rotational deployments.[xxiv] These upgrades are vital not only for operational effectiveness but also for reinforcing Australia's northern strategic posture.

Similarly, after a prolonged period of stagnation, defence investment in Western Australia is now gathering pace. In early 2024, projects such as the redevelopment of HMAS Stirling and upgrades to RAAF Base Pearce entered new stages, with the Commonwealth signaling billions of dollars in upcoming works.[xxv] These projects require specialist civil capability—often in remote or constrained environments—and their timely delivery is crucial to realising Australia's strategic objectives.

In this context, the CCF strongly argues that these nation-defining projects must be led by Australian civil contractors with proven local experience, domestic capital, and an active investment in Australia's training and skills system. While the presence of international firms brings valuable competition, Australia cannot afford to rely on foreign entities for the delivery of infrastructure that underpins our sovereign defence capability.

As noted by Consult Australia in their April 2024 ***Consulting Matters*** briefing, defence infrastructure delivery is too often hampered by fragmented planning, inconsistent procurement, and insufficient alignment between defence, Infrastructure Australia, and the civil sector.[xxvi] The briefing recommends long-term visibility of project pipelines and stronger integration with local capability development to ensure a sustainable delivery ecosystem.[xxvii]

Their subsequent August 2024 commentary reinforces that defence projects are unique in their complexity, regulatory rigour, and security implications. As such, delivery must rest with those who have the local know-how and institutional understanding of Australian construction conditions, security standards, and workforce dynamics.

A sovereign-first approach offers multiple benefits:

- **National security**: Reduces reliance on overseas contractors for critical infrastructure, limiting potential exposure to supply chain or geopolitical disruptions.
- **Skills development**: Embeds defence-specific experience in the Australian workforce, building a pipeline of skilled professionals who can respond to future strategic demands.
- **Economic resilience**: Ensures that Commonwealth investment supports local businesses and communities, particularly in northern and regional Australia.
- **Delivery certainty**: Leverages the capacity of contractors with demonstrated track records in complex Australian environments and regulatory frameworks.

To this end it is critical to:

- Prioritise Australian-owned and operated contractors on defence-linked projects, particularly those with a demonstrated investment in skills, safety, and sovereign capability;
- Embed workforce planning requirements in defence procurement processes to ensure continuity of local expertise;
- Align defence infrastructure programs with broader infrastructure pipelines to avoid boom-bust cycles and workforce shortfalls;
- Expand and enforce Australian Industry Capability (AIC) criteria to meaningfully include civil construction suppliers and subcontractors.

Australia's civil construction sector is not just a service provider—it is a strategic asset. In an increasingly uncertain global environment, building sovereign delivery capability for defence infrastructure is not optional. It is essential.

2. KEY INDICATORS IN CIVIL

Civil engineering construction in Australia has been at record highs in recent years. In 2023-24, the total value of infrastructure-focused engineering construction work done nationwide reached roughly $96 billion (in real 2023-24 dollars). This is evidenced by surging investment in transport projects - transport infrastructure alone accounted for about 53% of all infrastructure construction work in 2023-24.

According to the Bureau of Infrastructure and Transport Research Economics (BITRE), work done on roads and bridges hit an all-time high of $33 billion in 2023-24, with railway construction also at a record $16 billion for the year.The dominance of transport means that roads, highways, bridges, and rail projects currently form the bulk of civil construction nationally.

In 2023-24, roads and bridges (including highways and subdivision-related roadworks) made up approximately 35% of Australia's total civil construction value.

Rail projects constituted about 17%. Although smaller in absolute terms, port and harbour works represented roughly 1.5%.

The remaining share (about 46% of civil construction) is split between utilities and other infrastructure: notably energy infrastructure and water infrastructure.

Based on ABS engineering construction data, energy infrastructure (electricity generation projects, transmission lines, pipelines, etc., including the renewables boom) has been estimated around $24 billion in work done for 2023-24 - roughly 25% of national civil construction.

Water infrastructure (encompassing water supply, sewerage and drainage works) accounted for on the order of $12-13 billion (about 13% of the total) in 2023-24. (By comparison, telecommunications infrastructure construction is smaller, roughly 8% of the total in recent years, and can be considered part of "other civil" works.)

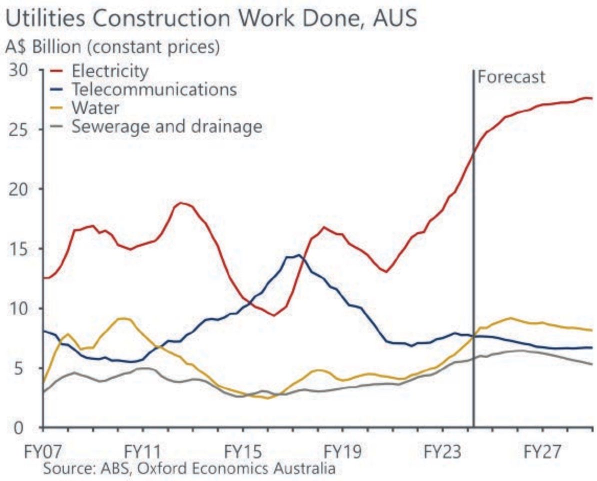
Major Infrastructure Project Pipeline and the Regions

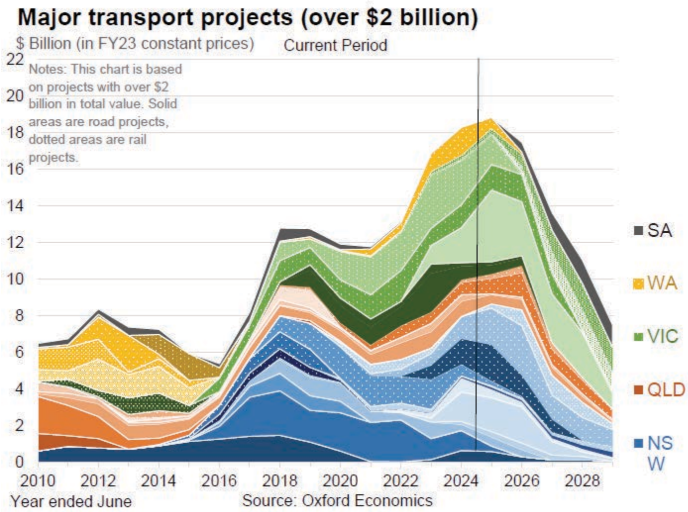
Going forward, the composition of civil construction demand is expected to shift. Industry forecasts point to a peak in transport megaprojects and a pivot toward energy and water investments over the forward estimates. The Australian Construction Industry Forum (ACIF) notes that the era of double-digit annual growth in transport infrastructure is ending as major road and rail projects reach completion; indeed, "growth in large-scale public transport projects has peaked and work is now tapering down".

At the same time, there is a "wave of projects in renewable energy and in water" now emerging and this is shown by the number of significant energy projects in the forward pipeline. Governments and investors are pivoting to new priorities: huge renewable energy zones, wind and solar farms, interstate transmission links, pumped hydro schemes, as well as water security projects (dams, irrigation networks, recycling and desalination infrastructure).

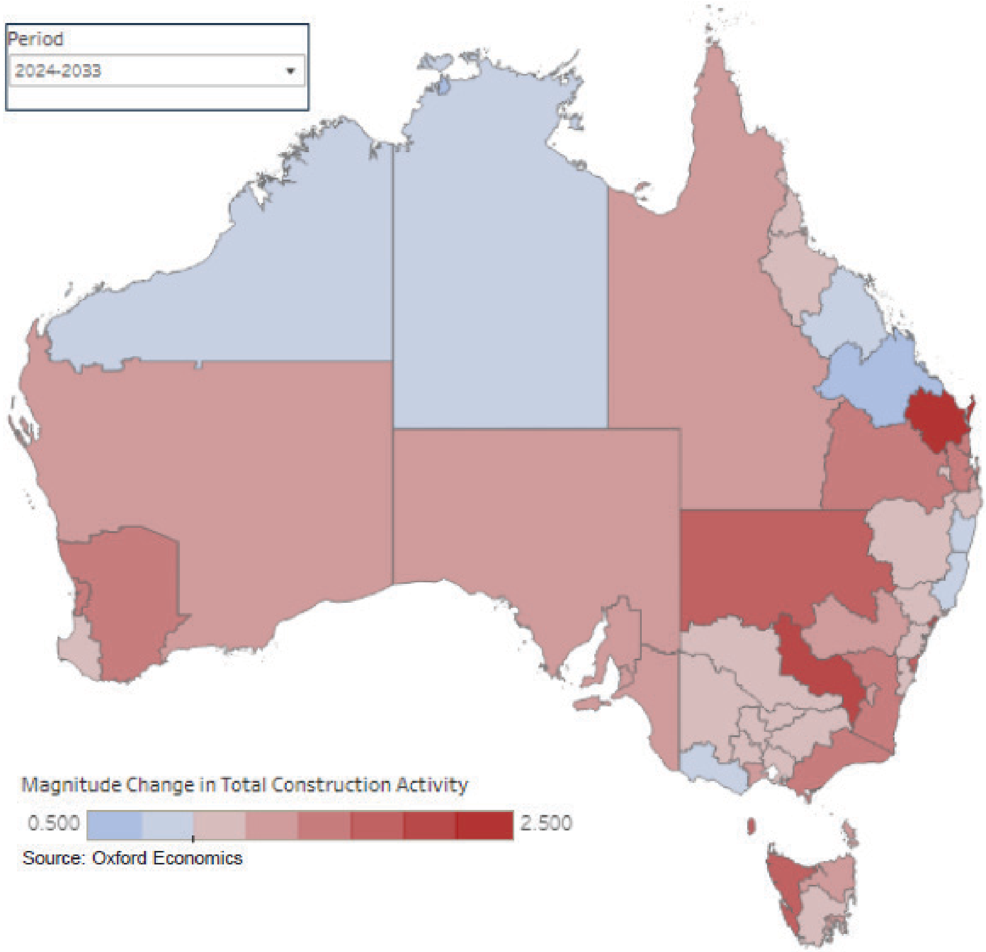
ACIF reports that announcements of very large energy and water projects have been "piling up" in recent years (although some have been delayed by approvals and financing). As these move into construction, they are expected to lift overall infrastructure work done to around $108-113 billion per year over the next three years.

In other words, even as transport spending plateaus, total civil construction is forecast to keep growing modestly through 2025-2028, supported by the surge in energy infrastructure and sustained activity in other sectors.





Water and Energy are the New Growth Sectors: The next wave of civil activity will be driven by utilities and renewables. Electricity work—critical for the energy transition in NSW for example is forecast to grow 13% annually over FY2025 and FY2026. Water and sewerage work is up 58% over the decade in that state, supporting to housing expansion.[xxviii]



The recently released CCF New South Wales Civil Forecast to 2034 in partnership with Oxford Economics, noted shifts in activity to the regions and for the first time, more than half of all civil construction investment is shifting outside Sydney, driven by renewables, road upgrades, and water infrastructure.

Infrastructure Australia in its most recent annual Market Capacity Report believes that shifts of work to the regions is impacting in terms of skills shortages appear to have peaked in capital cities but are projected to rise in regional areas, driven by significant new renewable energy projects announced in the regions with only modest increases in supply projected. Infrastructure Australia notes, that the diminishing shortage in capital cities may largely reflect poor pipeline visibility in the years beyond the forward estimates. As further detailed, while all jurisdictions remain in skill shortage, these impacts are unevenly felt across the nation:

- Northern Territory, Queensland and Tasmania are experiencing more dispersed demand across cities and regional areas.
- Shortages in New South Wales and South Australia are mostly concentrated in cities.

The CCF’s FY2025 Annual Civil Industry Survey confirms that the labour shortage is already biting. A full 69.4% of contractors reported that access to local skilled tradespeople and professionals is directly impacting the delivery of projects and driving up costs.

State analysis and outlooks in more detail.[xxix]

New South Wales

Current Activity: The New South Wales Government’s infrastructure program for FY2024-25 to FY2027-28 allocates $86.4 billion in general government expenditure to infrastructure, the second-largest of any jurisdiction. In recent years[xxx], the roads and bridges sector and rail sector have dominated New South Wales’ civil construction.

Massive projects like the Sydney Metro and numerous highway upgrades across metropolitan and regional New South Wales have kept transport spending at record levels. In the 2024-25 state budget, transport projects still receive the lion’s share of capital works funding road and rail expenditure pipelines in New South Wales remain very large, though they are now “beginning to see the crest” as major projects peak.[xxxi]

Transport infrastructure easily makes up around two-thirds of the state’s civil construction workload by value. Within that, roads/highways (including bridges) are a major component - multi-billion-dollar motorway projects are ongoing in Sydney and regional New South Wales. Water infrastructure is a much smaller slice (perhaps on the order of 10-15% of New South Wales’ civil construction).

As per the recently released CCF New South Wales Civil Forecast to 2024 in partnership with Oxford Economics, New South Wales civil construction activity surged 13.8% in FY2024. It’s set to peak at $39.7 billion in FY2026, powered by transport, energy, and water infrastructure. 2025 is a Critical Transition Year: While work done will continue to grow in the near term, new commencements have plummeted in NSW—with transport projects alone down 37% in FY2024.

Oxford Economics Australia warns that without decisive government action to replenish the infrastructure pipeline, New South Wales risks a skills drain, stalled housing and renewable energy targets, and rising long-term infrastructure costs.

Outlook: New South Wales is expected to see a moderation in transport construction mid-decade, as some megaprojects finish and the state grapples with budget constraints.

Road and rail expenditure in New South Wales will plateau or dip slightly, however this slack is poised to be taken up by energy and other sectors.

New South Wales has committed to ambitious renewable energy targets (e.g. 12 GW of new renewables and storage by 2030) which translate into very large construction programs for wind, solar, battery and transmission infrastructure in the later 2020s.

Summing up, New South Wales' total civil construction activity is likely to remain high through 2028, roughly in line with current levels (barring any major cuts), but with a *shift in composition*: slightly less in new urban transport megaprojects, more in renewable energy, power grids, and enabling works for housing and resilience. New South Wales' share of the national civil construction market should stay around 25-30% (historically, New South Wales and Victoria each account for roughly a quarter or more of national engineering construction) - making it a key contributor to Australia's infrastructure delivery.

Victoria

Victoria has likewise been experiencing historically high levels of civil construction, driven by its massive "Big Build" agenda.

The state again ranked #1 in Australia for infrastructure investment in the latest budget cycle, with $77.4 billion allocated over FY2024-28 (18.7% of total state expenditure - the highest ratio in the country).[xxix]

The transport sector dominates Victorian civil construction: major projects include the North East Link motorway tunnel, the Metro Tunnel rail project (approaching completion in 2025), ongoing Level Crossing Removals (road-rail grade separations across Melbourne), the early works for the Suburban Rail Loop, and various freeway upgrades. These have kept road and rail construction in Victoria at record highs.

The Victorian government acknowledges that its transport pipeline is focused on delivering previously announced rail and road projects, with limited new projects being added.

Transport infrastructure constitutes the majority of Victoria's civil construction - on the order of 60-70%. Major road projects and rail projects each account for substantial billions annually.

Energy infrastructure is developing as the next significant activity. The state has bold plans for renewable energy: e.g. multiple large wind farms in Western Victoria, the impending construction of the Western Renewables Link 500 kV transmission line, and early works on offshore wind developments in the Gippsland coast (planned late this decade).

These energy projects mean the energy infrastructure share in Victoria - historically low after the completion of past power projects - will grow.

Outlook: Victoria's total civil construction activity is expected to remain large but plateau in the mid-2020s.

The state is tempering its transport pipeline due to budget pressures - indeed the 2023-24 Victoria Budget trimmed infrastructure spending by about $1.1 billion from the prior year.[xxix] The government has deferred or rephased some projects (for example, stages of the Suburban Rail Loop beyond the initial stage are deferred). As a result, we anticipate road and rail work in Victoria to peak around this year and then ease slightly.

That said, ongoing projects like the North East Link will still be under construction through 2027, and new phases of rail upgrades are likely ahead of the 2026 Commonwealth Games and Melbourne's rapid growth needs. By 2028, if projects like the Suburban Rail Loop Stage 2 or Melbourne Airport Rail proceed, transport could see a second upswing.

Meanwhile, energy infrastructure will grow with offshore wind farms are slated late-decade, as are grid projects to replace the closing coal power stations. Water infrastructure may also see an uptick if projects like new recycling plants or augmenting Melbourne's desalination capacity move forward. In summary, Victoria's civil construction pipeline through 2028 will pivot from being almost exclusively transport-heavy to a more balanced mix that includes significant clean energy construction. Nonetheless, transport will remain the single largest sector.

Victoria's ability to maintain high infrastructure investment (18-20% of state spending in recent years)[xxix] may moderate, but the absolute level of construction work is projected to stay near historical highs (tens of billions per year) with slight growth toward 2028 as new sectors kick in. Water infrastructure may also grow if Victoria's Big Housing Build goes ahead[xxxii].

Queensland

Current Activity: Queensland's civil construction activity has been on an upswing, with a notable increase in infrastructure investment in recent budgets. In fact, Queensland's share of its state budget devoted to infrastructure jumped from 12.9% to 14.6% in the latest year - one of the biggest increases nationally.[xxix]

Queensland currently has several large transport projects underway: the Cross River Rail is in advanced construction, the Bruce Highway Upgrade Program is delivering many projects, the Coomera Connector and Gold Coast Faster Rail are progressing, and Brisbane is constructing its Metro Bus system. As a result, transport accounts for a major portion of QLD's civil construction - about 70% of Queensland's infrastructure expenditure in FY2024-25, up from 58% the previous year.[xxix] This leap underscores how dominant transport projects (roads and rail) have become in QLD's capital works.

Beyond transport, energy infrastructure is an increasingly pivotal sector in Queensland. The state has announced extremely ambitious plans, including the Queensland Energy and Jobs Plan 2022, which entails constructing the Pump'd Hydro mega-projects (like the 5 GW Pioneer-Burdekin pumped hydro scheme, one of the world's largest, slated to start construction mid-late decade), a massive build-out of solar and wind (targeting 70% renewable electricity by 2032), and new transmission "super grids."

Additionally, the state-owned Queensland Hydro was established to deliver pumped hydro projects,[xxix] and government-owned Powerlink is planning major transmission expansions. While many of these are in early phases, some early works and grid upgrades are underway.

Water infrastructure in QLD includes long-running programs like dam safety upgrades, and irrigation projects in central and north Queensland. These are smaller in value relative to transport and energy but regionally important. Other civil works: QLD has active ports construction including the expansion of the Port of Townsville, new export terminals in Gladstone and Brisbane's port upgrades. Additionally considerable subdivision development around high-growth South East Queensland.

The forthcoming 2032 Brisbane Olympics is also a catalyst for infrastructure. While much Olympic funding is directed toward sporting venues, there are significant associated transport upgrades, including heavy rail to Birtinya, a new metro link to Sunshine Coast Airport, and the Mooloolah River Interchange, as well as broader highway improvements and urban development projects that will spur civil construction activity in the second half of the 2020s.

Outlook: Queensland is expected to be a growth leader in civil construction as we near the end of the decade with several trends emerging.

Unlike New South Wales and Victoria, the transport pipeline remains strong with current projects finishing by mid-decade like cross river rail replaced by projects like the Sunshine Coast rail line duplication, Inland Rail (federal project through QLD) continuing into 2026, upgrades for the Olympics (some road/rail projects are planned in advance of 2032).

The state budget indicates that even as existing projects finish, transport spending remains high and broad-based across road and rail.

An energy boom with QLD's renewable energy construction set to ramp up dramatically.

Queensland will see major construction starts in energy: large wind farms, utility-scale solar farms, and the commencement of the huge pumped hydro projects (even just preliminary works involve major civil excavation and dam construction). In dollar terms, energy infrastructure could climb from a minor share to rival water or even approach transport in QLD by 2028. For example, an announcement in late 2023 increased the expected renewable energy investment in the near term by an extra $3.8 billion, illustrating the rapid growth in this sector afr.com[xxxiii]. Regional infrastructure and resources -

In the federal infrastructure allocations, QLD is slated to receive the largest share of any state ($14.7 billion).

