CIVIL CONTRACTORS FEDERATION

The Voice of the Industry

NSW

CIVIL INDUSTRY FORECAST TO 2033

CIVIL CONTRACTORS FEDERATION

The Voice of the Industry

ABOUT CCF NSW

The Civil Contractors Federation NSW (CCF NSW) is the peak body for the civil construction industry in NSW. We represent 400 civil construction and maintenance businesses in NSW – from large multinational companies to single owner-operator businesses. Our members train and employ up to 40,000 people, and 50% of our members are in regional NSW.

CCF is the only organisation in Australia charged with representing all employers in the civil industry, under the *Fair Work (Registered Organisation) Act 2009*. With branches in all states and territories as well as a national office in Canberra, CCF understands the local, state and national issues facing the civil construction industry.

Often called the 'horizontal' construction industry, the civil construction industry is crucial to the delivery and maintenance of every government and private infrastructure project in our state – from the largest to the smallest.

We help build and maintain the state's roads and bridges; tunnels and railways; schools and hospitals; housing, water and electricity projects; disaster recovery works and more. Our industry trains and employs local people to deliver these projects, making us a proud and vital economic and social contributor to NSW.

Notes:

***Work Done** – This report uses the value of engineering construction (civil) 'work done' from the Australian Bureau of Statistics' (ABS) Methodology, with the only difference being that estimates of road repair and maintenance costs are added back into the forecasts, given the importance of these activities CCF NSW members. In summary 'work done' includes the value of contracted works plus work done by government entities in the period, but excludes land acquisition costs and the value of installed plant and equipment not essential to the structure of the asset (e.g. turbines for power stations).*

***Reading the graphs** – The horizontal axis shows financial year. **Current Dollars** data reflects the value of work measured in the actual dollars spent each year on construction activity. This excludes non-construction costs (e.g. planning) and assumes the volume of work projected will impact on (and accelerate) construction costs and prices (that is, it includes increases in the cost of construction each year from rising input prices). Whether this results in improved industry margins depends on whether firms price their work above their own cost growth. All data and commentary refer to Current Dollars unless stated otherwise.*

***Electricity construction reporting** - We have updated the way electricity construction work done is reported At the request of CCF NSW, the previous editions of this report presented electricity construction work as a 10% share of the total level reported by the ABS – representing the assumed market share available to the civil contracting industry. This year's edition now reports the total level of electricity work done, for both historical and forecast data. The 'previous forecast' lines on the work done charts are adjusted to include the full level of electricity work done.*

***Energy Transition** covers the total electricity construction market in NSW, across both generation, transmission and distribution projects.*

***Other Civil** activity includes the construction of ports, pipelines and an estimate of civil work associated with the construction of telecommunications infrastructure (e.g. the rollout of the NBN and HyperOne).*

CCF NSW acknowledges that Aboriginal and Torres Strait Islander peoples are the First Peoples and Traditional Custodians of Australia, and the oldest continuing culture in human history. We pay respect to Elders past and present. We celebrate the deep and enduring connection of Aboriginal and Torres Strait Islander peoples to Country and acknowledge their continuing custodianship of the land, seas and sky.

April 2024

Front Cover Photo: Crookwell 3 Windfarm, NSW. Photo by Divall's Earthmoving and Bulk Haulage

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ABOUT THIS REPORT

This report presents CCF NSW's latest 10-year forecast for spending in the NSW Civil Infrastructure Industry, in partnership with Oxford Economics Australia. It analyses Federal, State and Local government as well as private investment spending on infrastructure construction and maintenance. Sectors covered include roads and bridge construction, road maintenance, rail construction, energy transition (generation, transmission and distribution), water and sewerage, and other civil construction. The report provides a regional breakdown of construction spend across Greater Sydney, Newcastle, Wollongong/Illawarra and the remainder of regional NSW. CCF NSW provides this independent assessment to help inform the industry's investment, planning and resource allocation decisions.

CEO'S FOREWORD

In CCF NSW's latest 10-year forecast, by Oxford Economics Australia, we shed light on the significant opportunities and implications stemming from the energy transition in the NSW civil construction industry, particularly in regional NSW.

We present this annual, independent assessment of the civil industry outlook in NSW to assist our members' strategic investment, planning and resource allocation decisions, and inform government decision making.

Before a dollar can be spent on building a school or home, a dollar in civil construction is required. These forecasts provide the roadmap to the communities we can create in the future, if we get the ground work right.

Energy transition takes centre stage

A remarkable 54% surge in energy transition work over the past year alone indicates a major shift in civil construction dynamics. By 2033, electricity construction is projected to surpass roads and bridges, comprising 40% of all civil construction works in regional NSW.

Transport work peaks, unfair project bundling grows

NSW Government and Transport projects are at an all-time high and will remain elevated over the next decade, driven by investments in metropolitan and regional roads/transport by the NSW Government along with construction of the Western Sydney Airport.

However, an alarming trend of unfair project bundling by government agencies poses a substantial risk to industry sustainability, workforce skills and job security.

By 2033, electricity construction is projected to surpass roads and bridges, comprising 40% of all civil construction works in regional NSW.

This report reveals what every civil contractor knows - there is a concerning decline in contract opportunities for local and regional civil contractors, with only 15% of Transport for NSW project commencements below $50 million. In contrast, a staggering 61% of projects initiated by Transport for NSW now exceed $500 million, disproportionately favouring Tier 1 multinational corporations. This marks a stark reversal from 2015 when 41% of Transport projects were valued under $50 million and only 19% exceeded $500 million. Urgent action is needed to address this disparity if we are to keep local contractors in the industry and deliver the infrastructure and energy transition our state needs.

Government investment hits the mark

Government infrastructure investment plays a pivotal role in fostering a robust economy, driving industry investment and job creation. The responsible funding commitments by the Federal and NSW Governments over the next decade, as underscored by our analysis, is applauded by CCF NSW.

...project bundling and problematic procurement... are chronic obstacles to infrastructure delivery in NSW.

Calls for change – fix construction contracting so NSW businesses can survive

Despite positive spending levels, the prevailing trends of project bundling and problematic procurement and contracting practices are chronic obstacles to infrastructure delivery in NSW. These practices not only jeopardise the viability of the local civil construction industry but also exacerbate challenges such as high material costs, workforce shortages and cost-of-living pressures. Our analysis indicates we're at a critical tipping point in the energy transition, coinciding with significant investment in sectors like road and rail, which will further strain the already limited civil construction workforce in NSW unless changes are made now.

CCF NSW urgently calls on the NSW Government to cut the procurement red tape that strangles NSW civil contractors, and to end unfair project bundling. Ensuring the strength and capability of the local civil construction workforce in NSW is critical to meet our State's infrastructure needs. CCF NSW looks forward to working with government, our members and the broader industry to overhaul construction procurement practices and delivery methods. Together, we must strive to buy and build better in NSW, paving the way for a brighter, more sustainable future.

Kylie Yates
CEO
Civil Contractors Federation NSW (CCF NSW)

AT A GLANCE - FY23

Civil construction investment across all sectors
(Federal, State and Local governments, plus private sector)

- ↑ **31%** — Increase in **total civil construction Work Done** compared to previous year
- ↑ **15%** — **More work conducted than forecasted** in January 2023 - to a total $29.8 billion
- ↑ **54%** — Rise in **Energy Transition** Work Done in FY2023
- ↑ **45%** — Increase in Work Done in **Railways** in FY2023, with historically high commencements
- ↑ **51%** — Increase in Work Done in **Water and Sewerage** construction compared to FY2022
- ↑ **18%** — Increase in **Roads and Bridges** construction activity in FY2023
- ↓ **9%** — Drop in **Other Civil** construction activity, with a strong rebound forecast in FY2024

SNAPSHOT
10 YEAR FORECAST

TO FY2033

We forecast civil activity will continue grow to a peak over in FY2025, albeit with a slowing growth rate. Following this, civil activity is expected to decrease but be maintained at elevated levels. High construction costs and capacity constraints have led to project budget overruns and extended construction timelines, which have contributed to upgrades of our forecasts.

11% **Average annual growth in total civil construction** work done in FY2024 to FY2025 (to peak of $36.3 billion in FY 2025)

25% Upgrade in **total Work Done** over next 10 years compared to last year's projection

22% Increase in **total activity over** FY2024 to FY2025 – with work done above $70 billion over the two years, this is $12.5 billion more than anticipated for the same period a year ago.

12% NEW Average annual growth in **Electricity Work Done in** FY2024 and FY2025 *(Generation: 26%, Transmission: 15%, Distribution: -10%)*

40% NEW **Electricity construction** forecast represents **40% of all civil construction works in Regional NSW** by FY2033, surpassing roads and bridges construction.

14% Growth in **Water and Sewerage** activity in FY2024 offset by a 15% decline in FY2025

11% Average annual growth in **Road & Bridge Work Done** in FY24 and FY25 - to $15.8 billion peak in FY25

9% Upgrade for the **10-year Road & Bridge construction outlook** compared to last projection

11% Average annual growth in **Rail Work Done** in FY2024 and FY2025

17% Upgrade for the **10-year in Rail construction outlook compared** to last year's projection ($55.3 billion spend)

20% Average annual growth in **Other Civil Work Done** in FY2024 and FY2025.

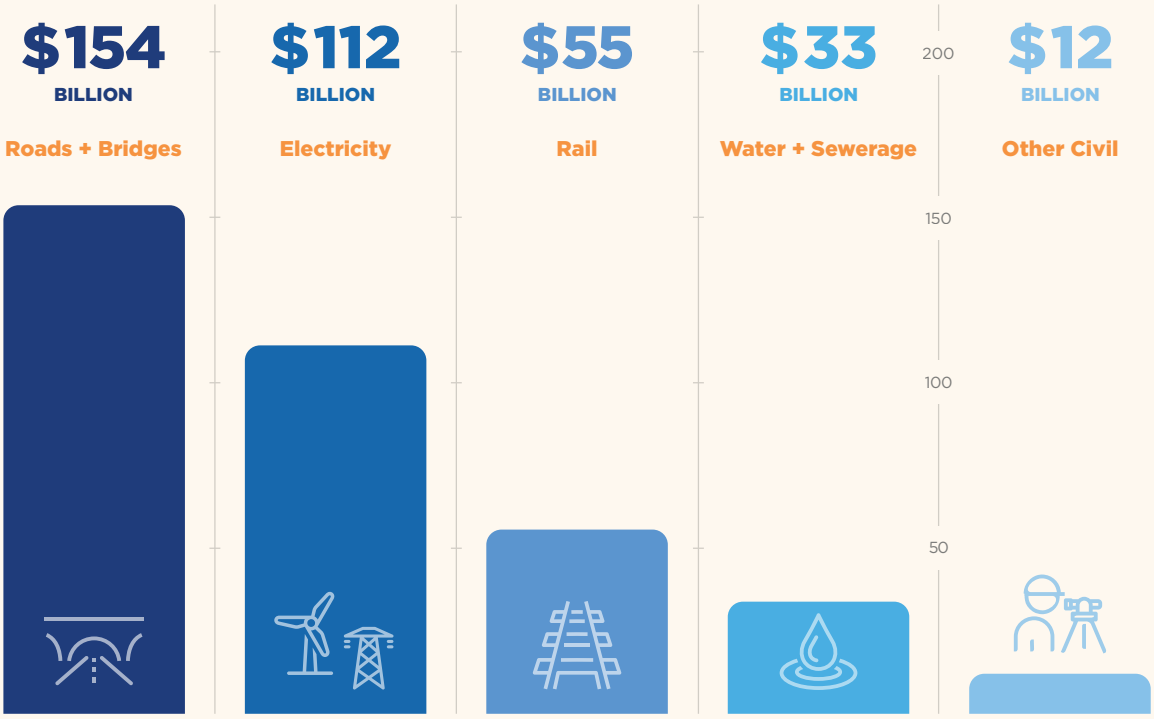
82% Increase from FY2021 trough to FY2025 peak in total civil construction activity