Overall, Queensland's civil construction activity is projected to grow through the late 2020s, potentially making QLD the fastest-growing infrastructure market.

By 2028, the mix in QLD may be more diversified: transport will remain substantial (especially roads), but energy projects will be a major new pillar, and water projects (like new dams or pipeline expansions to support agriculture and population growth) may also see impetus from state and federal funding. The preparation for the Olympics will also ensure continued investment in urban infrastructure. It is possible that Queensland's civil construction output to rise both in absolute terms and as a share of the national total by 2028, possibly approaching that of NSW/VIC.

Western Australia

In pure infrastructure terms, WA's public infrastructure spend has been relatively lower as a share of its budget - it ranks last among states, dedicating about 8.8% of state expenditure to infrastructure in the 2024-28 period.[xxxiv]

Capital spending by the State Government's key civil infrastructure delivery agencies and corporations (in road, rail, ports, water, energy and land development) shows their combined asset investment programs (AIPs) will total $9.8 billion in 2025/26, down 2% from 2024/25.

Overall civil construction work done in Western Australia surged an estimated 13% in FY2025, the fourth consecutive year of double-digit growth. However, growth in civil activity is expected to slow in the near term as a large wave of transport related investment begins to wind down. Later this decade, utilities construction is expected to underpin a recovery in civil activity, with growth expected to average 4% p.a. between FY2028-FY2035.

Western Australian civil construction activity is expected to hold steady in FY2026 (-0.2% growth) at $18.2 billion. Electricity construction grew strongly in FY2025 but is expected to decline in FY2026. Overall transport infrastructure construction is also expected to fall in FY2026, and subsequent years as works METRONET and major roads projects move to completion.

From FY2028 to FY2030, a moderate increase in civil construction activity is forecast as most sectors (except for roads and bridges) recover from their relative declines in FY2026-FY2027. From FY2031 to FY2035, a new wave of civil construction activity is expected to emerge, with total activity likely to exceed all historical peaks by the end of the forecast period. This increase will be driven by an uplift across most segments – particularly roads, energy (driven by the transition to renewables), water, telecommunications and pipelines.

Along with transport infrastructure, electricity work has been a key driver of growth in civil infrastructure activity in Western Australia over the past five years, surging to an estimated $4.6 billion in FY2025.

While a contraction is expected for FY2026 and FY2027 (as current projects move to completion) another surge in activity is expected to take place from FY2028 to FY2035. In aggregate, electricity infrastructure activity in Western Australia over the 10 years to FY2035 is expected to total $47 billion, more than double the $20.5 billion 10-year spend from FY2016 to FY2025.

Outlook: Western Australia's civil construction outlook is stable to growing modestly, with some rebalancing between sectors.

Financially, WA's government is cautious - it kept infrastructure spending roughly flat in successive budgets.

On the transport side, METRONET will wind down towards 2027 as current lines are completed (Forrestfield-Airport link opened in 2022; other lines like Morley-Ellenbrook are due ~2024-25).

Unless new stages are started, rail construction may taper off. Road construction in WA is likely to continue steadily - mining royalties have allowed WA to fund regional road upgrades, and there will be ongoing improvements (e.g. stage 3 of the Bunbury Outer Ring Road, expansions in the north-west to support mining logistics). Thus, transport may moderate but not drop sharply. Meanwhile, energy infrastructure is set to surge: WA's government and private sector are expected to invest heavily in renewable generation (wind/solar farms such as those planned in Geraldton region), energy storage, and new transmission by late decade. The state has also earmarked funding for new long-distance transmission to link renewable-rich regions (e.g. investing in network to accommodate 800 MW of new wind in the Mid West).

However, the substantial off-budget investments (the $42b by utilities) suggest overall construction activity in WA will actually be higher than it appears in the budget.

By 2028, WA's civil construction profile will likely have less urban rail work, steady roads, and a big increase in energy and industrial infrastructure construction (the latter includes things like new port and hydrogen facilities which blur the line between civil infrastructure and industrial projects). We expect WA's share of national civil construction to be stable or slightly increase, as it tackles the transformation of its energy system.

One caveat: WA's mining-driven projects (iron ore, LNG) experienced a peak earlier in the 2010s and had declined, but there are signs of new investment in minerals critical for clean energy. If those proceed, they would further elevate engineering construction activity (though not strictly "infrastructure," they utilize the same construction resources).

In summary, WA's civil construction through 2028 will be characterised by maintaining transport investment levels and ramping up utility infrastructure. The state's efforts to balance its budget mean public-funded works grow slowly, but the demand for new energy and export infrastructure will keep builders busy.

South Australia

South Australia has a smaller absolute volume of civil construction than the big eastern states, but it has been punching above its weight in infrastructure commitment. SA was ranked 3rd in infrastructure funding effort, allocating 15.6% of its state expenditure to infrastructure.[xxxv]

In practical terms, this translates to a four-year public infrastructure spend around the mid-$20 billions in the.

The marquee project in SA's transport sector is the final stage of the North-South Corridor, a multi-year program to create a continuous motorway through Adelaide. The last segment (the Torrens to Darlington tunnels) is a ~$9 billion project now in early works; it will be a major source of roads engineering activity through the latter 2020s. Apart from that, SA has been investing in rail also - for example, the Gawler rail line electrification (recently completed) and planning for expanded tram/light rail in Adelaide (under consideration). Ongoing road upgrades (e.g. Joy Baluch Bridge duplication in Port Augusta, Princes Highway works) contribute as well. Transport likely forms roughly half (of SA's civil construction at present.

Water infrastructure is significant in SA due to the Murray River and water security initiatives. Projects like the Murray Darling Basin water infrastructure upgrades, new desalination capacity (e.g. a desal plant at Whyalla for industrial use, and an Adelaide desal augmentation for drought response) are in the pipeline.

The federal government recently pledged funding to water projects in SA as part of national programs. Energy infrastructure is a star sector in SA: South Australia has led Australia in renewable energy penetration (now around 60% of electricity from wind/solar).

Energy projects are a growing portion of SA's civil construction - currently maybe 15-20%, and likely to grow further. Ports and other civil: SA has some port. Land subdivision is modest given SA's slower population growth, but there are ongoing developments around Adelaide.

Outlook: We expect South Australia's civil construction activity to remain robust and potentially increase as new projects commence. The North-South Corridor tunnels will be in full construction mode through most of this period until 2030, which guarantees a high level of road/bridge work. This project alone will keep transport as a dominant sector in SA.

On the energy front, South Australia is on the cusp of another renewables investment wave: proposals for offshore wind in the Spencer Gulf, more grid-scale batteries, and possibly the construction of the government-backed hydrogen electrolyzer and power plant at Whyalla (part of the Hydrogen Jobs Plan) by late 2020s.

These will boost energy infrastructure construction. Also, transmission network upgrades will continue after EnergyConnect - SA plans to strengthen links to Victoria and within the state to accommodate renewable projects. Water investments may also tick up: SA is a beneficiary of federal water infrastructure funding to improve Murray River outcomes and water security in regional towns. For instance, new irrigation infrastructure in the Riverland and pipeline projects (like the Southern Urban Water Pipeline) could start.

In terms of sector balance, by 2028 SA might see a slight tilt away from transport toward energy, as the road megaproject winds down and big renewable/hydrogen projects ramp up. However, the road tunnel project timeline suggests transport will remain very high through 2028. SA's share of national civil construction is relatively small (perhaps ~5% of the national total), but its growth rate may be healthy. With strong commitments already in place, SA is edging closer to the top-tier states in infrastructure investment.

In fact, Infrastructure Partnerships Australia noted SA is neck-and-neck with NT for a "podium position" in proportionate spend, and could challenge the larger states in coming years infrastructure.org.au. The key determinant will be the extent to which planned private-sector energy projects materialize; if they do, SA could experience an infrastructure construction mini-boom of its own in the latter 2020s (on top of the public works already funded).

Tasmania

Tasmania has the smallest population and economy of the states, and accordingly a smaller scale of civil construction - but relative to its size, infrastructure is a critical focus that is dominated by transport projects, especially roads.

The Tasmanian Government's capital program for FY2024-28 allocates about $1.9 billion for road and bridge infrastructure.[xxxvi] This includes projects like the New Bridgewater Bridge (a $786 million replacement of a major Derwent River crossing,) which is the largest transport project in Tasmanian history. That one project alone is consuming a large share of Tas's civil construction capacity through 2024-25.

Other road works include upgrades to the Bass Highway, Midland Highway improvements (connecting Hobart and Launceston), and various regional road packages - some co-funded by federal programs like the Roads of Strategic Importance infrastructure.org.au. With these, it's fair to say transport (roads & bridges) accounts for the majority of Tasmania's civil construction activity (likely well over 50%). Indeed, "transport continues to dominate Tasmania's infrastructure spending" according to Infrastructure Partnerships Australia infrastructure.org.au.

Water infrastructure in Tasmania is another important area, albeit smaller in dollar value. TasWater (the state's water utility) has ongoing programs to upgrade aging water and sewerage systems across the state's towns - many projects to improve drinking water quality and sewage treatment have been in progress. There are also irrigation schemes (the

Tasmanian Irrigation schemes) being built to support agriculture - for example, the South East Irrigation Scheme Phase 3, etc.

These initiatives contribute to civil construction but at a lesser scale (hundreds of millions over years, not billions). Energy infrastructure is a traditional strength for Tasmania, given its hydroelectric heritage. Currently, big plans are in motion: the “Battery of the Nation” project (upgrades and new pumped hydro schemes to boost Tassie’s hydro capacity) and the Marinus Link (a proposed $3.8 billion undersea electricity cable to connect Tas to Victoria with two extra circuits). As of 2023, these are in planning and early works - significant construction has not yet started. But the existing civil works in energy include maintenance/upgrades at hydro power stations, some wind farm developments (e.g. the Robbins Island and Jim’s Plain wind farms in the northwest are slated), and network augmentations by TasNetworks. Other civil works: Tasmania has minimal port construction (the ports are relatively small; some works at Burnie or Bell Bay might occur if new industry comes). Subdivision/housing-related civil work is moderate, mainly around Hobart’s and Launceston’s outskirts.

Outlook: Tasmania is on the cusp of potentially transformative infrastructure projects, which means its civil construction activity could swell significantly if they proceed.

Chief among these is the Marinus Link subsea power cable. This project, if it secures final funding by 2024-25, would involve laying 255 km of undersea cable and extensive land works for converter stations, likely kicking off major construction around 2025 and running through 2028. It represents a multi-billion dollar construction effort (with substantial federal backing). Likewise, the pumped hydro projects under Battery of the Nation (e.g. the proposed expansion of the Tarraleah scheme or new pumped storage at Lake Cethana) would be large civil works undertakings (tunnels, dams) starting perhaps later in the decade. Should these proceed, the energy infrastructure sector in Tasmania would surge, potentially taking a much larger share of the state’s civil construction by 2026-2028 than it does now.

Meanwhile, traditional sectors will continue but possibly taper: the Bridgewater Bridge will be finished by ~2025, freeing capacity.[xxxvii] After completion of that and other current road projects, Tasmania’s transport spend might decrease slightly, unless new big projects are added. The state does plan continual road upgrades (the 10-Year Infrastructure Pipeline lists future projects), but many of the largest are already in execution.

So we might see transport’s dominance in Tas decline somewhat toward 2028, offset by energy projects ramping up. Water infrastructure will continue steadily (TasWater has a long-term capital plan to bring systems to modern standards), meaning that sector’s volume is relatively stable. In summary, Tasmania’s overall civil construction activity through mid-decade is strong (buoyed by the bridge and highway works), and then in the later 2020s it could be buoyed again by those nationally significant energy projects. If Marinus Link and pumped hydro both go ahead, Tasmanian civil construction could reach levels well above historical norms (with much of the funding coming from outside the state). On the other hand, if those are delayed, Tasmania may experience a lull post-2025 as current road projects wind up.

However, financial blowouts on recent and proposed projects are placing significant strain on the Tasmanian state budget and risk crowding out future infrastructure investment. The cost of constructing new berths for the Spirit of Tasmania vessels in both Geelong and Devonport ran well over original forecasts, drawing criticism over project governance and transparency.

More recently, the proposed new AFL stadium at Macquarie Point—estimated at over $700 million—has triggered public concern and political debate over its affordability, especially when set against other critical infrastructure needs. These fiscal pressures may affect the state's capacity to co-invest in future civil projects or maintain current levels of transport and water infrastructure spending. Without careful financial management and clearer federal-state funding arrangements, Tasmania risks undermining its capacity to deliver the large-scale energy projects it is relying on for the next phase of economic and infrastructure growth.

Northern Territory

The Northern Territory has a small population but large land area, meaning its civil construction often revolves around enabling remote connectivity and supporting resources/defence projects. As of end-2024, the NT recorded the strongest growth in engineering construction of any jurisdiction - the trend value of work done was up 26.2% year-on-year (Dec 2024)[xxxviii], however these are largely reflective of the small overall total of works.

We have been fortunate to benefit from ongoing Commonwealth and US investment in our defence facilities, including all our training bases, the patrol boat base, accommodation facilities, RAAF Darwin and RAAF Tindal. Without this activity, the past year would have been far leaner for the industry.

The NT Election in late August 2024 prompted a re-prioritisation of infrastructure spending, with some tenders withdrawn. This was followed by the wait for the Federal Election, Federal Budget and Territory Budget, resulting in the loss of a full year of progress. Clearly, not an ideal situation.

While budget figures are always important, it can be frustrating that much of the reported "program spend" is spread over multiple years. Contractors are more interested in the actual spend within a given financial year. For example, the NT may announce a $4 billion infrastructure program, but more than $2 billion can often be revoted (rolled over) from one year to the next.

A few key projects explain this: the Tennant Creek to Townsville "Outback Way" road upgrades (federally funded program) are ongoing, upgrades to the Stuart Highway and other arterial roads, and some significant defence-related infrastructure (such as expansions at Darwin's naval base and Tindal RAAF base runway works) which fall under civil construction. The NT's capital works program allocates a majority to transport - for example, over the 2024-28 budget, about $2.3 billion is allocated to transport capital works, which is 53% of the NT's entire capital works program.[xxxix]

This includes major road corridors being upgraded (e.g. the Central Arnhem Road and sections of the Plenty Highway as part of outback road upgrades. Thus, roads are a big focus (often unsealed roads being sealed). NT's single biggest transport asset, the Darwin-Alice Springs railway, does not require new construction, but there is interest in new rail spurs for mining, which hasn't materialised yet.

Harbours and ports are another active area with the port of Darwin is considering plans to expand facilities, however ownership must be finalised first.

Additionally, the NT government (with Commonwealth assistance) is developing a new Marine Industry Precinct and upgrading Darwin Harbour to support defence and commercial needs.

Energy infrastructure in NT at present is relatively limited, but huge projects are proposed:

notably, the Sun Cable Australia-Asia PowerLink - a $30 billion solar farm and subsea cable to Singapore - was under.[xl]

The Darwin Ship Lift Facility, valued at more than $500 million, is now under construction and will provide world-class marine maintenance and servicing capabilities. It will form the centrepiece of a broader Marine Industry Precinct at East Arm, which is becoming increasingly likely as momentum builds from on-shore gas activity and associated marine infrastructure needs. If fully realised, this precinct could represent investment in the order of $2 billion and position the Northern Territory as a leading marine services hub for Northern Australia and the Asia-Pacific region.

The Manton Dam Return-to-Service project is progressing, with a value exceeding $300 million. This initiative will boost water security for the Greater Darwin region and is part of a broader pipeline of potential water infrastructure investments in the Territory, which could total more than $1.5 billion. These projects will be critical in supporting population growth, industrial development and long-term economic resilience.

Outlook: The NT's civil construction trajectory is highly project-dependent and thus can be volatile. A few scenarios: If mega-projects like Sun Cable or large mining projects proceed in the next few years, NT could see a boom.

Under a growth scenario, energy and industrial infrastructure might become a major component of NT civil construction, reducing the relative share of basic transport. On the other hand, if those big private projects are slow, the NT will rely on steady public works. The outlook on that front: the Territory will continue to invest in remote roads, community infrastructure, and defence-related works.

Sector-wise, expect transport to remain significant but other civil categories could leap forward if, say, a new port facility at Middle Arm or a large rail extension to a mine begins. Already, the past year's stats show a big jump in *"bridges, railways and harbours"* work - indicating a diversification from purely roads treasury.nt.gov.au. By 2028, NT's civil construction might be much larger than today if even one mega-project breaks ground. However, given NT's small base, even moderate projects cause large percentage swings.

In any case, the NT government's own budget forecast shows a slight decline in the forward calendar as current road funding winds down[xli], but this could be offset by new federal injections. In conclusion, the NT's civil construction outlook is optimistic but contingent: plenty of plans on the table (from solar exports to critical minerals), which if realized will keep the Territory's engineers and contractors busy through 2028 and markedly shift the sectoral mix towards energy and export infrastructure.

In the Northern Territory, ensuring secure access to construction materials such as sand, gravel, fill, hard rock resources and water remains a critical issue, both now and into the future. The industry is finding it increasingly difficult not only to access these materials, but also to obtain the necessary approvals to extract and transport them. Many environmental triggers are creating significant frustration and delays for contractors.

These resources occur where nature has placed them, not necessarily where projects require them. Access to quality materials is essential to support all infrastructure development in the Territory, and this must also include reliable key transport corridors to move them efficiently.

Australian Capital Territory

The ACT Government's infrastructure budget is smaller in absolute terms, but as a share of expenditure it's been around 13-14% (placing it mid-ranked).[xlii]

The standout sector in the ACT is urban transport, especially the ongoing development of the Canberra Light Rail network. Stage 1 was completed in 2019; Light Rail Stage 2A is now under construction.

The ACT's 2024-25 budget allocates $649 million over four years for the light rail extension (Stage 2A),[xliii] with an additional $100 million earmarked towards Stage 2B to Woden in coming years.

This represents a significant chunk of ACT's civil works. Beyond light rail, the ACT invests in roads and active travel infrastructure. However, road projects in ACT are relatively modest compared to state highways elsewhere. Still, roads and bridges likely form a sizeable portion of the ACT's civil construction - think in terms of tens of millions per project rather than billions.

Utilities in the ACT are handled by Icon Water and Evoenergy; major new infrastructure in these areas is limited but includes things like an ongoing sewer tunnel project under Canberra and periodic upgrades to water treatment plants.

Energy infrastructure specific to ACT is minimal as it imports most electricity via the NSW grid and invests off-site in renewables, so aside from some substation upgrades or battery installations, this is not a big construction sector locally.

Outlook: The ACT's civil construction activity is expected to grow moderately, largely driven by the progression of the Light Rail project. Stage 2B (extending light rail to Woden in the south) is a major project likely to start by 2025-26 once federal environmental approvals are sorted. It will involve several years of construction thus keeping the transport construction sector busy through around 2028.

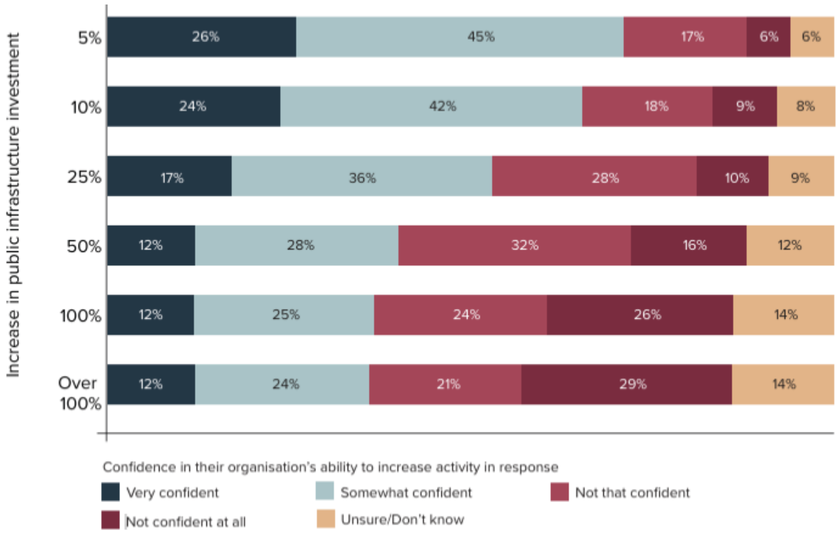
This means public transport infrastructure will remain the headline segment for ACT. Road works will continue with the ACT planning further parkway duplications and intersection upgrades as Canberra expands), but these are incremental.