29% Growth in civil work in **Regional NSW FY2024** alone (excludes Newcastle and Illawarra)

Regional NSW to have the largest share in total construction and road activity from FY2024. By 2033, **Regional NSW's share will increase by 53%** while Sydney's share will decline to 41%.

10-YEAR NSW CIVIL CONSTRUCTION INVESTMENT FORECAST BY SECTOR

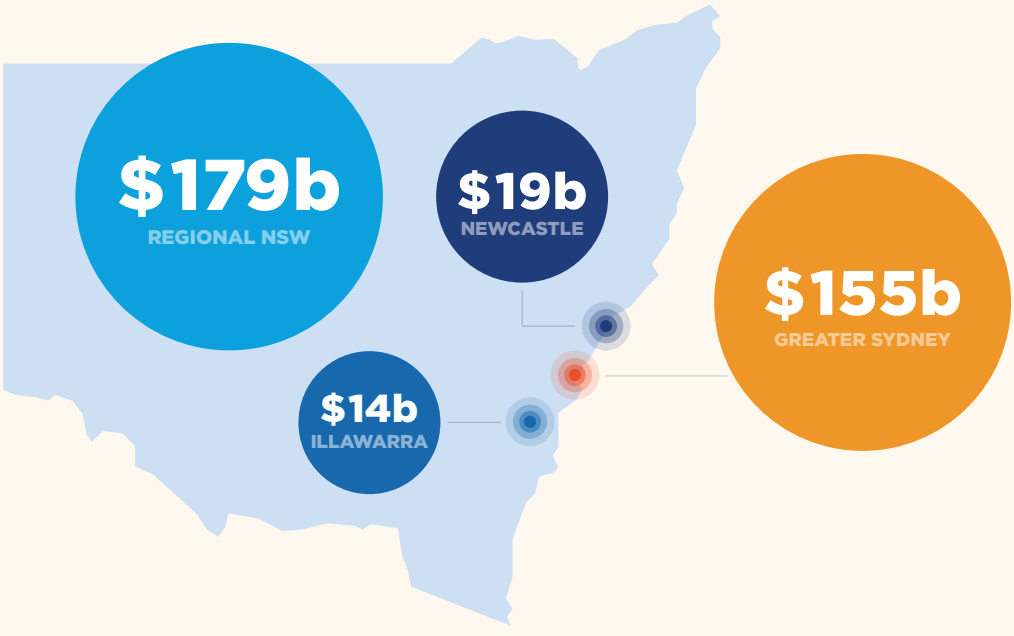
$367b
IN NSW



10 year investment in NSW civil construction forecast from FY2023–FY2033

Note: due to rounding, the total may not precisely match the sum of the individual figures.

10-YEAR CIVIL CONSTRUCTION INVESTMENT FORECAST BY REGION



SUMMARY

OVERVIEW

Civil infrastructure activity (as measured in current price terms for CCF NSW) lifted 31.3% in FY2023. All sectors (Road & Bridges, Rail, Electricity and Water & Sewerage) experienced an increase in activity, with the exception of Other Civil which declined for the fourth consecutive year.

Compared to last year's 10-year NSW civil Work Done outlook, we have revised our forecast of nominal activity across the decade upwards by 25%. This upgrade (in current terms) reflects the combination of improvements in mining investment, the transport infrastructure boom, energy construction boom and the associated impacts of increasing project costs and extended timelines.

The level of **total civil construction activity grew to $29.8 billion in FY2023. This was 15.1% higher than originally forecast** in the previous report. We have raised our civil construction activity forecasts across most sectors in the near-term (FY2024 to FY2025). Electricity construction work done has received the largest (upward) revisions, which is indicative of the growing demand for renewable energy and budget overruns on the Snowy Hydro 2.0. Our Roads & Bridges outlook for FY2027 to FY2029 is smaller than the forecasts in last year's report, driven by a downgrade in the Other Roads category.

Electricity construction work done has received the largest (upward) revisions, which is indicative of the growing demand for renewable energy...

The next two years

Over the next two years, NSW civil construction activity will increase at an annual average of 10.5% to a peak of $36.3 billion in FY2025. Growth will be supported by work done by the Roads & Bridges sector, Railways sector and Electricity sector which are projected to have annual average growth rates of 11.3%, 10.6% and 12.3%, respectively. The outlook across the other sectors is more varied over this period, with Other Civil rising strongly in FY2024 and then plateauing. Moreover, growth in the Water & Sewerage sector in FY2024 is reversed by a decline in FY2025.

Transport spend eases; road & electricity climbs

We forecast a moderate decline in civil construction levels over FY2026 to FY2028 as the transport infrastructure boom winds down. From FY2029 to FY2033, we forecast a pickup in civil construction activity to a level that will exceed the previous peak of FY2025. This increase will be driven by the strong pipeline of road projects, investment in the Water & Sewerage sector and activity in the Electricity sector to support the transition to renewable energy.

Transport work at an historic high

Transport work has reached historically high levels and will remain elevated over the 10-year forecast period. The two years to FY2025 are expected to see a level of work done that is 30.4% higher than the two years to FY2023. Major transport projects expected to support activity beyond the FY2025 peak include Sydney Metro West ($11.6 billion), Sydney Metro Western Sydney Airport ($5.5 billion), the Western Harbour Tunnel ($5.4 billion in total), M6 Stages 2 & 3 ($5.4 billion in total), Parramatta Light Rail - Stage 2 ($2.1 billion in total) and the Coffs Harbour Bypass ($1.5 billion).

OEA's research, conducted for CCF NSW, into NSW Government funded civil commencements (Section 2 of this Infrastructure Report) identified a 12% increase for total civil and a 4% decrease for the transport sector in FY2023. The dollar value of NSW Government funded civil commencements are at historical highs, which reinforces the prop up in civil construction activity that is forecast in the near-term.

OVERALL OUTLOOK

- Over the next 10 years we forecast an aggregate $366.6 billion (in current prices) in NSW civil activity.
- Across the selected sectors, roads and bridges work is projected to comprise the bulk of total construction activity over the 10 years to FY2033 at $154.3 billion, followed by the electricity sector at $111.5 billion, the railways sector at $55.3 billion, the water & sewerage sector at $33.4 billion, and finally the other civil sector at $12.0 billion.
- Total annual activity is expected to peak at $36.3 billion in FY2025, with activity forecast to be 78% higher than the FY2021 trough, in current price terms.
- Growth in total activity in FY2024 and FY2025 is forecast to average 10.5% per annum in current price terms. Over this period, the fastest yearly growth is forecast in FY2024 at 15.4%.

OUTLOOK BY SECTOR

Roads and Bridges construction activity grew 17.6% in FY2023, driven by a pickup in publicly funded major project work, with work ramping up on the Coffs Harbour Bypass, WestConnex - Stage 3, M6 Stage 1, Sydney Gateway Motorway and the Warringah Freeway Upgrade. Annual roads and bridges activity is forecast to grow on average 11.3% p.a. between FY2024-FY2025, peaking at $15.8 billion.

Electricity construction activity rose strongly in FY2023, with an annual growth rate of 54.0%. This reflects strong investment across the entire electricity network (generation, transmission and distribution). We expect total electricity construction activity to grow by 19.9% in FY2024 and then forecast an average annual growth rate of 5.3% over the rest of the forecast period. The sector will be supported by work in the transmission subsector and generation subsector through renewable energy projects (wind and solar) and storage projects (other and hydro).

Railways construction activity lifted by a substantial 45.5% in FY2023, supported by strong major project commencements since FY2021. In the near term, the Sydney Metro City projects and the Parramatta Light Rail - Stage 1 will underpin construction activity. In light of the independent review into Inland Rail, we have further adjusted the timelines and costs of the various stages. Railways construction is expected to rise 10.6% p.a. between FY2024-FY2025 and reach a peak of $6.4 billion.

Water and Sewerage construction activity increased 51.1% in FY2023 and reflects ongoing upgrades and additions to capacity. Since the last report, several dam projects have been cancelled, including Raising Warragamba Dam and Raising Wyangala Dam and the scope of New Dungowan Dam has been significantly reduced. We are forecasting strong growth in FY2024 to be followed by a significant decline in FY2025 that will see activity subsequently flatten.

Other Civil construction activity fell by a further 9.3% in FY2023. We forecast a strong rebound (+40.3%) in FY2024, although this will be short-lived, with activity falling again over FY2026 and FY2027. Other civil work is expected to maintain healthy growth in the long-term, with an average growth rate of 8.8% per annum between FY2028 and FY2033.

WORK DONE, FORECAST REVISIONS AND RISKS TO CURRENT FORECAST

WORK DONE FOR FY2023

Construction cost escalation in Australia lifted to historically high levels in 2022, on the back of COVID-19 related disruptions and flooding in the east coast. Energy prices also experienced volatility due to geopolitical tensions and sanctions that stemmed from the outbreak of the Russia-Ukraine war and more recently the Israel-Gaza conflict. Growth in construction costs is easing but the costs of most construction inputs will remain elevated.

OEA's previous forecast for total civil construction activity in FY2023 was $20.6 billion (in current prices) across Roads & Bridges construction and maintenance, Railways construction, and 'Other Civil' activity. This year's report features the separation of the Electricity and Water & Sewerage sectors from the 'Other Civil' forecasts. Accordingly, we have re-calculated the previous forecasts to allow for a direct comparison with the current forecasts. Civil activity for FY2023 came in at $29.8 billion, which is $3.9 billion higher than the adjusted figure from the previous report of $25.9 billion.

A key contributor to the rise in our near-term forecasts is the increases in project costs, including Sydney Metro City & Southwest, Parramatta Light rail - Stage 2, Snowy Hydro 2.0 and HumeLink - Snowy Hydro Transmission Upgrade. Labour supply constraints and high construction costs continue to put pressure on project budgets and timelines. This has sparked reassessments of the pipeline, particularly publicly funded civil transport projects through the Sydney Metro Review and the 90-day independent review of the Infrastructure Investment Program.

ADJUSTMENTS TO NEAR - AND LONG-TERM FORECASTS

The total outlook for the considered sectors in NSW has been revised upward by $73.4 billion over the 10-year period from FY2024 to FY2033. This represents an increase of 25% over the next decade from our previous 10-year forecasts. In real terms (constant prices), activity over the 10-year forecast period has been revised upward by $44.1 billion compared to last year's outlook (representing an 19% increase in real activity).