By sector share, one can expect transport to dominate ACT's civil construction (potentially 70%+ of the spend during peak light rail building). Water and energy will be secondary.

Land development will proceed as the city grows toward 500,000 population, so subdivision civil works are a steady contributor. All told, the ACT will see a continuation of the current trend of infrastructure expansion, with slightly increased volume thanks to the largest project (light rail) moving ahead. Its scale relative to the national picture remains small (well under 5% of national civil construction). However, per capita, the ACT often spends heavily; in fact, ACT's per capita infrastructure spend is second only to NT infrastructure.org.au. This suggests the ACT will maintain robust investment through 2028, ensuring the city's transport and utilities keep pace with growth.

Industry Confidence

The CCF's FY2024 Annual Civil Industry Survey also noted that contractors in the Tier 2 and 3 category delivering larger contracts have greater confidence to scale up. Across all growth scenarios, companies delivering contracts over $100 million are more confident to scale than those delivering contracts between $10 million and $100 million. Companies delivering contracts less than $10 million in value have consistently less confidence to scale up than the two prior-mentioned groups.



Confidence of building and construction businesses in their ability to increase activity to meet increased public infrastructure investment (Infrastructure Australia, 2024)

Of those surveyed among the CCF's member base, nearly a third (31%) reported that if there was an increase in the number of projects tendered in their respective state, they could take on between 10-25% extra work. This is compared with a little over a fifth (21%) who said they could take on between 25-50% more work.

Where these members suggest they have extra capacity to take on additional projects, nearly 80% said they could take on the most work in rural and regional areas, compared to 64% who reported capacity to take this extra work within metropolitan areas. During interviews, businesses also noted the current economic environment, including inflation, rising costs and interest rates, as a challenge affecting project viability and profitability, which in turn is impacting on overall capacity.

Civil Construction Equipment Market Trends

According to Pickles' latest Quarterly Industrial Market Update, the construction equipment market has started 2025 in a position of renewed strength and stability. Clearance rates have climbed to over 76%, reflecting strong buyer engagement and a sustained shift toward used machinery as a preferred option across the sector.

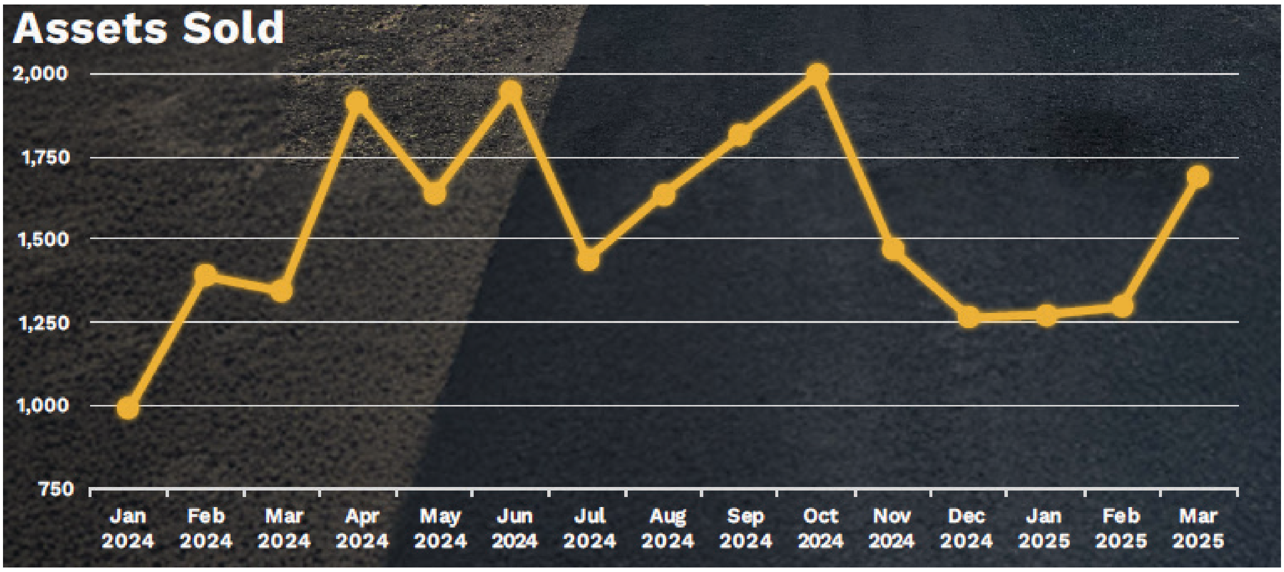
This trend is being driven by a combination of factors. While supply chains have improved and new machinery is more accessible, high costs continue to push many contractors toward well-maintained second-hand equipment. As a result, demand and pricing for used civil machinery have remained consistently high.

The Pickles report highlights particularly strong turnover for core infrastructure assets—tippers, excavators, and graders—as government-backed construction and maintenance works ramp up. Activity is especially elevated in regions like Queensland, where weather-driven repair works are creating further pressure on plant availability.

Importantly, the market has returned to a more predictable pattern, with larger fleet operators embracing current conditions as the baseline rather than holding off for further improvement.

Buyer confidence is also translating into quicker decision-making and competitive bidding behaviour at auction.

With civil project pipelines expanding and end-of-financial-year cycles approaching, Pickles anticipates continued strength in the used equipment market, supported by a stable supply of quality assets and steady infrastructure investment.



Assets Sold by Pickles, 1st Quarter Market Report

3. ROLE OF HOUSING AND COMMUNITY ENABLING INFRASTRUCTURE

Housing is the first consideration of community and its connection to infrastructure is significant.

Australia's housing system has faced severe turbulence, with data highlighting the extent to which affordability, supply, and infrastructure delivery have deteriorated over the past three years.

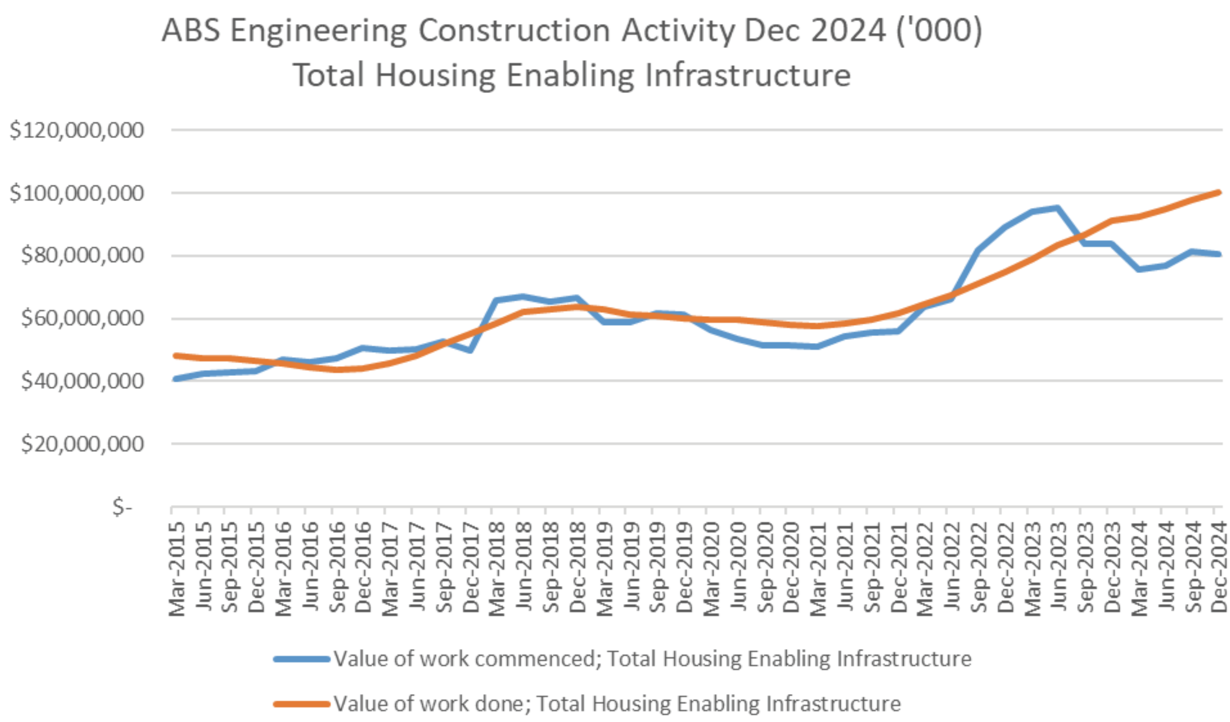
According to the latest figures from the Australian Bureau of Statistics (ABS), key indicators analysed by CCF recognise a nationwide downturn in housing outcomes for both renters and mortgage holders, correlating with investment into Housing Enabling Infrastructure such as water, sewerage, roads, telecommunications and subdivisions.

The ABS housing commencement activity ending December 2024 shows:

- As released by ABS in April 2025, Australia in December 2024 commenced 168,049 homes in the year to December 2024, this sees Australia over 60,000 homes short of the number of homes commenced in the year to December 2021 which is well under both population demand and the Government's stated housing target.

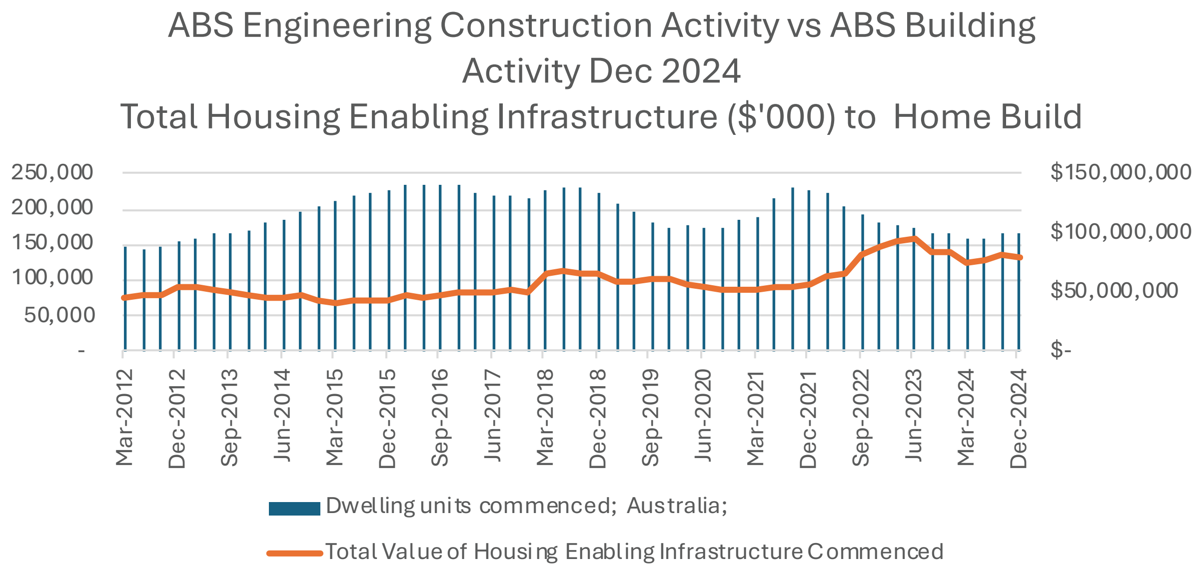
Correlation of Housing and Community to the Enabling Infrastructure

As detailed below, around two thirds of all annual national infrastructure commencement ($80b) spend goes into Housing and Community Enabling infrastructure which includes: Roads, Highways, Subdivisions; Bridges; Railways; Water Storage and Supply; Sewerage and Drainage; Electricity Generation, Transmission and Distribution; Pipelines; and Telecommunications.

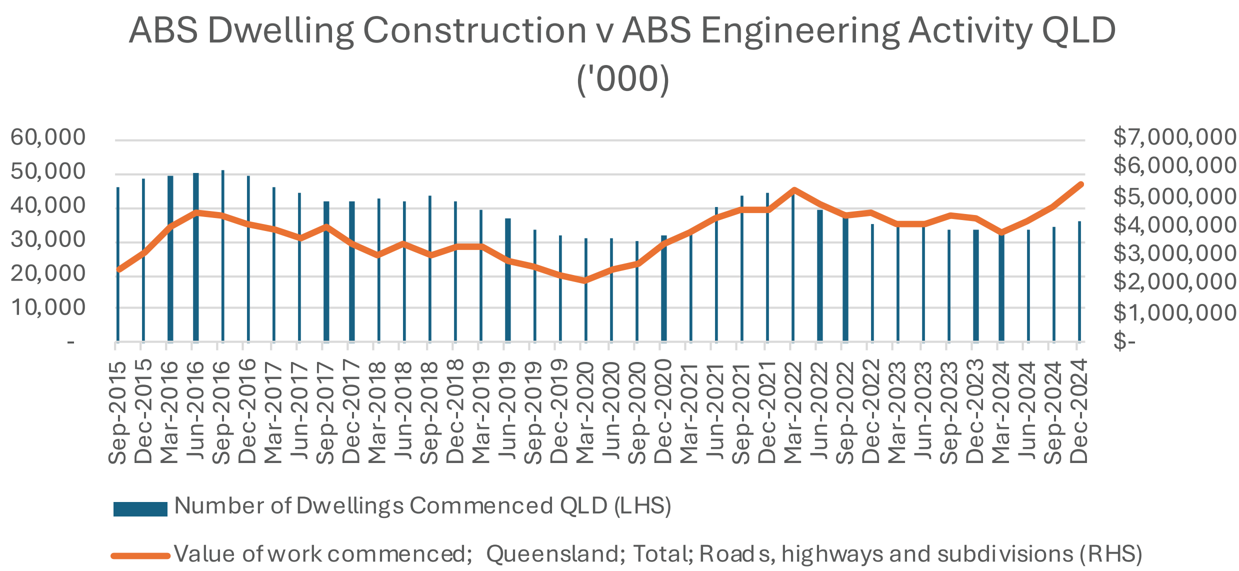


In what seems to be an obvious correlation, investment in Housing Enabling Infrastructure sees a corresponding increase in housing commencements, evidencing that a dollar can't be spent in housing until a dollar has been spent in civil.

It is noted that some mega projects commenced in late 2022 distorted the correlation between housing and the enabling infrastructure which will be unpacked further.



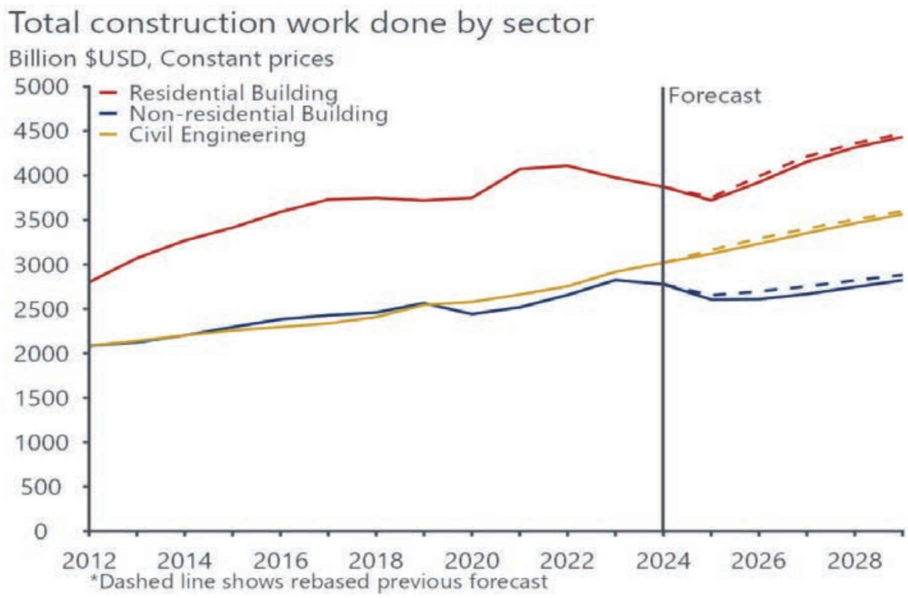
Housing Enabling Infrastructure: Queensland Case Study



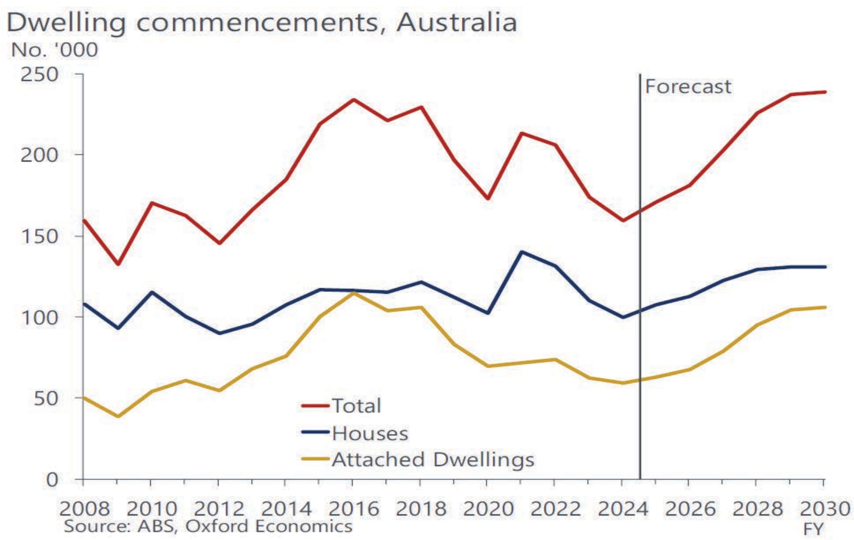
- There is a close correlation between investment in civil infrastructure—particularly roads, bridges, and subdivisions—and housing delivery. Queensland, with Australia's least centralised population, offers a clearer view of this correlation as a greater proportion of infrastructure funding supports regional and peri-urban areas, rather than being concentrated in metropolitan mega-projects as seen in New South Wales and Victoria.

- We expect housing activity in Queensland to lift over the coming years, following a noticeable increase in civil infrastructure investment since March 2024.

As detailed below, Oxford Ecomomics reports that it expects subdivisions work to increase which is a positive marker for housing enabling infrastructure to flow into new housing outcomes in the future.



Source: Oxford Economics



In a sign of optimism for the delivery of housing, the enabling infrastructure should see annual targets for housing delivery met if last kilometre infrastructure is undertaken.

The Missing Link - Last Kilometre Housing Enabling Infrastructure

As the previous data shows, there is a correlation in homes delivered to the spend in Last Kilometre Housing Enabling Infrastructure; roads, subdivision, water, sewerage, and telecommunications. The spend in Last Kilometre Enabling Infrastructure must be prioritised —this has been a major contributor to the collapse in housing delivery. Housing levels also rise on the back of the enabling infrastructure.

There is a misconception that new homes can be built without first investing in the enabling infrastructure in greenfield areas. Brownfield infill and density of housing requires upgrades to the capacity of this essential infrastructure which benefits existing residents in increased services. Before any housing project—whether government-led or private—can commence, the civil construction industry must unlock the potential of the land.

Investment in $10-50m 'last kilometre infrastructure' projects like sewage or water requires that civil skills are on hand to harness the uplift and halt the deepening housing delivery collapse.

Last Kilometre Housing Enabling Infrastructure investment ensures that the subdivision is supported and the key to affordability is that those end consumers who can least afford the cost of infrastructure avoid this cost. In much the same way that first home owner grants reduce the burden on those with least capacity to pay, this will reduce the cost to people looking to secure a home.