In the near term, the profile of work done has shifted upward, with the level of activity over FY2024 and FY2025 having increased by around 22% each year, compared to last year's outlook. This represents a $12.5 billion rise over the two years. This shift in our near and long-term outlook primarily reflects a revision to the overall level of electricity construction associated with the renewable energy transition. The assumptions underpinning this revision revolve around the pulling forward of generation and transmission projects given the significant amount of private and public investment (both political and financial) now committed to get these projects off the ground. To a lesser extent, the changes also reflect revisions to project funding, with further cost overruns expected as industry

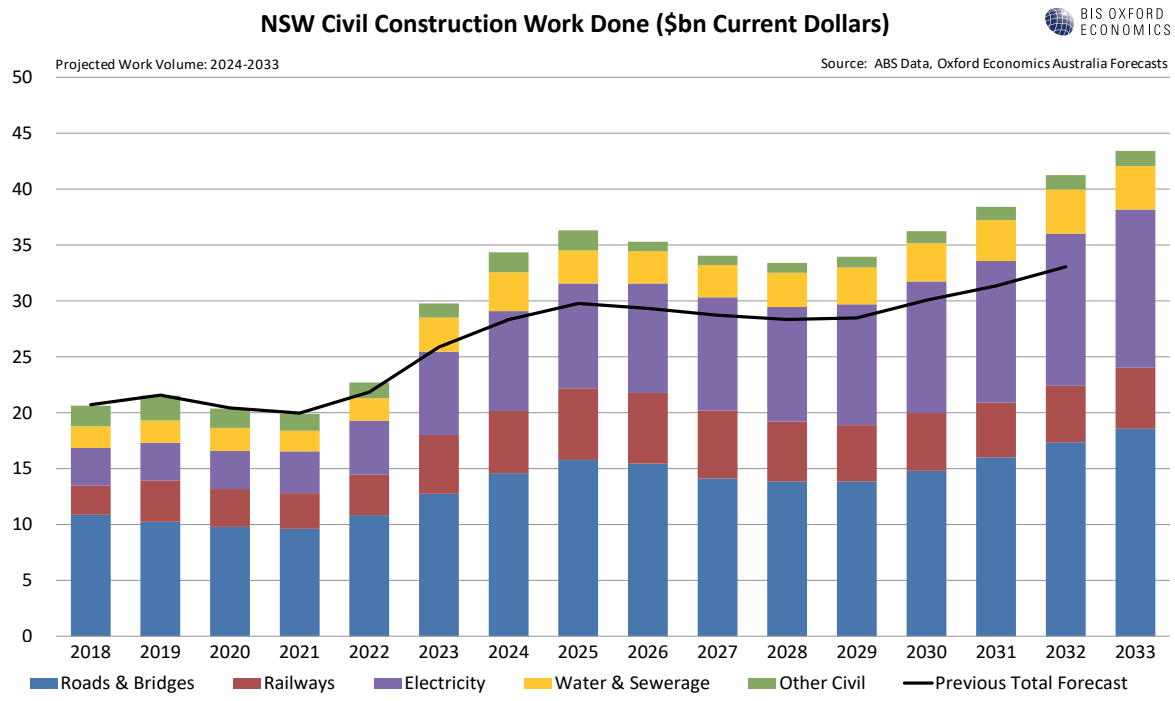


Fig. 1: ***Overview of NSW Civil Construction Work***

competes for resources amidst concurrent upswings in transportation, mining and electricity construction.

Publicly funded transportation construction is at record high levels, but the current environment of high construction costs and industry capacity constraints is causing issues in actioning the pipeline. While an increase in migration will help alleviate shortages on some projects, we expect labour capacity to remain constrained, especially given the strong pipeline of work, and anticipate stronger wage growth over the near-term. Ultimately, the Federal and NSW Governments will continue to face challenges getting through the strong pipeline of work that it committed to, and we are likely to see further delays.

DOWNSIDE RISK TO CURRENT FORECASTS

The key downside risks to the 10-year outlook for infrastructure investment and construction activity:

- **Transportation boom relies on government stimulus** – government financing remains a significant domestic risk to engineering construction activity. The forecast transportation infrastructure boom relies heavily on government funding and faces significant downside risk should this funding be withheld or delayed. A clear example of this is the reallocation of Federal Government funding following the Independent Strategic Review of the Infrastructure Investment Program released in November 2023. Accordingly, the review confirmed several projects in NSW will not receive funding from the Federal Government, including the M7-M12 Interchange and the Sydney to Newcastle - Tuggerah - Wyong faster rail upgrade.
- **Willingness of the NSW State Government to sustain higher levels of spending** in the face of substantially higher debt accumulated during the pandemic, a large budget deficit, and increasing serviceability cost of NSW government debt. With NSW legislated under the *'Fiscal Responsibility Act 2012'* to maintain a AAA credit rating, any issues the state may face with debt serviceability in the future could see decreasing public expenditure in the form of decreased infrastructure investment. The NSW FY2024 Budget indicates a shift to repairing the budget position, which includes gross debt reduction measures and a projected return to surplus in FY2025.
- **Capacity to deliver on strong pipeline of work** – another risk to our forecasts is the capacity of the construction sector to deliver the wave of major projects in our forecasts. The simultaneous upswing in transportation and mining construction activity may create competition for resources. We could therefore see an increase in cost escalation and project delays. This in turn could see publicly funded projects go over budget, and with higher levels of debt and serviceability costs, could pose a downside risk to budget downgrades of future publicly funded works.
- **Changed behaviours** – working from home versus commuting. This has already impacted heavily on transport demand and hence may affect longer term infrastructure spending, but could alternatively drive increased investment in other infrastructure such as telecommunications.
- **Changes in where people choose to live** – which may see more of the longer-term decline focused in metropolitan Sydney compared to the rest of the state as people to move to regional areas with lower housing costs and other amenities such as greater space.

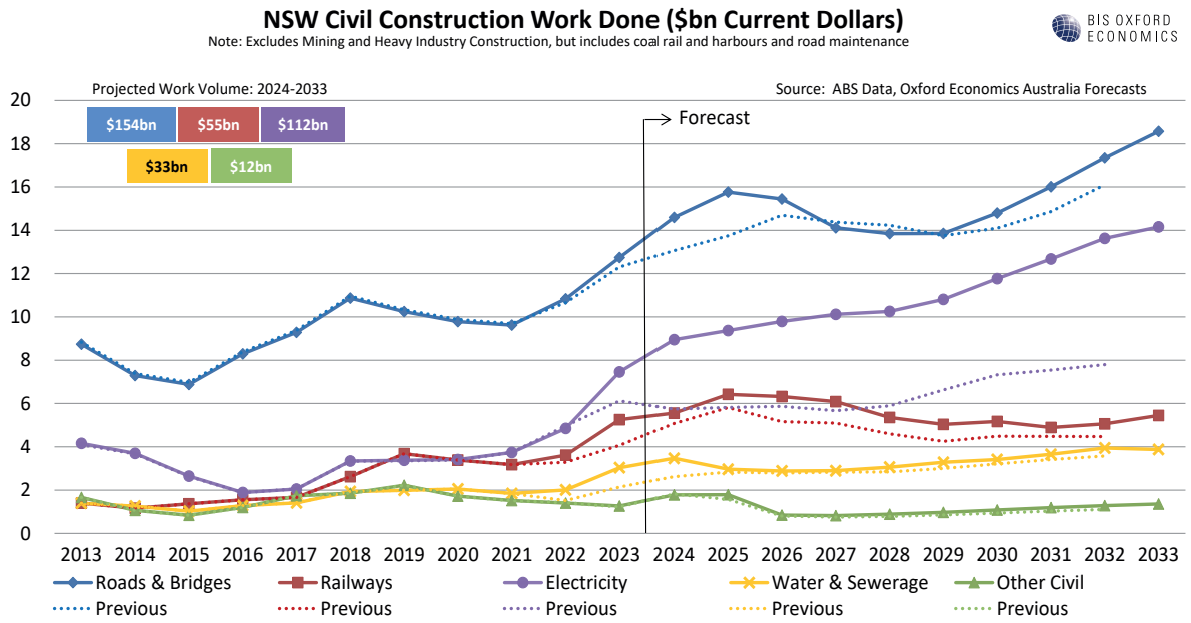


Fig. 2: ***Comparison to 2023 Forecast (Adjusted)***

OUTLOOK BY SECTOR

ROADS AND BRIDGES

17.6% 17.6% Rise in Work Done last yearin FY2023

$154.3b $154.3 billion 10 Year Spend – an increase of 9.3% compared to previous study

11.3% 11.3% per annum growth to $15.8 billion peak in FY2025

Publicly funded projects are driving the uptick in activity

Roads and Bridges activity in NSW increased for the first time in three years in FY2022 (+12.6%) and maintained strong growth in FY2023 at 17.6%. The boost in activity was supported by strong commencements over the past two years, particularly publicly funded road projects, with work ramping up on the Coffs Harbour Bypass, WestConnex - Stage 3, Sydney Gateway Motorway and the Warringah Freeway Upgrade. We expect activity to continue rising in the near-term as the next wave of mega-projects enters the construction phase, including the Western Harbour Tunnel, Great Western Highway Upgrade and Westlink M7 Widening.

The near-term outlook for FY2024 and FY2025 is higher than the level of activity that was anticipated in the previous year's report, peaking at $15.8 billion in FY25. We have upgraded our forecasts for the period following timeline adjustments, cost overruns and new project announcements. However, we remain cautious of the downside risk of further project delays as we are anticipating a simultaneous boom in the Roads & Bridges sector and the Railways sector amidst ongoing capacity and cost pressures across the transport construction sector. In the medium-term, we forecast that activity will contract over the three years to FY28. Highways and arterials will remain the largest component of road and bridges activity over the next five years as a large volume of projects have funding commitments from the Federal and State Government. Our long-term forecasts for Road & Bridge construction activity over FY2030 to FY2033 have been upgraded.

We expect activity to continue rising in the near-term as the next wave of mega-projects enters the construction phase,

Roads maintenance spending is expected to have peaked at $3.1 billion in FY2023, propped up by the urgent repair works in response to the major flooding in parts of NSW in 2021 and 2022. As of September 2023, $670 million in funding has been announced by the NSW Government for road repairs in regional areas under the Regional Emergency Road Repair Fund (RERRF) and Regional and Local Roads Repair Program (RLRRP). We forecast that road maintenance expenditure will ease back over FY2024 but remain above the historical average as the remaining flood rehabilitation work is completed. The rest of the forecast period will see maintenance spending grow by an annual average of 5.5% as the increasing volume of road construction is set to boost future maintenance requirements.