The Commonwealth can plan for a 20-year plan for sustained infrastructure investment with $10b for $10-$50m last kilometre housing enabling infrastructure projects supporting housing delivery in the communities with rising population, increasing rents/mortgages and low delivery rates of dwellings.

Case Study: Wilton Greens Subdivision

Located in Wollondilly Shire, an hour's drive from the Sydney CBD, Wilton Greens was rezoned in mid-2023 as a priority growth area, opening up to 12,000 plots for residential development. But as reported in early July 2025, by the Australian Financial Review[xliv], infrastructure has not kept up with that ambition which is putting a hold on homes built.

Caitlin and Adam Webster (Oscar Coleman, AFR)

Wollondilly Mayor Matt Gould was reported to have said the community was in the "terrible position … where there is currently only sewer capacity for a tiny fraction" of those houses, meaning "a significant amount of effluent has to get trucked out" for the few residents who have been able to build.

Caitlin and Adam Webster who were interviewed, by the AFR paid a deposit for their dream plot in a housing development south-west of Sydney four years ago, whether the water and sewerage would be hooked up was not at the front of their minds.

> *"We always thought that wasn't an issue, we were told the land would be registered by 2023 at the latest," Caitlin said.*

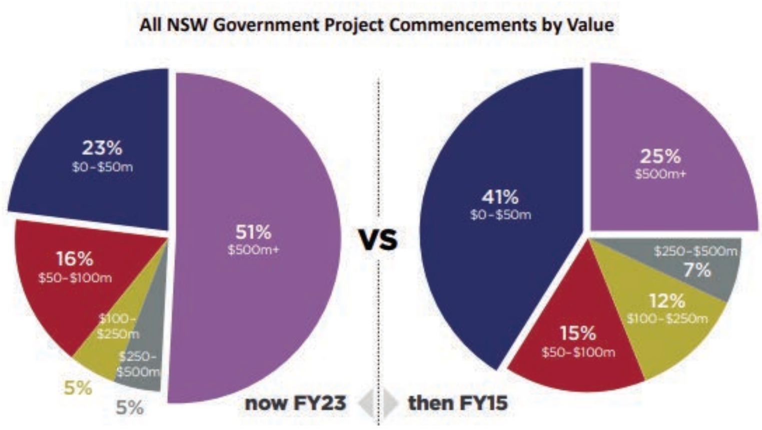
But the timeline stretched, first to 2025-26 and then to 2028 and has left them living with relatives while they wait for their home to be ready.

> *"It's been notified to us that it's due to the water … it won't be registered and other civil works can't commence until Sydney Water do their part," she said.*

A challenging position which is coming to light is that Sydney Water has proposed to raise bills by a third to try and keep up with the capex and opex upgrades in infrastructure that it currently faces. This barrier to housing delivery is being faced across the country with the last kilometre being the major barrier.

Breakout 3: Rise of the Mega project and risks to Last Kilometre Infrastructure

In FY15, 41% of projects in NSW were valued between $0-$50 million, whereas in FY23, this category dropped to 23%. Conversely, projects valued over $500 million increased from 25% in FY15 to 51% in FY23.[xlv]



This shift towards funding larger projects suggests that a substantial portion of the infrastructure budget is being allocated to fewer, high-value undertakings.

On a national level, Tier-1 construction companies (defined as those that have delivered projects or been awarded contracts valued at over $1 billion) are taking a greater share of public infrastructure contracts, with the top five companies taking up over 40% of the market in 2024.[xlvi]

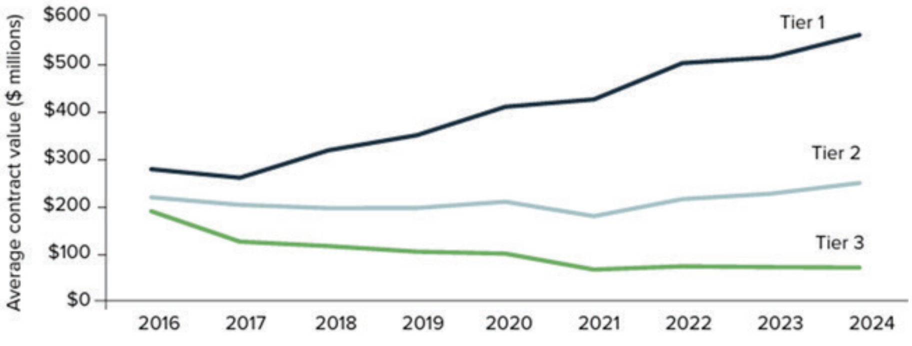
The infrastructure construction market can be segmented by capacity size, as follows:

- Tier-1 companies: have delivered or won megaprojects valued over $1 billion
- Tier-2 companies: have delivered on at least one project valued at over $100 million
- Tier-3 companies: representing rest of the market.

Industry continues to voice the need for a better balance of risk allocation in contracts with factors including overly complex and litigious contract models, governments' overly low risk appetite, and threat of extreme weather events on project delivery. Parties need to continue working together to find the best balance of risk to minimise unnecessary costs and deliver best value for money.

The value of the infrastructure market has increased substantially in this time and, although lower-tier companies are being awarded more contracts of smaller work, tier-1 companies are undertaking more work of higher value projects, with increased complexity.

: Average contract value by tier of construction company (2016 to 2014)



Source: Infrastructure Australia analysis of GlobalData (2024)

Australia finds itself facing a situation where our largest and most important infrastructure projects are increasingly being allocated to large, offshore companies. Australia is therefore competing with other international infrastructure markets for their services.

Infrastructure delivery in Australia has traditionally focused on the largest tier-one firms due to the nature of the project pipeline and a risk-averse approach from procurers. As discussed in the productivity section 3 of this report the larger the project then the bigger the cost overrun.

This focus can fail to adequately reach local communities and contributes to significant multi-billion-dollar blowouts in the national infrastructure pipeline. Promoting smaller projects, particularly those under $5-50 million, supports a "Made in Australia" agenda, fostering local employment, skills development, and project delivery in every community. Smaller projects ensure greater local content, appropriate risk allocation, workforce upskilling, and higher economic growth across Australia's regions through Commonwealth government contracts.

Case Study: MRPV Smarter Procurement for Better Social and Sustainable Outcomes

Victoria's Social and Sustainable Procurement Framework encourages government buyers to think beyond price and consider how their purchasing decisions can deliver broader benefits to the community. To get better outcomes, we need to use smarter, more flexible procurement models that make it easier to support local jobs, small businesses, and the environment.

One proven approach is performance-based contracting, where suppliers are paid based on the outcomes they deliver—such as creating jobs for disadvantaged Victorians or reducing carbon emissions. This model rewards innovation and ensures government money is spent on results that matter to the community.

Circular procurement is another way to deliver real environmental benefits. It focuses on buying goods and services that reduce waste, use recycled materials, and support the shift to a circular economy. For example, choosing road materials with recycled content or services that help cut down landfill can directly support Victoria's sustainability goals.

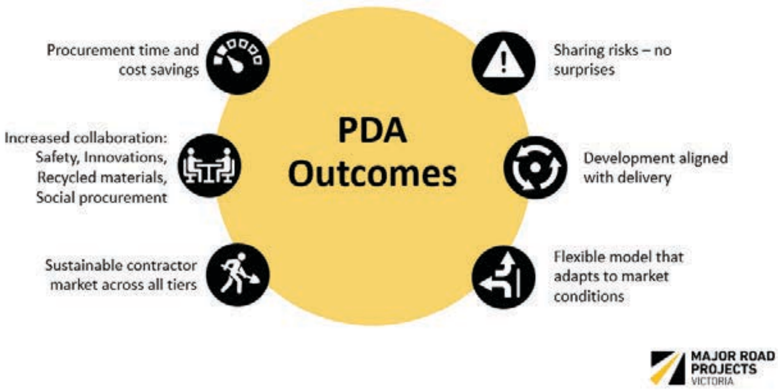
Joint and syndicated procurement—where multiple government agencies come together to buy in bulk—can also open doors for smaller suppliers. By pooling contracts, agencies can make it easier for social enterprises, Aboriginal businesses, and local contractors to compete and grow. This approach is particularly useful in regional areas where access to major projects can otherwise be limited.

Likewise, purchasing cooperatives give small businesses a fairer shot at government work by reducing red tape and combining demand. This creates larger, more consistent opportunities for suppliers who might otherwise miss out.

By using these alternative procurement models, Victorian government buyers can help deliver better outcomes for the community—creating more local jobs, supporting inclusive businesses, and building a more sustainable future.

In the words of Alexis Davison of Major Roads Projects Victoria

> *Sustainable procurement refers to balancing environmental, social, and governance (ESG) factors with financial considerations in procurement processes. MRPV's Program Delivery Approach (PDA), launched in 2020, is a flexible, tiered contracting model designed to address industry challenges like large, complex projects, under-utilised lower tiers, and COVID-19 uncertainties.*



> *It incentivises collaboration, transparency, and outcome-focused delivery, with six contractor panels catering to different project complexities. The PDA model fosters flexibility, reduces delivery time, and encourages innovation. It has led to improvements such as reduced procurement times, cost savings, and the ability to work with diverse suppliers, including social procurement initiatives.*
>
> *The model supports environmental sustainability through initiatives like the Recycled First Policy and decarbonisation strategies, including low-carbon materials and renewable energy use. For example, MRPV has trialled calcined clay as a sustainable alternative to cement, reducing carbon emissions. Gender equity is also a priority, with minimum gender equity standards for projects. The PDA model has delivered over $3 billion in completed projects, demonstrating its effectiveness in driving innovation and achieving tangible benefits across time, cost, sustainability, and social impact, with continued evolution planned for future projects.*

Case Study: Canberra Light Rail

Our nation's capital is expanding, and as a city of satellite centres from south to north (Tuggeranong, Woden, Civic, Belconnen and Gungahlin) the concept that you can live, work and play in your satellite centre is a very real-life option.

As a designed city that has grown within its planned parametres, there has been a need to connect all these ‘satellite centres’ together. This is by the Light Rail project which connects all the centres from the north making its way south. With Stage one from the north completed, the next stage is underway from Civic to the lake (Stage 2A) and then through to Woden.

In the words of Gillian Geraghty, ACT Chief Engineer - Infrastructure Canberra

> *Canberra’s population will soon grow beyond half a million people and is projected to be more than 780,000 by 2060. With this population growth comes greater demand for housing, jobs, facilities, services and transport. The ACT Government is investing in an integrated public transport system that provides flexible, reliable and sustainable transport options, as well as wider economic benefits by opening up land for housing, urban renewal and commercial opportunities.*
>
> *Light Rail Stage 2 is expected to result in more efficient land use and extensive urban renewal along the light rail corridor. Light Rail Stage 2A: City to Commonwealth Park will frame the future shape of development along the Northbourne Avenue-London Circuit-Commonwealth Avenue corridor and support the activation of underutilised land around City West, City Hill and the Acton Waterfront and enable city wide initiatives for urban renewal and diversity of place.*
>
> *The raising of London Circuit has already enabled a milestone land release between the city and Acton Waterfront. This land release will create a mixed-use precinct that supports pedestrian connections with the lake and locate more employment and economic activity in the heart of the city. This will draw more people to key renewal areas such as the Sydney and Melbourne Buildings and the Canberra Civic and Culture District.*
>
> *An Environmental Impact Statement for Stage 2B: Commonwealth Park to Woden is in development to explore the project’s benefits and impacts, including urban renewal along the light rail corridor.*

Case Study: New Bridgewater Bridge Tasmania’s Largest Transport Project

Whilst there is a clear need for last kilometre infrastructure, there is a balance where large scale generational projects need to proceed. As presented at the 2024 CCF Australian Infrastructure Summit, the New Bridgewater Bridge is just this.

Located at Bridgewater, crossing the river Derwent around 20 kilometres north west of Hobart on the way to Launceston, this bridge opens up the Bridgewater to Brighton residential area and connects a community emerging from firstly for Polish and European settled refugees in the 1950’s to the development of 3-4000 social housing dwellings built in the late 1970s.

With the expansion in population of Hobart and its surrounds, the New Bridgewater Bridge is truly what housing and community enabling infrastructure delivers to revitalised social and refugee subdivisions with new generations moving to these affordable suburbs and beyond.

McConnell Dowell was engaged by the Tasmanian Department of State Growth to deliver the New Bridgewater Bridge - the state's largest transport infrastructure project. Replacing a 1940s lift-span bridge, the new one-kilometre structure provides a modern four-lane crossing over the River Derwent to ease congestion and improve freight access around Hobart.

Constructed downstream of the existing bridge, the project includes upgraded interchanges at Granton and Bridgewater and a dedicated path for cyclists and pedestrians. The contract was awarded based on McConnell Dowell's innovative design and commitment to local industry. Key partners included Jacobs, Tony Gee and Partners, Tonkin and Taylor, Wood Marsh, and Pitt and Sherry, with VSL leading bridge construction alongside local firms Batchelor, BridgePro, and Hazell Bros.

The project delivered a safer, faster connection across the River Derwent, reduced travel times for over 22,000 daily users, and improved freight efficiency. It included enhanced road interchanges and a shared-use path, while engaging a local workforce for 85% of roles. Delivered on time and on budget, the project stands as a model for how local participation and innovative planning can drive successful infrastructure outcomes opening up and enabling the surrounding communities..

4. NATIONAL AND STATE PRIORITIES AND LEVERS

4.1 INFRASTRUCTURE WORKFORCE

> *"For years, demand has been far outweighing supply leading to cost increases and project timelines being delayed." - Tim Reardon Chief Commissioner Infrastructure Australia 2024.*

The civil industry is central to delivering housing, enabling the energy transition, and building the infrastructure that connects communities—but there is a growing gap between rising expectations and the level of support provided. Contractors are expected to deliver more, yet the current training system is only just starting to recognise key civil apprenticeships.

As profiled by Oxford Economics the construction labour force is aging and the development of housing and community enabling infrastructure will hinge on the balance of prioritising and incentivising new skills for civil.

This disconnect is contributing to persistent skills shortages. Despite some softening in overall demand, Infrastructure Australia's latest Market Capacity Report shows projected infrastructure workforce shortages of 197,000 in 2024. Critical gaps remain across engineering, trades, and project management roles.

The Government has begun taking some much needed action, including a $78 million commitment to fast-track the qualifications of 6,000 experienced workers including civil. This is a targeted and timely step toward boosting Australia's housing and infrastructure delivery capacity through the inclusion of civil occupations.

Without targeted investment in civil skills development, Australia risks falling short of its national goals. Fixing this gap is not just necessary—it represents a generational opportunity to build a more capable, future-ready workforce that can deliver the infrastructure our growing nation needs.

Classification and Prioritisation of Infrastructure Skills

Over the past 20 years, the ANZSCO code system has failed to accurately reflect the full range of occupations within the civil construction industry. Where roles have been captured—such as bridge, road, and tunnel constructors, civil plant operators, pipe layers, and line markers—the skill level classifications have often been set too low, leading to under-recognition of the workforce's capabilities.

However, with the rollout of the new Occupational Standards Classification Architecture (OSCA), there is optimism that civil occupations will finally be correctly recognised. This presents a long-overdue opportunity to align classification systems with the complexity and value of civil work, and to ensure the sector receives appropriate policy and funding support moving forward.

Under existing classification there are two structural issues that are ensuring civil occupations are not supported by Government.

1. Jobs in civil classified as Machinery Operators and Drivers rather than as technicians or trade workers.
2. Civil Occupations like Tunnel Constructor, Bulldozer Operators and Earthmoving Plant Operators are classified as low skilled occupations (4), rather than recognised as apprentice tier (3), such as welders, painters or bricklayers.

Why is this classification important?

This classification system is critically important because it determines how government support is allocated.

Agencies such as the Department of Home Affairs and the Department of Employment and Workplace Relations rely on these occupational codes to determine eligibility for skilled visas, apprenticeship funding, and workforce development programs. When civil occupations are misclassified or overlooked, the industry misses out on essential support—despite playing a foundational role in delivering national priorities like housing, energy, and infrastructure.

Government programs intended to incentivise the uptake of priority occupations like the Australian Apprentice Incentive Scheme (AAIS) are intended to support construction apprentices.

For example, the AAIS funding program does not include Civil occupations, thus excluding civil contractors from the following incentives to attract talent

- Priority Wage Subsidy up to $15,000* (paid to employer/host)
- Apprentice Training Support Payments $5,000* (paid to apprentice)
- Apprentice Trade Support Loans up to $22,890* (paid to apprentice)

The trade apprenticeships not recognised are:

- Certificate III Civil Construction
- Certificate III Civil Construction Plant Operations
- Certificate III Trenchless Technology

As per Appendix B and summarised below, civil occupations face long standing shortfalls across most occupations.

Now how is this impacting the sector?

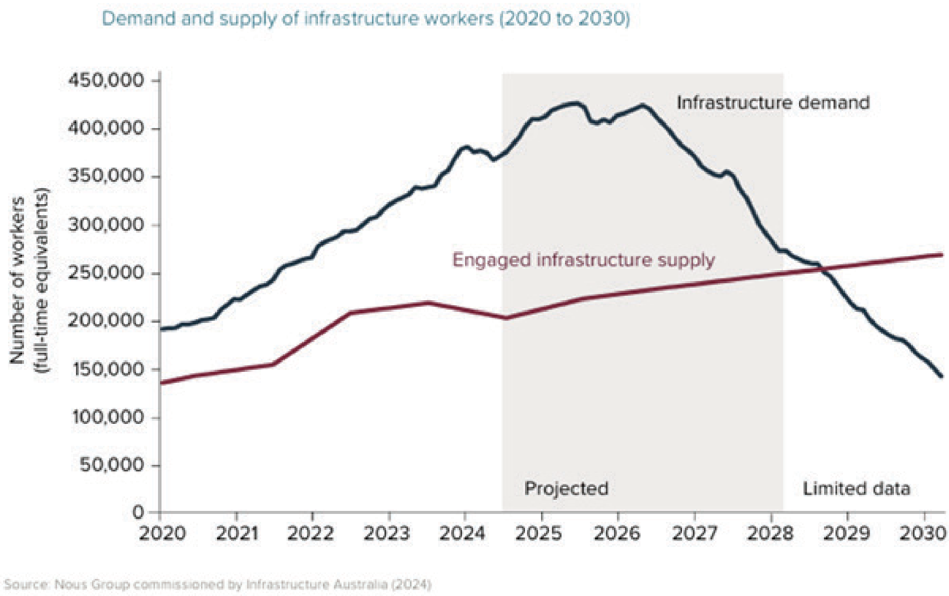
While the overall workforce shortage has eased slightly—thanks to a combination of softer demand and more deliberate project pacing by governments—the sector remains under pressure.

Shortages persist across all major occupational groups, and for the first time, trades workers are forecast to be in higher shortage than engineers. With 64% of new infrastructure workers expected to come from Vocational Education and Training (VET) pathways[xlvii], the importance of a robust, responsive skills system is clearer than ever. Higher education and migration are expected to contribute 25% and 10% of workforce supply, respectively—but those inputs alone won't solve the problem.

What once seemed like distant projections have now materialised as tangible roadblocks on projects across the country. The Inland Rail project—touted as a transformative freight link connecting Melbourne to Brisbane—is perhaps the most high-profile example of what happens when policy, investment and workforce capacity fall out of step. By 2050, Inland Rail is expected to carry approximately 66 per cent domestic consumer goods, largely between Melbourne and Brisbane, but also between Brisbane, Adelaide and Perth, but it is coming at a cost.