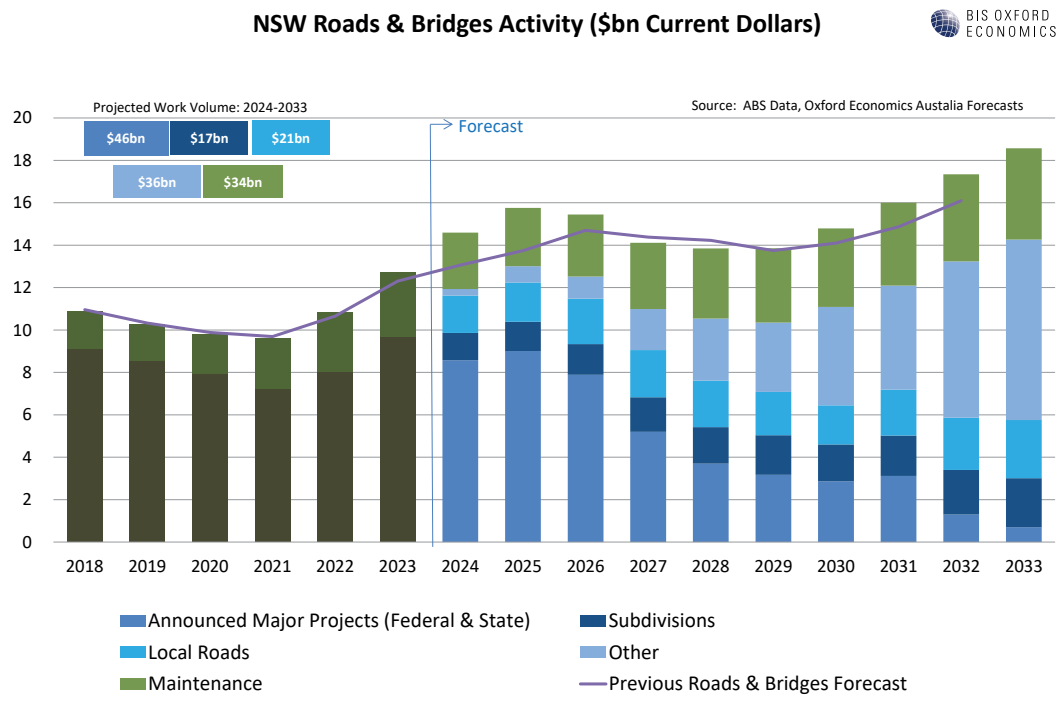


Fig. 3: ***Roads and Bridges***

KEY STAGES OF ROADS & BRIDGES ACTIVITY FORECAST:

1. **A ramp up in the near term:** from FY2024 to FY2025, construction activity is forecast to grow 11.3% per annum on average to peak at $15.8 billion. Major projects include:
   - WestConnex Stages 3a and 3b ($6.0 billion, FY2019-FY2024)
   - Sydney Gateway Motorway ($2.0 billion, FY2021-FY2025)
   - Western Sydney Airport - First Runway and Aprons ($640 million, FY2022-FY2026)
   - M6 Stages 1 ($2.3 billion, FY2022-FY2026), 2 and 3 ($5.4 billion, FY2025-FY2031)
   - Warringah Freeway Upgrade ($1.2 billion, FY2022-FY2027)
   - M12 Motorway ($1.5 billion, FY2023-FY2027)
   - Coffs Harbour Bypass ($1.5 billion, FY2023-FY2028)
   - Western Harbour Tunnel ($5.4 billion, FY2023-FY2029)
   - Pacific Motorway (M1) - Extension to Raymond Terrace ($1.3 billion, FY2024-FY2028)
   - New England Highway - Singleton Bypass ($490 million, FY2024-FY2027)
   - Westlink M7 Widening ($1.3bn, FY2024-FY2026)
2. **Activity is projected to contract over FY2026 to FY2028 as the boom in major transport projects starts to wind down.** We forecast an annual growth rate of -4.2% over the period, but activity will still exceed the historical average. Road maintenance and subdivisions construction will support activity during this period.
3. **Strong growth over FY2030 to FY2033 at a forecast growth rate of 7.6% per annum.** Activity over this period will be propped up by highways and arterials improvement and upgrade projects.

OUTLOOK BY SECTOR

ENERGY TRANSITION

54% — 54.0% Rise in Work Done in FY2023

$111.5b — $111.5 billion 10 Year Spend – with Generation accounting for around 47%

6.7% — 6.7% per annum growth over the forecast period

Activity to be historically high (above $8 billion) over the next 10 years

Our electricity sector forecasts are divided into three categories: generation, transmission, and distribution. Generation covers the construction activity of electricity generation assets and can be further broken down based on the source of electricity generation such as gas, coal, wind, solar, and other (which also includes storage batteries). Transmission involves the bulk movement of electrical energy from the generating site to the electrical substation. Distribution is the movement of electricity from the electrical substation to individual consumers.

Net zero and lower emissions targets

Australia's greenhouse gas emission reduction targets were enshrined in legislation in 2022. This included net zero emissions by 2050 and a target for emission levels in 2030 to be 43% lower than 2005 levels. In 2021, the NSW Coalition Government updated the state's emissions reduction targets to a 50% reduction from 2005 levels by 2030 and net zero emissions by 2050. At the end of 2023, NSW Parliament passed the *Climate Change (Net Zero Future) Act 2023* to legislate these targets and added the goal of lowering emissions to 70% of 2005 levels by 2035. There is a clear commitment to securing cleaner and more affordable energy in NSW.

Energy construction boom driven by demand for renewables

There is currently an energy construction boom in Australia, which is being driven by the public demand for renewable energy generation and funding contributions through the Australian Renewable Energy Agency (ARENA). However, the national transmission network is a significant constraint on the transition to renewable energy generation. The network was originally designed to transmit electricity from large, centralised generators (coal power plants) to the distribution networks within cities and towns. In contrast, renewable energy generators tend to be much more geographically diverse than fossil fuel generators and are typically located in parts of the grid with limited transmission capacity. Consequently, the transmission network needs to be expanded to better service these areas.