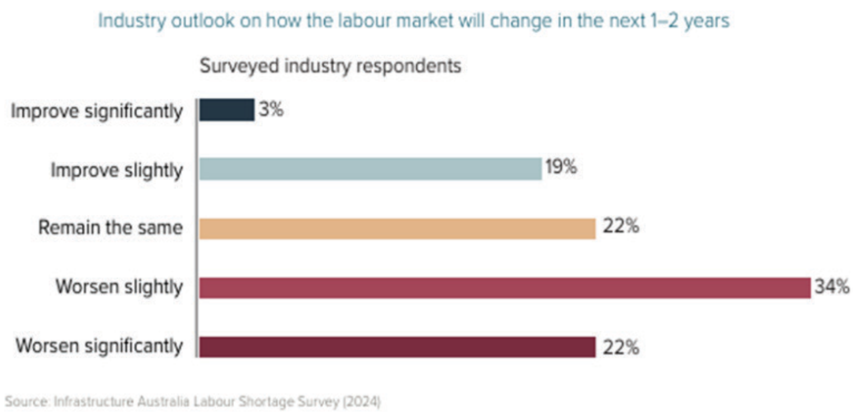
The 2023 independent review into Inland Rail did not mince words: workforce constraints were identified as a significant impediment to the project's delivery. Costs have blown out. Deadlines have slipped.

This story is repeating itself in different forms across Australia. Contractors and governments alike are facing the sharp edge of a simple truth: civil infrastructure cannot be delivered without civil workers.



According to Infrastructure Australia's 2024 Market Capacity Report, the gulf between workforce supply and infrastructure demand is staggering. While the infrastructure pipeline calls for the equivalent of 405,000 workers, only 177,000 are currently active within the system.

Even the most meticulously planned projects collapse if there's no one to operate the grader, install the pipe, or stabilise the slope.



While the industry is partnering with organisations like MEGT—Australia's largest Apprentice Connect Provider—to promote civil careers and connect apprentices with contractors, the lack of direct financial support from government is undoubtedly making it harder for contractors to take on additional apprentices, leading to significant confidence issue within the industry, as shown by the *2024 Infrastructure Australia Capacity Survey shown* here.

The CCF's own 2024 industry survey confirms that the labour shortage is already biting. A full 69.4% of contractors reported that access to local skilled tradespeople and professionals is directly impacting the delivery of projects and driving up costs.

The downstream effects are enormous. Missed project deadlines mean deferred services—whether they're delayed stormwater upgrades, postponed road access in flood-prone regions, or unconnected energy sites waiting for trenching and cabling. It's not just contractors or governments that feel the pressure—it's communities left waiting.

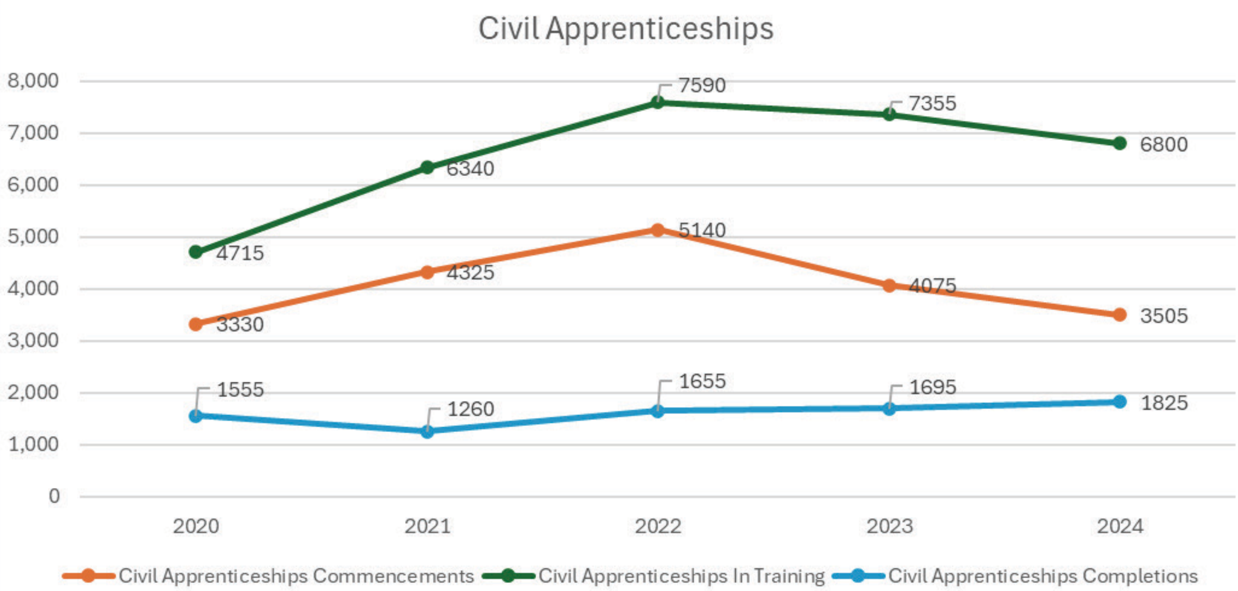
Concerning Trends for the Infrastructure Workforce

In the words of MEGT National CEO Matthew Hick:

> *The importance of the Civil workforce is often unseen but it is of crucial importance to the smooth functioning of our economy. Without roads, drainage systems and footpaths, housing cannot progress. Civil also provides access for major construction projects and the creation of bridges, ports and tunnels facilitate the movement of goods and people around our country. A well trained and populated civil workforce is crucial for our economy.*

MEGT signs-up around 24% of the Civil Apprenticeships and manages approximately 29% of the cohort. The difference in the percentages represents MEGT's above market completion rates.

The chart below shows some concerning trends. Apprenticeship commencements have declined since 2022 and have returned to the low levels of 2020. While those in training are still relatively high the numbers are declining at a time when Civil projects are increasing.



With regards to the volume of completions is stable, however this is deceptive as this stability is not reflected in the completion rates.

Breakout 4: The Shift in Training with recognition of civil skills

National Centre for Vocational Education and Research (NCVER) confirms a decline in apprentices and trainees in every state and territory in recent years. The data shows Australia has lost over 80,365 apprentices and trainees from the national training pipeline since 2022, a loss of almost one in five or 19 per cent.

There is a focus on apprentice trades that deliver community enabling infrastructure such as housing. With additional incentives announced during the last Federal election, there 2ill be a $10,000 bonus for those trades that deliver housing, with detail further to come, civil skills should benefit.

The Federal Election announced that construction, including civil, will gain access to a tranche of 6,000 Recognition of Prior Learning and Gap Training positions. This is a significant step in the right direction to see more housing and community enabling infrastructure delivered.

This funding is expected to reach all parts of Australia both in and around the capitals through to the regions, wages have increased year to year with steady increases.

Shortages are prevalent in civil occupations as detailed in Appendix B. Whilst these shortages persist there will be a shift on the part of government's towards these skills being recognised. There will also be a need to see training that adopts and is complimented by new technology.

Industry Best Practice: Civil Train Case Study

Civil Train is the leading provider of civil construction training across Queensland, Victoria, South Australia, Western Australia, and Northern Territory, delivering the majority of accredited and industry-recognised training in these regions. Backed by the CCF, Civil Train offers a mix of classroom, on-site, and simulated learning tailored to real-world industry conditions. In South Australia, Civil Train is preparing to commence work on a new state-of-the-art training centre that will further expand its capacity to meet growing demand for skilled civil workers.

Civil Train emphasises safety and competency in all its training programs. By integrating practical simulations with theoretical knowledge, students gain a comprehensive understanding of civil construction practices. The use of advanced simulation technology and real-world training environments ensures that learners are well-prepared for the demands of the industry.

Civil Train in South Australia is developing a live site which is the largest in the southern hemisphere to safely train plant operators and civil workers for the critical work they undertake. A similar site is being developed in Tasmania and future options for this live site training is being considered to have site ready skills in all parts of Australia.

Training Innovation in Action : Tenstar

Tenstar Simulation provides advanced machinery training simulators that enhance safety, accelerate learning, and reduce training costs in the construction industry. Their simulators create a realistic and immersive environment, allowing users to gain experience safely, building confidence and competence more quickly used by CCF to train new skills.

The simulators offer immediate feedback and performance analytics, enabling prompt identification and correction of mistakes. The ability to repeat exercises and face diverse conditions ensures learners are well-prepared for real-world challenges, leading to faster and more effective skill acquisition.

Cost savings are achieved by reducing the need for physical machinery and its associated running and maintenance costs, as well as a reduction in CO_2 emissions.

An Australian RTO using Tenstar has reported a 40% reduction in training time for new operators and a 50% reduction in machinery operating costs. CCF's training groups have used Tenstar equipment for years with exceptional feedback, leading CCF Tasmania to purchase four more units, with additional units in consideration in other jurisdictions.

Redefining the Workforce and Culture

There's no question that culture matters on civil worksites and is critical to attraction of new talent. Creating respectful, inclusive, and mentally healthy workplaces is essential—not just for attracting talent, but for delivering great outcomes. And right now, it's more important than ever.

Some of the most pressing issues include:

- **Excessive working hours**, which contribute to burnout, absenteeism, and high turnover rates
- **Minimal gender diversity**, with women making up just 12% of the construction workforce
- **Twice the national average rate of stress and suicide** among construction workers[xlviii]

These are real problems that demand serious attention. But solutions need to be practical and grounded in the realities of the jobsite.

That is where top-down initiatives like the Construction Industry Culture Standard come in. These frameworks aim to address issues such as overwork and inclusion by introducing new project conditions and mandatory reporting. While the intent is positive, many contractors, particularly smaller firms and those in regional areas, are concerned that a one-size-fits-all approach may not align with the realities of their day-to-day operations.

Although some states are considering adopting the Culture Standard, it is not without significant concerns from the majority of contractors. For many in the industry, it represents another layer of compliance and reporting that risks adding cost and complexity without proven benefits. The National Construction Industry Forum (NCIF) is the appropriate tripartite platform to determine whether such a framework is fit for purpose. The NCIF Construction Blueprint, scheduled for sign-off by the Prime Minister in September 2025, includes a recommendation to explore the Culture Standard among its 45 recommendations, but it is not listed in the first nine priorities. This reflects the need for careful consideration, robust evidence and industry consensus before imposing any new obligations across the sector.

A great example in the pipeline is the *Level the Site* pilot. Run by the Master Builder Australia, Civil Contractors Federation, and the Australian Workers' Union, it's a hands-on program that over the coming three years aims to help contractors take practical steps to improve their worksites for women—through mentoring, education, and resources tailored to the real world of civil construction.

This initiative doesn't impose change—it supports it. And it brings together industry, unions, and government to make it happen. That kind of partnership is set to create safer, more inclusive workplaces that support mental health, boost retention, and ultimately, help the industry grow.

When the *Level the Site* pilot wraps up, it will be critical to assess its impact—did it shift the dial, and what lessons can we take forward? This kind of honest evaluation will help us understand what worked, what needs refining, and how to scale up success. From there, we have an opportunity to expand this practical, partnership-based model into other cultural priorities—including managing psychosocial risks, improving mental health outcomes, addressing bullying and harassment on site, and supporting contractors to strengthen their internal processes. Rather than reaching for regulation, we can roll out industry-tested, contractor-led solutions that support lasting culture change across the board.

Again, the goal isn't compliance—it's capability, and a stronger, safer industry for everyone.

Breakout 5: Indigenous employment Best Practice Girri Birrang

Infrastructure commencements are required in every city, town and community across the regions of Australia. As such civil infrastructure reaches the most remote and regional parts of the country, which like the cities provides opportunity for training and employment of indigenous workers with innovative programs leading the way for first nations people.

In the words of Jarrod Smith, Founder of Girri Birrang

Girri Birrang, meaning "Far Horizon" in Wiradjuri, is a 100% Indigenous-owned enterprise dedicated to creating meaningful employment pathways for Aboriginal communities across Australia. Rooted in cultural integrity and community connection, Girri Birrang integrates civil infrastructure delivery with recruitment and training to foster long-term social and economic empowerment.

Through partnerships with organisations like the Murrin Bridge Local Aboriginal Land Council and Diona, Girri Birrang has developed programs that combine cultural preservation with practical skills training. Initiatives such as the Lake Cargelligo TAFE program have enabled Indigenous youth to gain employment with Girri Birrang, providing essential skills and incorporating a cultural component.

Girri Birrang's comprehensive services—including infrastructure, plant hire, quarry and logistics, and recruitment—are all Supply Nation Certified, ensuring quality and *community-focused outcomes. By partnering with Girri Birrang, clients contribute to the empowerment and development of Indigenous communities, supporting sustainable growth and cultural preservation.*

Safeguarding the livelihoods of civil workers

ACIRT: A Safety Net for Civil Workers

Since 1994, the Australian Construction Industry Redundancy Trust (ACIRT) has provided essential financial security for workers across the civil construction sector. In an industry that can be unpredictable, ACIRT offers peace of mind—ensuring that workers can sleep easy knowing their redundancy entitlements are protected and readily accessible when needed.

Employers contribute to ACIRT on behalf of their employees, with funds securely held in individual accounts. When a worker is made redundant or leaves the industry, they can claim directly from their account—no delays, no uncertainty. This model not only supports workers through transition periods but also helps employers meet their obligations under industrial agreements.

In the words of Tony Butcher, General Manager Australian Construction Redundancy Trust:

As a not-for-profit trust governed by both employer and union representatives, ACIRT is built on fairness, transparency and long-term stewardship. It also shares surplus earnings with members, further reinforcing its member-first approach.

With a track record of supporting tens of thousands of civil workers, ACIRT continues to play a vital role in safeguarding the workforce—offering stability in a sector that helps build Australia's future.

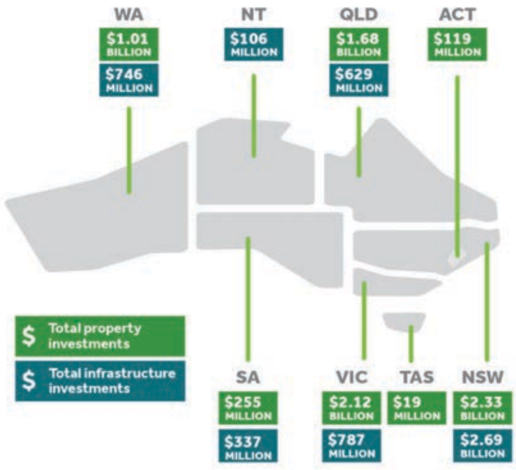
Supporting the retirement needs of the industry: Cbus Case Study

As one of Australia's leading super funds for those that help to build, maintain and shape our country, Cbus Super are committed to investing in projects and businesses that are in members' best financial interests, are important to their members and will make a difference in the real world.

Each of their diversified investment options invests in a range of different investment types and assets. These can include shares on stock exchanges, fixed interest assets like bonds, commercial and residential property developments, neighbourhood and regional shopping centres as well as high quality infrastructure assets such as toll roads and airports through to renewable energy investments such as wind and solar farms and even digital infrastructure such as data-centres, both in Australia and overseas.

Cbus investments in both the property and infrastructure sector are also assets that are not easily bought and sold and were traditionally only accessible to large investors before the Australian superannuation scheme was established. The great news is this is no longer the case. Cbus Super members, through their super also get a real stake in many of these investments and the benefits that they deliver.

Cbus investments in property and infrastructure can be found right across Australia. And as at 30 June 2024, our investments in property and infrastructure on a state by state basis are as follows:



^Exposure is on a look-through basis. This information is about Cbus Super. It doesn't account for your specific needs. Please consider your financial position, objectives and requirements before making financial decisions. Read the relevant Product Disclosure Statement (PDS) and Target Market Determination to decide if Cbus Super is right for you. Call 1300 361 784 or visit cbussuper.com.au. Past performance is not a reliable indicator of future performance. United Super Pty Ltd ABN 46 006 261 623 AFSL 233792 as Trustee for the Construction and Building Unions Superannuation Fund ABN 75 493 363 262 (Cbus and/or Cbus Super).

4.2 PROCUREMENT AND NET CARBON ZERO

Net carbon zero and green economy policy

From enabling solar farms in regional areas to upgrading ports for international trade and creating the foundation for domestic manufacturing, civil construction ensures Australia's ambitions can be realised. Australia's goals for reducing the cost of living and achieving net zero carbon emissions by 2050 are best supported by prioritising investment in civil construction. A robust approach to civil infrastructure is essential to delivering housing affordability and broader economic resilience.

The CCF urges the Australian Government to prioritise and allocate substantial investment in infrastructure to facilitate and assist with planning, approval and rollout of vital energy renewable projects.

To meet these objectives, the CCF presents key recommendations for consideration. The CCF sees it critical that our country:

- Increases infrastructure investment to support Australia's energy transition. This includes funding critical projects such as grid upgrades, wind farms, and low-emission industrial precincts, which are essential for decarbonisation.

Secondly:

- Streamlines government procurement processes is essential to ensure fair opportunities for local contractors.

The CCF advocates for reforms in risk allocation and tendering processes, alongside consistent, long-term planning for infrastructure projects. These measures will prevent the cyclical boom-and-bust nature of infrastructure development and foster a stable industry environment. Therefore, establishing a National Renewables Infrastructure Plan will attract international capital, streamline approvals, and ensure that renewable energy projects are delivered efficiently to meet net-zero targets.

The CCF believes these recommendations align with the government's decarbonisation commitments and will provide a robust foundation for economic stability and community development.

Continuation of the Current Fuel Tax Credit System: The Fuel Tax Credit (FTC) system is a critical component for the civil construction industry, ensuring that businesses are not unfairly taxed for fuel used in off-road activities. The Australian Treasury has clarified that fuel tax credits are not subsidies but mechanisms to offset excise or duty levied on fuel used off-road or in heavy on-road vehicles. In civil construction, machinery such as excavators, bulldozers, and graders operate primarily off public roads. Without the FTC system, companies would face increased operational costs due to fuel excise taxes intended for road maintenance, despite their equipment not contributing to road wear and tear. This misalignment would lead to higher project costs and, ultimately, increased expenses for infrastructure development. Maintaining the current FTC system is essential for the financial viability of civil construction projects. It ensures that businesses are not subjected to inappropriate taxation, allowing them to allocate resources more effectively towards innovation, safety, and quality in infrastructure delivery.

Therefore, the continuation of the FTC system is vital for sustaining a competitive and productive civil construction industry, which is foundational to Australia's economic growth and development.

Whilst there is the need to transition from the FTC, grants for modernisation and efficiency improvements must be considered.

The civil construction industry operates in a highly competitive environment, with contractors frequently required to tender for individual projects. This tendering model, coupled with an uncertain infrastructure project pipeline, creates significant disincentives for contractors to invest in new technologies and modernisation. The short-term nature of project commitments often means contractors lack the financial security or confidence to make long-term investments in advanced equipment, technologies, or innovative construction methods that could improve efficiency and productivity. To address this issue, the Commonwealth Government should consider establishing targeted grant programs aimed at enabling contractors to invest in modernisation.

These grants could help bridge the gap between the industry's current capabilities and the advancements needed to meet Australia's growing infrastructure demands. By reducing the financial barriers to innovation, such initiatives would promote the adoption of new technologies and practices, leading to improved project delivery and cost-efficiency. Grants of this nature are not unprecedented. Similar programs are available at both Federal and State levels to support sectors like agriculture and manufacturing under the Commonwealth's Made in Australia policy agenda.

These programs have demonstrated that targeted financial support can effectively drive innovation, improve competitiveness, and ensure the long-term sustainability of critical industries. Extending this approach to the civil construction industry would yield similar benefits, ensuring contractors are equipped with the tools and technologies needed to deliver high-quality infrastructure projects efficiently. Such grants would also position the industry to contribute more effectively to the nation's economic growth, environmental sustainability, and job creation goals. By fostering a more modern and productive civil construction sector, the Commonwealth Government would be investing not only in infrastructure but in the future resilience and capacity of the industry itself.

Some areas of innovation in sustainable, environmentally efficient infrastructure delivery are highlighted in the following pages.

Case Study: Komatsu

Central to Komatsu's approach is its "Smart Construction" initiative, which integrates cutting-edge technologies such as Intelligent Machine Control (iMC) 2.0, 3D Machine Guidance, and drone-enabled surveying. These tools empower contractors to enhance productivity, safety, and precision across project lifecycles. The Komatsu Innovation Hub in Wacol, Queensland, serves as a testament to the company's dedication to technological advancement, offering interactive exhibits that showcase the latest in mining automation, digital services, and sustainable solutions.

Komatsu's commitment to environmental responsibility is further demonstrated by its development of new technology engines that deliver fuel savings of 5% to 15% while complying with Tier 4 Final emissions standards. These engines significantly reduce particulate matter and nitrogen oxide levels, contributing to a more sustainable future for the industry.

Government Policies and Programs Supporting Delivery

Australian governments have recognised the pivotal role of civil infrastructure in the clean energy transition and are **implementing policies to accelerate infrastructure delivery** for renewables:

- **Rewiring the Nation (Federal):** The Australian Government has launched the $20 billion Rewiring the Nation program to modernise the electricity grid. This initiative provides concessional financing for new transmission projects and grid upgrades, aiming to **lower the cost of essential network infrastructure for consumers.**

  By investing in new transmission lines, Rewiring the Nation is designed to **deliver affordable, reliable renewable energy** from where it's produced to where it's needed. Several priority projects - such as the Sydney Ring, VNI West (Victoria-New South Wales interconnector), Marinus Link (Tasmania-mainland link), and others identified in the ISP - are being supported under this scheme to ensure they are built on schedule. This policy is essentially about **unlocking grid bottlenecks** and has been described as "supercharging" the transmission build-out.

- **Renewable Energy Zones (State-Level):** States are establishing REZs to co-locate generation and network investment. For example, New South Wales is developing five Renewable Energy Zones which combine new solar and wind farms with dedicated high-voltage transmission infrastructure. By connecting multiple projects in designated areas, these REZs take advantage of economies of scale to deliver cheap, reliable and clean electricity for homes and businesses. New South Wales estimates that its REZ program will cut wholesale prices and lead to direct energy bill savings for consumers through the addition of significant new supply.

Other states like Victoria and South Australia are also reinforcing their grids (e.g. Victoria's Big Battery and transmission upgrades, South Australia's new interconnector to New South Wales) as part of plans to reach high renewable targets (Victoria 95% renewables by 2035, South Australia aiming for 100% net renewables).

- **Grid Connection Reforms:** Beyond building hardware, regulators are addressing process hurdles. The Australian Energy Market Commission (AEMC) in 2023 approved rule changes to **speed up grid connections** for new generators, responding to Clean Energy Council concerns about lengthy queues. Reforms include clearer milestones for network companies and developers, better information sharing, and potentially more flexible access arrangements. These policy tweaks, while technical, are part of ensuring that the **infrastructure pipeline delivers on time**.

- **Energy Infrastructure Funding in Budgets:** Recent federal budgets have allocated funds not only for Rewiring the Nation but also for **community energy projects and storage**. For instance, the **Community Batteries** program (allocating $200 million to deploy 400 batteries) aims to reinforce local infrastructure and allow more households to benefit from rooftop solar without straining the grid. The government is also partnering with the Clean Energy Finance Corporation and state agencies to leverage private investment in infrastructure. Through these programs, public money is used to **de-risk and accelerate priority projects** that enable more renewable capacity, with the explicit objective of putting **downward pressure on power bills** as supply grows.

In summary, there is a strong policy push to align civil infrastructure development with Australia's renewable energy ambitions. Federal and state initiatives are working in tandem to upgrade transmission capacity, streamline project delivery, and invest in enabling infrastructure from the regional grid down to community level. These efforts are informed by expert advice from bodies like AEMO and Infrastructure Australia, which have identified the **critical projects needed to maintain reliability and affordability** in the energy system. While challenges remain - such as securing social license for new transmission routes and managing the enormous construction task - the direction is clear. **Infrastructure is the linchpin**: with sufficient roads, wires, and site preparation in place, Australia can unlock a wave of renewable energy projects that will ultimately **drive electricity costs lower for all.**

Breakout 6: Future Generation Infrastructure Construction: Unlocking Speed, Sustainability, and Reversibility in Energy Infrastructure

Across major transmission projects currently underway through the Rewiring the Nation program — including ACERes, HumeLink East and West, Western Grid Connect, and CopperString — legacy engineering practices continue to slow progress and inflate costs.

Civilcast recently proposed a precast concrete footing system for a major transmission project, offering an alternative to the traditional method of boring piers and pouring concrete on site. This modular solution was designed to simplify remote construction, reduce reliance on on-site concrete, halve construction costs, and shave months off delivery timelines. Despite these clear benefits, the proposal was ultimately rejected due to design inertia and perceived risk — a recurring challenge across critical infrastructure programs where innovation is often stifled by outdated standards and risk-averse governance.

Infrastructure Procurement - More Constructive and More Productive

The Federal Government, has pledged $120b of investment in infrastructure projects, including Roads, rail, renewable energy projects and water security projects that will form the basis of our future communities.

Amid increasing demands for innovative and sustainable infrastructure solutions, CCF collaborates with various stakeholders to promote and implement modern infrastructure practices. Our collaboration is therefore ambitious to support national housing policy to address the critical shortage of affordable housing in Australia, particularly for construction workers and low-income families.

Whilst the Commonwealth should maintain or increase the $120 billion infrastructure pipeline, it can use a portion to pilot innovative delivery models in areas where housing growth is needed most. This includes “last kilometre” infrastructure—roads, drainage, sewerage, and utilities that unlock new housing and reduce supply bottlenecks.

Targeted projects between **$10-$100 million** could be delivered more efficiently through direct contracting, competitive procurement, and better project oversight. The Commonwealth should work with state governments, local councils, industry associations, and contractors to identify and deliver these priorities.

Success measures could include:

- Faster procurement timeframes
- Greater contractor diversity
- Cost and schedule performance
- Measurable impact in high-need areas (e.g. low housing commencements, high rents, low vacancy rates).

These pilot programs can become replicable models, showing how government can drive housing supply and economic development through more responsive infrastructure planning.

4.3 PLANNING AND DEVELOPMENT

Governments are beginning to ease restrictions on urban infill, responding to long-standing criticism that planning and zoning rules have constrained the supply of new housing—particularly in areas close to jobs, transport, and essential services (Daley et al. 2018; OECD 2010). Emerging evidence also indicates that these restrictions have a broader impact, dampening the overall productivity of housing construction (D’Amico et al. 2024; Maltman 2024).

Recognising this, governments have committed to a series of planning reforms to support ambitious housing supply targets. Under the National Housing Accord, state and territory governments agreed to work with local councils to deliver targeted land use and planning system improvements (Australian Government 2022). In 2023, National Cabinet endorsed the *National Planning Reform Blueprint*, which sets out 10 key measures and 17 supporting actions aimed at improving planning systems nationwide (The Treasury 2024c). These reforms focus on increasing housing density in well-located areas, particularly near transport hubs. In line with this agenda, the NSW and Victorian governments have already designated precincts that will be subject to streamlined planning controls to facilitate higher-density development (NSW Government 2024d; VPA 2024).

While this work is welcome, it is only part of the solution. Other planning barriers continue to impede construction. Although this report does not focus on zoning reforms—given the progress already underway—it is clear that the way planning rules are implemented remains a major constraint.

Participants in the Productivity Commission's consultation process consistently described the planning process as slow, overly complex, and fragmented. Many pointed to significant 'information gaps' and a lack of coordination between agencies. Over time, more government bodies—many with no direct housing remit—have become involved in planning decisions. In particular, environmental regulations have expanded significantly over the past two decades, and are now widely seen as time-consuming, unpredictable, and difficult to navigate.

In most cases, the burden falls on industry to decipher what approvals are needed and how best to sequence them. Without greater coordination across agencies and clearer, more efficient processes, these barriers will continue to delay housing delivery and drive up costs. A renewed focus on process reform—alongside zoning changes—is critical to reducing the regulatory burden on builders and developers and accelerating the rollout of new housing.

A Better Approach to Environmental Approvals

The Federal Government has proposed an Environmental Protection Agency(EPA) model. If implemented as intended, the new EPA has the potential to play a critical role in addressing approval bottlenecks by ensuring consistent enforcement of environmental standards, while retaining Ministerial oversight of key project approvals. This strikes an appropriate balance between protecting the environment and enabling timely infrastructure and housing delivery—providing a more predictable and efficient system for proponents.

However, the EPA's success will depend heavily on its ability to administer approvals under Ministerial delegation in a timely, consistent, and practical manner. Currently, proponents continue to face significant challenges, including:

- Slower approval timeframes than under previous arrangements
- Frequent reinterpretation of policy by the Department of Climate Change, Energy, the Environment and Water (DCCEEW), causing uncertainty and costly rework
- An overly granular interpretation of matters of national environmental significance, drawing large-scale urban growth projects into lengthy federal assessments—often adding two to three years to approval timeframes on top of existing state and local processes.

The Federal Government's commitment to a broader regional planning framework is commendable. If designed and executed effectively, regional plans will give industry greater certainty about where projects can proceed with fewer regulatory obstacles. Supported by up-to-date environmental data provided by tech support companies such as Nearmap and clear land-use strategies, these plans can enable faster approval of low-risk developments in designated growth corridors—helping to unlock housing supply and critical enabling infrastructure at scale.

Together, a well-functioning EPA and robust regional planning framework can streamline assessment processes, reduce duplication, and restore industry confidence—ensuring that environmental outcomes are achieved without stalling urgently needed development.

Led by new Federal Environment Minister Murray Watt who tackled significant seep rooted industrial relations issues in his previous role of Workplace Relations Minister, there is optimism the government can implement a better approach to environmental approvals.

4.4 PRODUCTIVITY

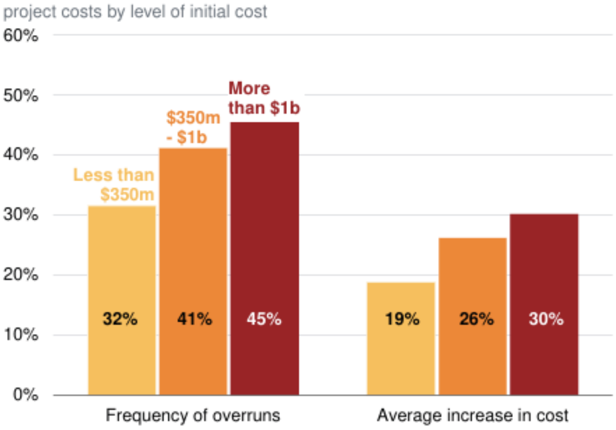
Major infrastructure projects are overwhelmingly responsible for cost blowouts in Australia's infrastructure pipeline. While smaller projects tend to stay within budget or experience relatively minor overruns, there is a risk of the largest, most complex projects disproportionately driving up total cost increases.

These mega-projects, often characterised by bespoke designs, complex delivery models, and high-risk profiles, account for significant budget overruns.[xlix] This reinforces the need for greater rigor in project selection, more realistic cost and timeline forecasting, and procurement models that better account for risk.

A more balanced infrastructure program—with a mix of scalable, well-planned mid-sized projects—could improve overall delivery performance and reduce the exposure of public budgets to major cost shocks.

Figure 2.1: Bigger projects overrun more often and by more

Frequency of overruns and average increase in cost as a percentage of initial project costs by level of initial cost



Note: Includes all public road and rail projects costing more than $20 million that were completed between Q1 2001 and Q1 2020.

Source: Grattan analysis of Deloitte Access Economics Investment Monitor.

Table 2.1: Seven of the largest projects completed in the past two decades accounted for more than one third of overruns

Project	Year completed	Final cost ($2020b)	Overrun ($2020b)
Sydney Metro Northwest	2019	7.9	0.7
Clem Jones Tunnel (Brisbane)	2010	4.2	3.1
Airport Link (Brisbane)	2012	4.2	2.7
Eastlink (Melbourne)	2008	3.6	1.7
Epping to Chatswood Rail Link (Sydney)	2008	3.6	2.0
CBD and South East Light Rail (Sydney)	2019	3.3	1.6
New MetroRail (Perth)	2007	2.7	0.8

Note: Costs inflated to Q1 2020 from the mid-point of each project's construction period using ABS producer price index for road and bridge construction.

Sources: Grattan analysis of Deloitte Access Economics Investment Monitor, AECOM (2020), Brisbane City Council (2004, p. 2), SGS Economics & Planning (2019, p. 35), Queensland Government and Brisbane City Council (2005, p. 2), Bligh (2008), Audit Office of New South Wales (2020, p. 1), WA Government (2001, p. 917), and WA Government (2002, p. 892).

Case Study: Spirit of Tasmania

In 2020, the Tasmanian Government, through TT-Line and TasPorts, announced plans to upgrade the Devonport berth infrastructure to support the arrival of two new Spirit of Tasmania ferries. The original project cost was estimated at $90 million.

By 2025, the cost had blown out to $493 million, representing a staggering $403 million overrun. Key factors contributing to the blowout included significant underestimation of project complexity, exclusion of contract change costs, and the omission of critical infrastructure elements in early forecasts.

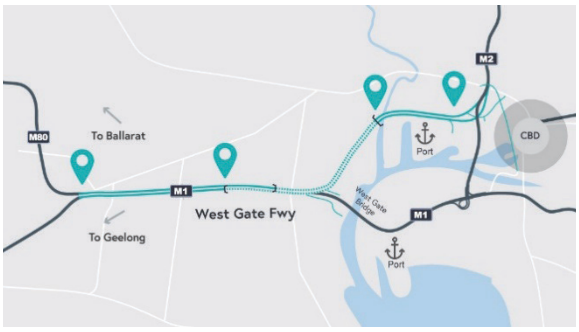
Despite the cost escalation, the Government has committed to delivering the project ahead of schedule, bringing forward completion from February 2027 to October 2026.

This cost blowout has not only strained public finances but has also had serious political consequences. The project has become the focus of a no-confidence motion that took the state back to the polls in late July 2025, just 14 months after the previous election. The case underscores how poorly scoped infrastructure projects can destabilise both budgets and governments.

Case Study: Inland Rail

The Australian Rail Track Corporation estimate of the cost of the Inland Rail project has increased by an astonishing amount when compared to 2020. The estimated cost went from $4.3billion to 9.9billion,[l] then from $16.4 billion in 2020 up to about $31 billion in 2023[li] and now set to exceed $40billion.

Case Study: West Gate Tunnel



The West Gate Tunnel project involves the construction of twin tunnels beneath Yarraville, linking the West Gate Freeway to the Maribyrnong River. It comprises:

- A 4km outbound tunnel
- A 2.8km inbound (city-bound) tunnel

Originally estimated at $6.7 billion, the project is now forecast to cost $10 billion, with a cost blowout of between $1.9 billion and $3.3 billion. This increase is largely attributed to ongoing disputes concerning contaminated soil and earthworks disposal at the site.

The project, initially scheduled for earlier completion, is now expected to be finished in 2025, representing a minimum two-year delay. Some project sources suggest the total cost overrun could climb to $5 billion.

Large projects frequently incur schedule delays and cost overruns, indicating efficiency challenges in project planning and execution. This trend is evident in both public and private infrastructure ventures and suggests significant room for productivity improvement in project delivery processes.

Can we better measure productivity and value?

When we talk about productivity in civil construction, it's easy to get lost in abstract economi terms—multi-factor productivity, labour productivity, capital deepening. But what do these actually mean for the roads, pipes, bridges and subdivisions our industry delivers every day?

The complex nature of productivity makes it one of the easiest topics to discuss, and the most difficult to tackle. It's a term that is often used to diagnose issues in infrastructure delivery, yet rarely defined in a way that aligns with what contractors experience on the ground.

Until we agree on how to measure productivity in simple and practical terms, we are not able to identify which parts of our sector are performing well and which are not. Productivity in infrastructure must move beyond economic modelling and reflect real-world outcomes—such as timeframes, costs, and delivery certainty.

Broad construction data or other vaguely connected aspects are a fantastic headline or topical for a speech at a conference, but some of the key questions we should be asking include:

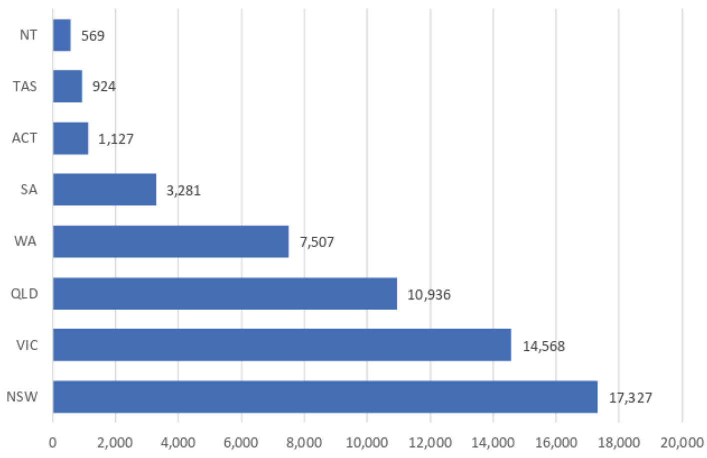
- How long does it take each state or territory road agency to design, plan and construct new road infrastructure?
- How much does it cost to build a kilometre of road, and why does this vary so significantly between jurisdictions?
- What tiers of contractor are delivering more kilometres of road, at lower cost, and under what conditions?
- How do industrial settings, regulatory delays, or procurement choices influence those outcomes?

While many projects are bespoke or have complications, without transparent and consistent answers to these questions, we cannot meaningfully track improvement, nor can we replicate the practices of high-performing agencies or projects. Alternatively, we can't measure cost blowouts.

A more focused national conversation on infrastructure productivity must start with defining what success looks like—and then collecting data that actually captures it. As discussed in later sections we can actually measure project performance, and this technology will further secure *'On Time - On Budget'* outcomes.

Crucially, these measures and their data inputs must be simple, practical, and easily comparable across jurisdictions. If we want policymakers to act, we need to show them—clearly and consistently—what is workir
understanding of productivity, grounde
technology that supports it.

Figure 2. Estimated Opportunity Cost in FY2022 by State from Poor Construction Industry Productivity
$Millions, 2020-21 Constant Prices



Source: Oxford Economics Australia, ABS data

Solution: Work with the tech, coll
decisions

With additional data, there is potential t
Infrastructure Australia should be resou
data in a consistent and transparent wa
positioned to benchmark performance
where reforms are delivering value—or

Without this kind of independent, com
are less comparable. They are unable
to assess which delivery models are

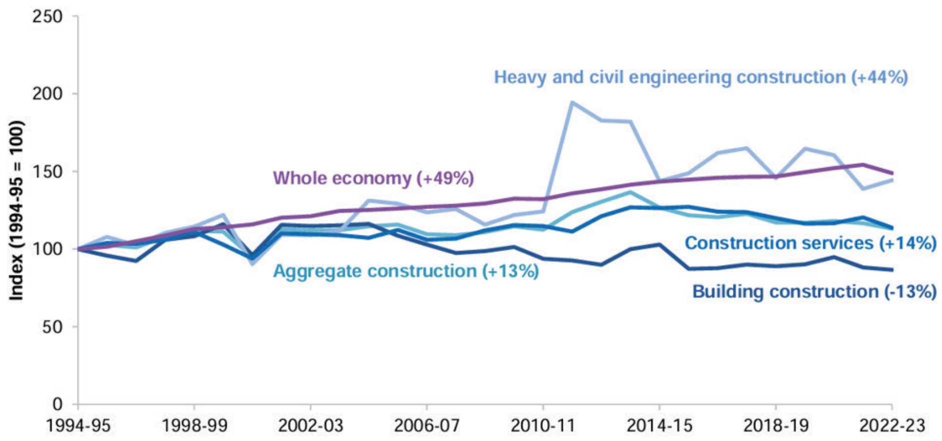
most effective, which agencies or contractors are outperforming others, or which regulatory settings are adding unnecessary delay and cost. Resourcing Infrastructure Australia to lead this work would give policymakers a far clearer picture of what is working, what isn't, and where targeted interventions could drive the greatest productivity gains. It also provides a best place for understanding the costs and the blowouts in project costs and the opportunity cost of delivery of construction and then to dive deep into civil construction in itself.

The adoption of technology and its role in multifactor productivity is therefore not just part of the solution, it sheds light on the opportunity costs of undertaking a community enabling project and its economic benefit or opportunity cost.

According to Oxford Economics research into the Opportunity Cost of productivity in the Australian construction industry lagging productivity in the construction industry cost Australia roughly $56 billion in FY2022 alone in lost projects.[lii] Productivity lost must be interrogated by Governments as an opportunity to deliver more, rather than a technical issue for industry to overcome.

Analysis from the Productivity Commission's 2025 report Housing Productivity: Can We Fix It?[liii] confirms what industry leaders have long known: civil construction is not the root of the problem. Since 1994-95, labour productivity in heavy and civil engineering has grown 44%, nearly matching the economy-wide average of 49%. In contrast, productivity in building construction has declined by 13%.

Index of labour productivity by industry subdivision, 1994-95 to 2022-23



a. Constructed as the ratio of gross value added by industry subdivision in the national accounts to hours worked by industry subdivision in the labour account.

Source: PC estimates using ABS (2024d, table 5) (real output); ABS (2024i via data explorer) (hours worked).

Recognising the shortcomings of ABS two-digit industry classifications, the Commission developed new proxy productivity measures using a combination of Building Construction (ANZSIC 30) and Construction Services (ANZSIC 32).

Key findings (1994-95 to 2022-23):

- Whole economy: +49%
- Heavy & civil engineering: +44%
- Construction services: +14%
- Building construction: -13%
- Aggregate construction: +13%

These findings dismantle the myth that the entire construction sector is underperforming. Civil construction is doing its job pretty well. It is delivering productivity gains in line with national trends—despite growing compliance costs, inconsistent procurement practices, and a shrinking pipeline of accessible work.

Productivity and IR

There are concerning drags on productivity that arise through government policies such as Best Practice Industry Conditions which add significant time and costs to projects where it operates. There are now trades working five days pay for less than three days work a week across Brisbane. These conditions can provide a traffic controller with just three days training an annual income of over $200,000.

The Queensland Government on election was quick to suspend BPIC on projects to better understand the impact on projects.

Complex enterprise agreements, work stoppages, or restrictive stop work practices slow project delivery, with 27,500 working days lost over the 2004 September quarter in the building and construction industry in the Construction sector to industrial disputes.[liv]

Undue industrial influence on projects has been known for some time and recent court records and the Building Bad media investigations show that the laws that industry must meet have been sidestepped. These activities have an impact on the culture of the worksite, but significantly impact the cost and output of a worksite. With the CFMEU coming into administration, there had been an obvious and clear menace and intimidation applied to many on construction worksites with this having significant impact on dragging down site productivity and national productivity output.

Solution: A Better IR Framework

Industrial disputes are bad for everyone.

A fair and balanced industrial relations framework is critical to the stability, productivity, and sustainability of Australia's civil construction sector. It underpins the ability of employers and employees to engage in constructive, lawful negotiation, resolve disputes efficiently, and maintain safe and respectful worksites.

For the civil industry—where projects are time-sensitive, capital-intensive, and interdependent—a stable IR environment enables contractors to deliver infrastructure reliably and cost-effectively. It also provides confidence to governments and private investors funding public works that projects will not be undermined by unlawful conduct or industrial disruption.

Equally, a balanced IR system ensures that workers have appropriate avenues for representation, are protected from exploitation, and can contribute to productive outcomes through clear employment terms and workplace safety provisions with supporting policy as follows:

- Review and amend Procurement Practices - Government procurement practices should be investigated to ensure they do not favour some interests and create unfair barriers to entry for local industry. This will promote a safe, fair, competitive, and sustainable construction industry. Procurement practices should ensure all EAs are registered with the Fair Work Commission.

- Enterprise Agreements Unlawful Terms - Amend the Fair Work Act to prevent enterprise agreements from including terms requiring subcontractors to comply with the terms and conditions of the employer's enterprise agreement. These terms remove the right to freedom of association and employee and employer rights to negotiate employment terms and conditions, and cripple small and regional businesses who can't compete.
- Fit and Proper Person Criteria - Criteria should be developed outlining what standard must be met for a person to be deemed a fit and proper person to be an officer of a Registered Organisation.
- Eligibility Test - Amend the Fair Work Act to include an eligibility test for union agreements, administered by the Fair Work Commission, at the time of issuing the Notice of Employee Representational Rights (NERR). If a union is going to be the employee representative, the union bargaining representatives must be the majority representatives. Similar to existing provisions for Greenfields agreements.
- Work within the Law - Independent Regulator for Contractors and Unions - Establish an independent construction regulator to administer a set of rules for the construction industry with a focus on ensuring all parties, including unions and/ or head contractors are compliant. The regulator needs power.

As Australia grapples with record infrastructure investment, workforce shortages, and the demand to deliver nation-building projects on time and on budget, restoring civility and certainty to workplace relations is not a political choice — it is an economic necessity. A well-calibrated framework creates the conditions for collaboration, rather than conflict, and allows the civil construction industry to focus on what matters most: delivering the infrastructure communities rely on.

Federal Funding Agreement to drive productivity

The Federal Government's $120 billion Infrastructure Investment Program has the potential to transform Australia's economy and the liveability of our communities. However, to unlock its full value, greater clarity is urgently needed around the timing and allocation of funds—particularly for delayed or deferred projects.

Rising construction costs continue to challenge project viability. Labour, concrete, steel, asphalt, fuel, and other core inputs have all increased in price, placing pressure on state budgets and the private sector alike.

The 2024-29 Federal Funding Agreement (FFA) presents a major opportunity to improve how infrastructure is planned and delivered across Australia. CCF welcomes key elements of the agreement, particularly Clause 21, which sets out shared responsibilities between the Commonwealth and the states to lift industry productivity, capability, capacity, and diversity.

Importantly, the FFA recognises the need to support contractors of all sizes, not just tier-one builders. This broader focus will help ensure that small and mid-sized civil firms, especially those in regional areas, can play a greater role in delivering the national infrastructure pipeline.

One of the most promising features of the agreement is the requirement for each state to prepare a 10-year Annual Infrastructure Plan. These plans must outline strategic priorities for transport infrastructure, including project sequencing and responses to key challenges such as rising costs, regional development needs, population growth, and the transition to net zero.

If developed and implemented transparently, these plans could significantly improve long-term planning, increase visibility for industry, and strengthen alignment between jurisdictions.

To strengthen this approach, the Commonwealth should consider:

- Requiring states to publish their Infrastructure Plans, improving transparency and industry engagement
- Encouraging smaller, shovel-ready projects under the FFA to give SMEs greater access to the pipeline
- Prioritising regional and outer-suburban infrastructure that supports housing, freight, and resilience.

Insolvancies

Construction-industry insolvencies continue to be elevated, but remain below the pre COVID-19 average. The construction industry tops the market in terms of absolute number of insolvencies this year, accounting for 27% of all insolvencies in 2023-24. Businesses with less than five employees represent over two-thirds of insolvencies during 2022-23. Small businesses with less than 19 employees make up 82% of total construction insolvencies.[lv]

Case Study - Kill Admin, Increase Margin – CONQA

Civil contractors have enough on their plate right now. Winning work, delivering it well, and staying profitable is harder than ever. Processes like Quality Assurance (QA) should be helping, but instead ITPs (Inspection and Test Plans) add an admin burden (and cost).

With the right tool, CONQA's clients are saving 25% on their engineering costs, and closing out projects in one month, not three.

Here's the thing: most contractors complete ITPs retrospectively, weeks (or months) after the construction happens, solely for the sake of documentation, not for genuine quality.

QA shouldn't be this way, and for many industries, it isn't.

A World Health Organisation study found that when surgeons used simple 'Safe Surgery Checklists' during surgery to verify critical steps like ***"have we removed the instruments before we sew the patient back up"***, death rates fell by 47%. Patients were twice as likely to live when checklists were used during surgery.

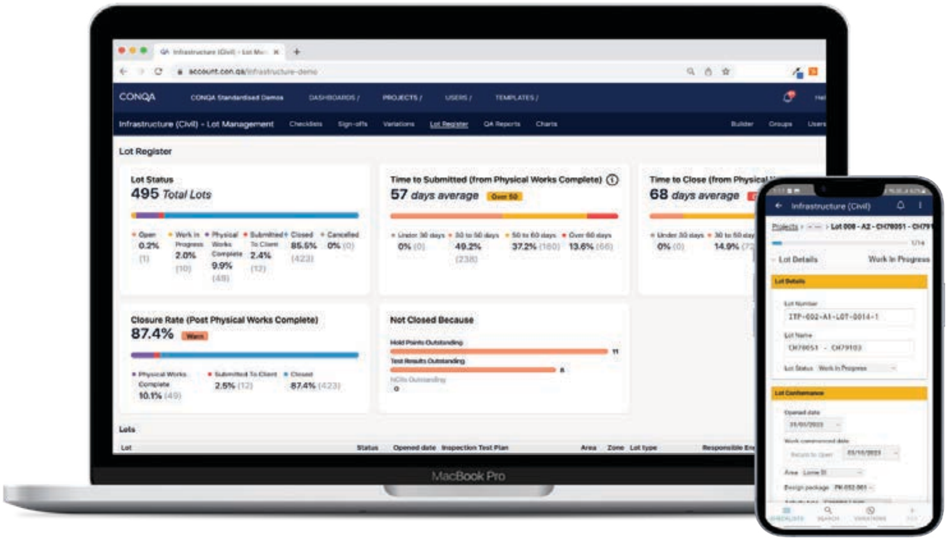
However, if this was construction, these checklists would typically be completed after the patient was discharged, or in some cases, deceased.

While construction isn't a medical procedure, errors have costly consequences. Studies show that rework eats up 21% of construction value through lost time, wasted materials, damaged reputations, and projects dragging past their deadlines.

It doesn't have to be this way. The key is making QA simple and easy to complete during physical inspections, as the work happens. It's about taking it out of the "too hard basket".

Companies like Downer, Fulton Hogan, and Doval are leveraging the simplicity of CONQA's platform to transform QA into a collaborative, easy process. Supervisors and engineers can now share the load, capture real-time data from their mobile devices, and significantly reduce administrative overhead.

By implementing CONQA, hundreds of contractors have seen an 80% reduction in rework costs, better site records, and faster project close-outs. Their teams spend more time on site doing high-value work - not burning the midnight oil on retrospective admin.



Case Study - Insolvency Risk Mitigation

Fiable, is an Australian-founded financial viability solution built for the construction industry, providing a streamlined solution for assessing the financial health of counterparties, both at the point of procurement and throughout project delivery. Project teams can initiate financial viability requests directly through the digital platform, with detailed insights delivered within 24 to 48 hours—a process that traditionally takes weeks. These insights are enhanced with powerful analytics and monitoring capabilities, enabling construction organisations to identify hidden risks across their supply chain with greater speed and precision. Helping to reduce the risk of disruptions caused by insolvencies or contractor underperformance by providing financial health insights early on, even for smaller companies with long-standing relationships with their suppliers is critical to improving the productivity of the industry.

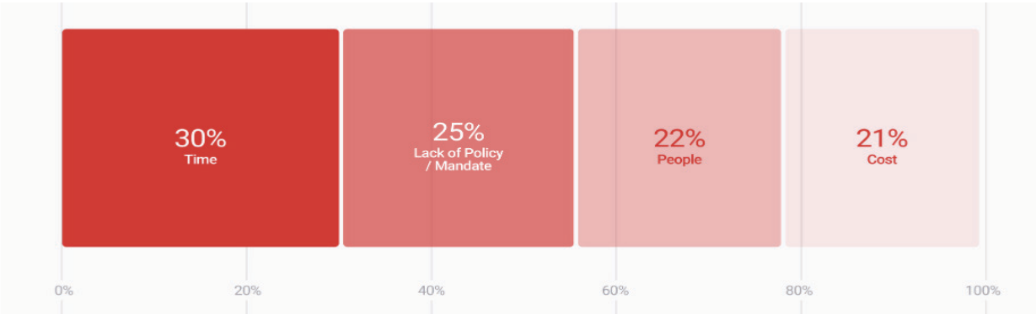
4.5 CIVIL CAPACITY, INNOVATIONS, SMART TECH AND AI

Multifactor productivity transformed by emerging technology

Productivity gains in the civil construction industry are coming set to change the way construction is delivered indefinitely.

Industry partners such as Timescapes, Propeller and DocketBook are providing new technology and AI to support the sizeable projects to be designed and constructed on time and under budget.

Alternatively, the *Revizto 2025 Digital Design and Construction Report* highlights a critical gap in the construction sector—not in the availability of technology, but in its adoption and accessibility. While investment in digital tools is significant, the report found that 26% of AEC leaders cited technology integration and adoption as their greatest challenge. This underscores a broader issue within the industry: contractors are often under pressure to prioritise immediate project delivery, leaving limited time or incentive to trial new methods. Existing procurement guidelines rarely reward innovation, meaning that time—not technology—is the most significant barrier to digital uptake across the sector.



Source: Revizto[lvi]

Beyond point solutions there are expanding technology solutions from organisations such as Workato, Procore, SAP, IDD Tech and others who are working with civil contractors to provide end-to-end solutions. The technology being developed in partnership with the industry will make our industry faster, quicker, leaner and best able to provide housing and Community Enabling Infrastructure and build the energy transition.

The Civil Contractors Federation is actively working to connect proven technologies and industry leaders with contractors to support practical improvements in productivity. By facilitating engagement through national events, technical briefings, and targeted roundtables, the organisation provides a platform for knowledge transfer and the adoption of tested digital solutions. This work is complemented by ongoing advocacy for procurement reform, aimed at enabling more flexible and innovation-friendly project delivery frameworks. Through these efforts, the Federation is helping to remove key barriers to adoption and promote scalable, industry-wide productivity gains.

These efficiencies being developed, adopted and continually improved are creating multi factor productivity outcomes that industry is championing.

Tech and AI Capacity Building Transparency: How Reality Capture Accelerates Civil Infrastructure Delivery: Timescapes Case Study

Australia is facing significant pressure to meet housing and infrastructure demands due to rapid population growth and urbanisation.

The federal government has responded by setting an ambitious target of building 1.2 million new homes by 2029 under the National Housing Accord. It has also committed $120 billion over the next decade for supporting infrastructure—schools, hospitals, transportation networks, and upgraded utilities—to serve these expanding communities effectively.

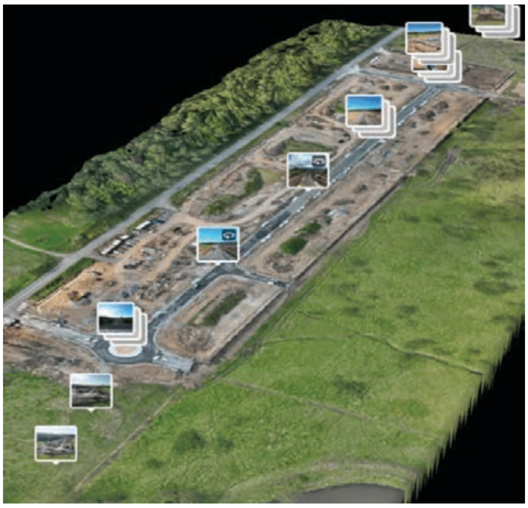
To manage this unprecedented growth, transparency among government stakeholders, contractors, and communities is critical. Clear, accessible information helps build trust, improves collaboration, and ensures accountability at every project stage. Transparency removes organisational silos, streamlines bureaucratic processes, and establishes a central, visual source of truth.

New technologies are helping to deliver this level of transparency. Reality capture solutions like Timescapes allow government stakeholders and civil contractors to visually track, validate, and communicate construction progress easily. Project stakeholders gain immediate insight into key activities without needing frequent site visits, while communities remain fully informed via publicly accessible project timelines and timelapse footage.

Ultimately, adopting Timescapes allows civil infrastructure projects to progress more efficiently and deliver essential services quickly—ensuring the best returns on public investment and improved outcomes for Australia's rapidly expanding communities.

Productivity Improvement Case Study: Propeller

Civil contractors are at the frontline—and they need better tools to deliver faster, leaner, and with greater certainty. Propeller provides exactly that. With accurate, real-time 3D site data from drones and GPS, teams can make faster decisions, spot risks early, and avoid costly delays and rework.



This is about more than efficiency. It's about ensuring public dollars go further. Propeller reduces disputes, miscommunication, and waste by giving all stakeholders—from field crews to departmental leaders—clear, shared visibility into progress and performance.

In a climate of constrained budgets and rising urgency, Propeller enables civil contractors to move quickly, stay accountable, and build the infrastructure that communities so desperately need. The alternative—falling further behind—is not an option.

Menai Civil cites cloud-based processing as their biggest win which can be reviewed in their **Menai case study**.[lvii] Using Propeller's PPK workflow, the team now surveys big earthworks projects once a week to keep them on track. Sending their data processing to Trimble Stratus frees up Brendan Lawrence and his team at Menai Civil to survey more sites, more often, getting teams the data they need to make better decisions.

> *"The old way, we were lucky to get the data back in a few days. Now, I sometimes fly five sites in one day and all the data is back the next day. It frees up the rest of your week because you're only spending one day out in the field. The rest of the week, you're not stuck processing and getting data out."*

For government and departmental leaders, Propeller offers confidence that every investment in infrastructure is driving faster, smarter, more transparent results when they matter most.

Case Study: Administrative Capacity - Docketbook

It is estimated that the construction industry spends 2-3% of all supply chain costs on managing the purchase-to-pay process between contractors and suppliers. This waste is caused by missing dockets, disputed rates, reconciliation issues and payment disputes and has a direct impact on the productivity of our industry.

Docketbook's digital platform has been purpose-built to manage the Orders-Dockets-Claims-Invoices process for the construction industry stripping away the estimated $10-14 per docket processing costs using paper and email-based systems. Docketbook is a connected network of suppliers and contractors supporting, driving collaboration around the commercial process.

Working with Heidelberg Materials (HMA), Docketbook has streamlined the process of digital docket exchange from end-to-end with connected contractors. BMD, for example, sends Orders to HMA confirming product mixes and rates, and HMA sends docket data in real time as deliveries are made. These are cost-coded onsite and flow directly into the ERP system for real-time incurred cost reporting. Surcharge information is added within 48 hours to ensure that all invoices are three-way matched against the order rates and docket quantities.

Docketbook applies the same structured approach to Labour and Plant Hire, where the Smart Dockets feature delivers real-time costs to the project team and fewer disputes for the suppliers. This, in turn, helps ensure that suppliers are paid on time creating a healthier, more sustainable construction industry.

Case Study: How Technology is Solving the Key Challenges in Civil Construction

The challenges impacting civil construction projects in Australia today reflect those we've faced over many years including project overruns, clunky manual processes and data silos, skills gaps and workforce turnover, maintenance challenges and compliance risks.

The Digital Thread report from Hexagon's Asset Lifecycle Intelligence division surveyed 400 global industrial leaders and provides insights as well as potential solutions to these challenges.

The report found that:

- 93% of industrial leaders report projects running over budget, and 70% cite missed milestones as a major issue. This is common in large-scale infrastructure projects in Australia.
- 74% of organizations still rely on manual reporting and outdated systems, leading to inefficiencies and poor decision-making.
- 57% say their digital tools lack integration, and 56% admit digital transformation hasn't delivered expected value.
- 76% cite skills shortages as a major barrier, especially relevant in Australia's construction sector facing an ageing workforce.
- 68% struggle to scale assets to meet demand, and 62% report increased maintenance costs.
- 63% of leaders are concerned about cybersecurity, especially with fragmented digital ecosystems.

To solve for these challenges, Hexagon's platform integrates real-time project tracking, predictive insights, and AI-driven support to reduce delays and costs. A unified digital thread connects lifecycle data, ensuring secure, compliant integration and a single decision-making view across systems and vendors.

HxGN EAM digitises asset management and enables predictive maintenance. Additionally, ALIX, Hexagon's AI assistant automates reporting and guides staff with intelligent recommendations.

Case Study: Project Management Office - Shivendra & Co

Whilst technology can be the catalyst to scaling up capacity and improved productivity, partnerships in the industry also matter as demonstrated in the Shivendra & Co case study. In this example a construction firm was navigating a rapid scale up from a 25-person team to become a national operation with 450 employees across four states.

Accelerated growth across geographies presented serious challenges.

The complexities of maintaining consistency, minimising inefficiency and managing more than $100 million in opportunities required a robust framework.

Shivendra & Co partnered with the company to establish a Corporate PMO framework that became the backbone of the most critical transformation in the company's history. The project was so successful, the company was recognised in in the *Australian Financial Review's* Fast 100 last year.

The engagement and path to rapid transformation began with a deep dive into their existing processes. Through workflow analyses and process mapping, we uncovered opportunities that enabled efficient scalability. Leveraging lean methodologies and visualisation tools, we re-engineered their business processes to standardise workflows, centralise critical support functions, and eliminate redundancies within the system.

To enhance visibility and decision-making, Shivendra & Co implemented data visualisation tools that tracked key performance indicators such as project delivery timelines, resource utilisation, and financial metrics.

A key part of the approach was establishing a structured transformation delivery framework that provided governance over their rapid expansion. This included facilitating strategic planning workshops with senior leadership to align on a 12-month roadmap.

The PMO ensured clear ownership of initiatives, accountability through monthly reviews, and transparency across all levels of the organisation. Additionally, Shivendra & Co empowered functional teams by creating mini-PMOs to cascade responsibilities and streamline communication.

The results were dramatic. The firm scaled to 450 employees across all Australian states, delivering projects for tier-one contractors with optimised workflows and enhanced operational efficiency and was recognised as one of the most promising growth companies in Australia.

Shivendra & Co's transformation delivery framework not only enabled this successful growth, but also ensured the company could sustain its trajectory into the future with leaner processes, faster decision-making, and greater value for stakeholders.

Enterprise Resource Planning

The Critical Role of ERP Technology and Data in the Construction Industry

Enterprise Resource Planning (ERP) software has undergone a significant transformation within the construction industry, evolving into cloud-based, construction-specific platforms that seamlessly integrate project management, financials, compliance, and workforce operations. This shift addresses the long-standing challenge of fragmented systems where firms previously relied on multiple disconnected applications.

By consolidating these functions, and integrating best-of-breed point systems, modern ERP solutions provide real-time data and visibility into project performance and overall business health, enabling proactive decision-making and risk mitigation. With construction cost growth outpacing general inflation by 0.8% per annum according to Oxford Economics, the criticality of financial oversight cannot be understated.

The adoption of ERP systems is not just a technological upgrade, but a strategic imperative for civil contractors aiming to thrive in a competitive landscape. As reported by Build Australia, Autodesk and Deloitte's State of Digital Adoption in the Construction Industry 2025 report revealed 25 cents of every dollar invested in the Australian construction sector is directed to new technology - a one-third increase since 2023. This substantial investment reflects a broader industry recognition that leveraging technology and data is essential for growth, sustainability, and resilience. Construction-specific ERP systems, like Access Coins, provide a centralised platform for managing complex construction operations, empowering contractors to improve forecasting, identify risks early, and respond with greater agility, positioning them to compete and grow in an increasingly data-driven environment.

Case Study: Scaling Up and Down, Asset acquisition and disposal - Grays

CCF's 1200 Contractor Members are based in every town, city, region and community of

Australia and as such flexible procurement and disposal of assets is critical to delivery of infrastructure. As such contractors and associates collaborate with organisations such as Grays which is the largest industrial, auto and commercial eCommerce business in Australasia, offering a huge range of industrial, auto, consumer and commercial goods, direct from manufacturers and distributors. As such this allows improved capacity from the smallest to the Tier One contractors, the value and convenience to unlock value from their assets and scale up with short notice which can be critical in all manner of circumstances particularly natural disaster resilience and recovery where our contractors are always early responders.

It is challenging to efficiently deliver infrastructure across every part of Australia particularly for Government and Private clients, so it is the flexibility that is offered in procurement and disposal by a partner such as Grays which has national coverage across Australia with global reach with city and regional offices, covering approximately 50,000 sqm of warehouse space, 160,000 sqm of yard space and other additional smaller sites and regional. Naming just some of their CCF contractors and associates such as Girri Birrang, Diona, Coates, Kennards, Road and rail Excavations, Haslin Constructions, Abergeldie have improved their capacity by way of harness a mix of online platforms to procure or offload motor vehicles, manufacturing, construction and transport that rely on the flexible procurement and disposal options offered by this type of partner. Scaling up and being nimble requires contractors to work within agile environments and this leads to time, cost and productivity efficiencies.

Adding common sense procurement and delivery efficiencies

Case Study: Supporting civil purchasing - Bunnings Trade

Bunnings has recently formed partnership with CCF nationally to support the civil workforce across the country. With 321 Bunnings outlets and a growing number of TKD stores reaching most communities, we are expanding our products and support services to civil contractors across town, city and community.

With most of the 200,000 workers in civil working in tier 2 and 3 smaller businesses, we see it as critical that Bunnings are there to support civil business capacity to deliver roads, water, sewerage, subdivision, housing and community enabling infrastructure. These are the trades that keep our communities moving, keep them housed and serviced with the infrastructure that is required in everyday life and in times of crisis.

Through our partnership, CCF Members gain access to Industry leading exclusive segment specific pricing and the supporting PowerPass administration, enabling regional and smaller contractors to compete more effectively in infrastructure delivery and maintenance. This ensures that local, state, and federal government funding goes further—allowing for the construction of additional roads to unlock new subdivisions, increasing capacity for water and sewerage systems to replace aging infrastructure, or upgrading highways to make daily commutes safer and more efficient.

Our partnership is about unlocking the full potential of Australia’s civil construction industry. Together, we are investing in the industry, growing local capacity, and enabling the rollout of the infrastructure Australians are calling for. By lifting the capability of civil businesses across the country, this partnership is driving the delivery of the roads, water storage, energy and essential services that underpin vibrant, growing Australian communities—now and into the future.

Case Study: Tendering and Procurement - Reece Civil + Viadux

Civil in Australia requires a high-level understanding of the complex requirements of government tenders across Australia—particularly the emphasis on quality, compliance, sustainability, and local manufactured content. With decades of experience supporting civil contractors nationwide, Reece Civil + Viadux, are delivering solutions that not only meet these demands but exceed them.

As an industry we are committed to Made in Australia that invests in manufacturing and project efficiencies. Amiblu Flowtite® GRP pipes are proudly manufactured right here in Australia and available exclusively at Reece Civil + Viadux, ensuring shorter lead times, reliable supply chain, and compliance with local procurement policies. As infrastructure projects grow in scale and complexity, Amiblu Flowtite® offers a sustainable, high-performance option for pressure and non-pressure water applications—engineered to withstand Australia's harshest conditions.

Choosing Amiblu Flowtite® means choosing a product that's already aligned with government tender requirements: manufactured locally, certified to Australian standards, and backed by a responsive, on-the-ground support team. Our knowledge of the tendering process allows us to partner effectively with contractors—from specification through to delivery and beyond.

Whether Australian contractors are bidding on a regional water main upgrade or a major urban infrastructure project, Reece Civil + Viadux and Amiblu Flowtite® align their capacity to the success of the project. More than just a supplier—Reece civil + Viadux are a strategic partner committed to helping CCF members build better, smarter, and stronger infrastructure across Australia.

Case Study: Streamlined Solutions for Australia's Civil Fleet Needs- Pickles

Pickles' regular sales events provide civil contractors with a streamlined, transparent way to buy and sell essential equipment. With a wide selection of quality machinery—from excavators and graders to crushers and loaders—Pickles ensures businesses can access the tools they need, when they need them. These events give contractors the chance to upgrade fleets, purchase at competitive prices, and avoid lengthy procurement processes.

From January 2024 to January 2025, Pickles recorded strong results, including:

- 684 excavators sold | $31M gross sales
- 107 graders sold | $16M gross sales
- 50 crushing & screening assets sold | $11M gross sales
- 189 front-end wheeled loaders sold | $11M gross sales
- 228 mini skid steer loaders sold | $7M gross sales

As Australia's leading used asset marketplace and auction group, Pickles partners with CCF at key industry events like the Heavy Equipment Machinery Show. Using data and technology, they create thriving marketplaces that allow contractors to connect and transact with ease.

In Conclusion

This period ahead and the communities that we build will be defined by the infrastructure that enabled it.

It can not be assumed that the affordable housing, educational, health and other infrastructure will just be there. The energy transition to renewables is within our grasp in the next ten years, but it requires the civil infrastructure to be there first.

Having civil infrastructure as the first principle will open up last kilometre infrastructure for housing or a wind farm, but civil skills need to be fully prioritized to fill the large gaps that Jobs and Skills Australia report each year.

Measuring productivity and producing baseline measures of output allow comparisons between governments and from project to project.

Ultimately the period over the next five years will see further AI and tech efficiencies land on civil infrastructure worksite making the projects faster, quicker, leaner, cheaper. Whilst there will be upward pressures on costs and blowouts, there will be a greater forensic understanding of how to get better.

With civil infrastructure now front and centre there will be opportunities to further define its role in other emerging priority areas such as defence.

It is for certain that civil infrastructure will continue to be the focus of CCF at the State, Territory and National level to drive the social, economic and environmental goals of the country.

It is in every town, city, region and community of Australia that the 205,000 working in the civil infrastructure industry will continue to build our country and further leadership from the Federal Government will be key in these areas.

About the Civil Contractors Federation

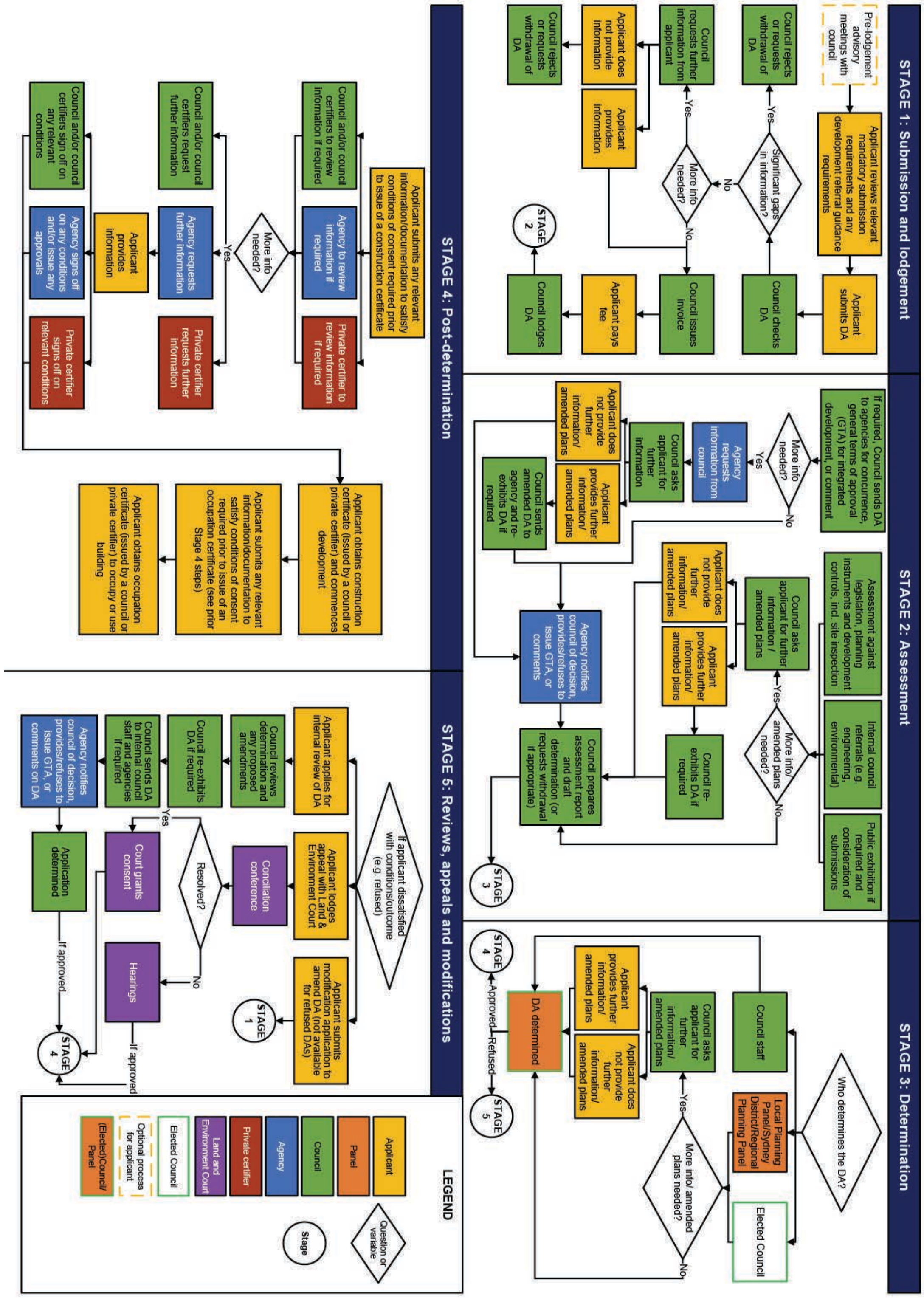
The Civil Contractors Federation is the nationally recognised peak body representing the industry nationally for civil construction which refers to the design, construction, and maintenance of the physical and naturally built environment, including public works such as roads, bridges, dams, airports, ports, drainage, energy, water, sewerage systems, pipelines, and railways which is truly National Community Enabling Infrastructure that builds Australia.

The CCF has branches in all states and territories and has around 1,800 Contractor and Associate members nationally.

Members also play a vital role in the residential and commercial construction industry by providing earthmoving and land development services including the provision of power, water, communications and gas.

Our Contractor Members are in fact the enablers and builders all sorts of vital infrastructure and we provide the infrastructure for housing, energy and community enabling infrastructure across every town and city in the country.

Appendix A



Source: Daily Telegraph 14.11.2024

Appendix B

Core Skills List Time Series 2021-2024

Core Skills Occupations List Occupation — No Shortage | Shortage | Civil Apprenticeship

Occupation	NAT Shortage Rating	NSW Shortage Rating	VIC Shortage Rating	QLD Shortage Rating	SA Shortage Rating	WA Shortage Rating	TAS Shortage Rating	NT Shortage Rating	ACT Shortage Rating	
Civil Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Civil Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Civil Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Civil Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Geotechnical Engineer	Shortage	Shortage	Shortage	Shortage	No Shortage	No Shortage	No Shortage	Shortage	No Shortage	2024
Geotechnical Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Geotechnical Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Geotechnical Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Quantity Surveyor	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Quantity Surveyor	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Quantity Surveyor	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Quantity Surveyor	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Structural Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Structural Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Structural Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Structural Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Transport Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	2024
Transport Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Transport Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Transport Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Production or Plant Engineer	Shortage	Regional Shorta	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	2024
Production or Plant Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Production or Plant Engineer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Production or Plant Engineer	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	2021
Construction Estimator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Construction Estimator	Shortage	Shortage	Shortage	Regional Shorta	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Construction Estimator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Construction Estimator	No Shortage	No Shortage	No Shortage	Shortage	No Shortage	No Shortage	Shortage	No Shortage	No Shortage	2021
Civil Engineering Draftsperson	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Civil Engineering Draftsperson	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Civil Engineering Draftsperson	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Civil Engineering Draftsperson	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Civil Engineering Technician	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Civil Engineering Technician	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Civil Engineering Technician	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Civil Engineering Technician	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Technicians and Trades Workers nec	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Technicians and Trades Workers nec	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Technicians and Trades Workers nec	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	2022

Crane, Hoist or Lift Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Crane, Hoist or Lift Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Crane, Hoist or Lift Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Crane, Hoist or Lift Operator	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	2021
Driller	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Driller	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Driller	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Driller	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	2021
Earthmoving Plant Operator (General)	No Shortage	Shortage	No Shortage	No Shortage	No Shortage	Shortage	No Shortage	Shortage	No Shortage	2024
Earthmoving Plant Operator (General)	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Earthmoving Plant Operator (General)	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Earthmoving Plant Operator (General)	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Backhoe Operator	No Shortage	Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	Shortage	No Shortage	2024
Backhoe Operator	No Shortage	Shortage	No Shortage	No Shortage	Shortage	No Shortage	No Shortage	No Shortage	No Shortage	2023
Backhoe Operator	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	2022
Backhoe Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Bulldozer Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Bulldozer Operator	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Bulldozer Operator	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	2022
Bulldozer Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Excavator Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Excavator Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Excavator Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Excavator Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Grader Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Grader Operator	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Grader Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Grader Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Loader Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Loader Operator	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Loader Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Loader Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Linemarker	Shortage	No Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Linemarker	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Linemarker	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	2022
Linemarker	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Paving Plant Operator	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	2024
Paving Plant Operator	No Shortage	No Shortage	No Shortage	No Shortage	Shortage	No Shortage	No Shortage	No Shortage	No Shortage	2023
Paving Plant Operator	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	2022
Paving Plant Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Railway Track Plant Operator	Shortage	No Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	2024
Railway Track Plant Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Railway Track Plant Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Railway Track Plant Operator	No Shortage	Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	2021
Road Roller Operator	Shortage	No Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	2024
Road Roller Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Road Roller Operator	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	2022
Road Roller Operator	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2021
Mobile Plant Operators nec	No Shortage	No Shortage	Shortage	No Shortage	No Shortage	No Shortage	No Shortage	Shortage	No Shortage	2024
Mobile Plant Operators nec	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Mobile Plant Operators nec	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	2022
Truck Driver (General)	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Truck Driver (General)	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Truck Driver (General)	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Truck Driver (General)	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	Shortage	No Shortage	2021
Construction Rigger	No Shortage	Shortage	Shortage	No Shortage	No Shortage	No Shortage	No Shortage	Shortage	No Shortage	2024
Construction Rigger	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Construction Rigger	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2022
Construction Rigger	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	2021
Steel Fixer	Shortage	No Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2024
Steel Fixer	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Steel Fixer	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	2022
Steel Fixer	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	2021
Crane Chaser	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	2024
Crane Chaser	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	Shortage	2023
Crane Chaser	Shortage	Shortage	Shortage	Shortage	Shortage	No Shortage	Shortage	Shortage	Shortage	2022
Crane Chaser	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	No Shortage	2021

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2024 National Earth Awards Winners

CIVIL CONTRACTORS FEDERATION
EARTH AWARDS
Excellence in Civil Construction

Category	Project	Contractor	Region	
Under $2m	Albino Rock Helipad & Access	CivilPlus Constructions Pty Ltd	**QLD**	
$2m - $5m	St James Station Maintenance Shaft – Keeping Sydney Flowing	Brefni Pty Ltd	**NSW**	
$5m - $10m	T22-1838 Santa Teresa Road - Alice Springs	Aldebaran Contracting Pty Ltd	**NT**	
$10m - $30m	Eastern Treatment Plant Biogas Handling System Project	Melbourne Water, John Holland-KBR Joint Venture	**VIC**	
$30m - $75m	Quinns Main Sewer Extension & Associated Works	Rob Carr Pty Ltd & Water Corporation	**WA**	
$75m - $150m	Pound Road West Upgrade & Frankston-Dandenong Road Upgrade	Seymour Whyte Constructions Pty Ltd	**VIC**	
$150m plus	Tonkin Gap Project and Associated Works	Tonkin Gap Alliance (Georgiou Group, BMD Construction, WA Limestone, BG&E, GHD, Main Roads Western Australia and Public Transport Authority)	**WA**	

CIVIL CONTRACTORS FEDERATION

CCF National Principal Partner

MEGT

CCF Major National Partners

ACIRT THE NO.1 REDUNDANCY SAFETY NET

BUNNINGS TRADE

KOMATSU

cbus super

coffey TESTING

CCF National Partners

BuildSkills Australia

The Civic Partnership

Docketbook

REIGN-MAKER

grays.com

TIMESCAPES

DEEP SPACE

propeller

protech

KOBELCO

GIRRI BIRRANG

CONQA

SHIVENDRA & CO

TENSTAR simulation

Access Coins

reece civil

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