Strong investment in transmission network

We anticipate strong investment in the transmission network over the next decade, which will include the construction of big interconnectors. In NSW, privately funded projects will drive investment in the transmission network including HumeLink, Project EnergyConnect and the Victoria to New South Wales Interconnector (VNI) West. The expansion of the transmission network will help unlock opportunities for renewable energy zones

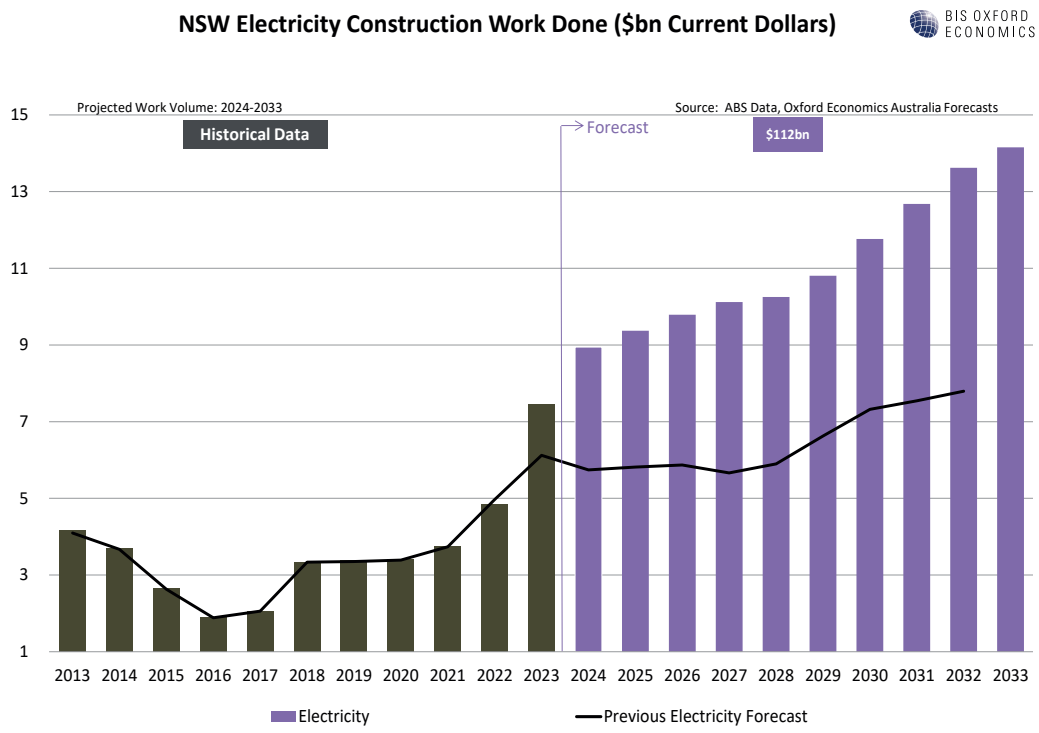


Fig. 4: ***Electricity (Total)***

such as the proposed Dinawan Energy Hub in the Riverina region, the New England Renewable Energy Zone and the Central-West Orana Renewable Energy Zone.

NSW Government's EV strategy to drive investment in distribution network

Passenger vehicles emissions accounted for approximately 8% of greenhouse gas emissions in Australia in FY2021. To help meet emissions reductions targets, the NSW Government has developed an Electric Vehicle Strategy to incentivise the uptake of electric vehicles (EVs) and design a road network to accommodate this fleet. Increased usage of EVs will facilitate sustained investment in the distribution subsector through the requirement of charging infrastructure.

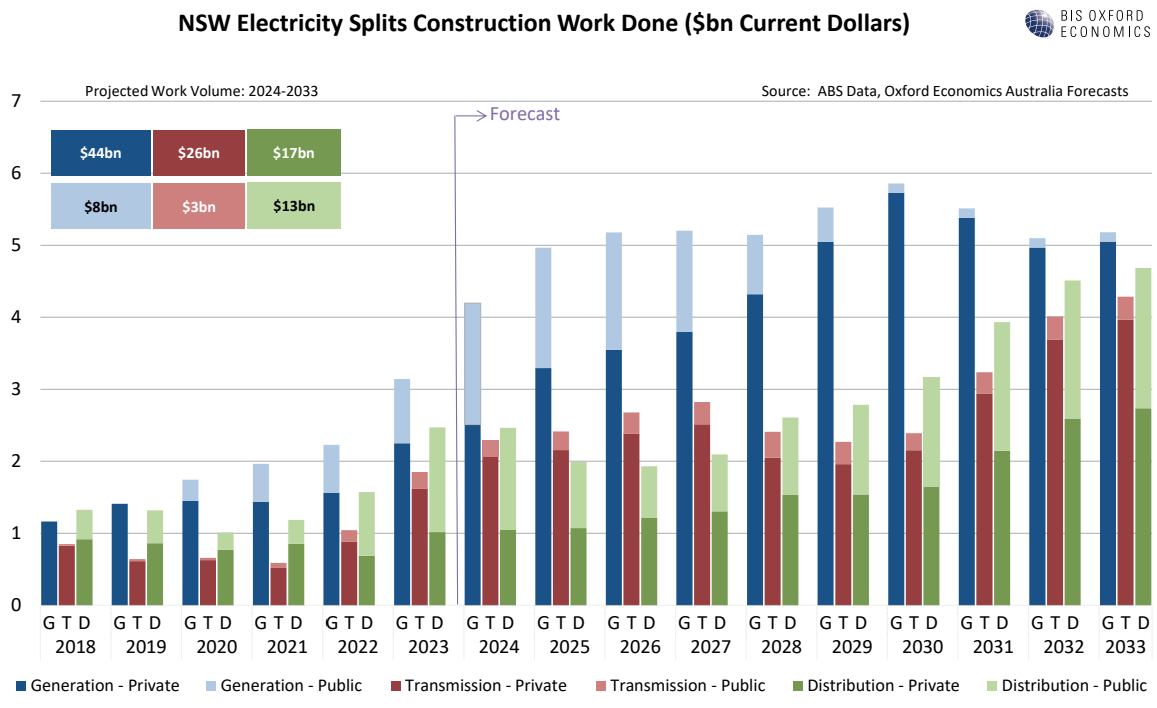


Fig. 5: ***Electricity (Total)***

OUTLOOK BY SECTOR

ENERGY TRANSITION

continued

20% 20% growth in energy transition activity in 2024

3.5% 3.5% per annum average increase forecast from FY2025 to FY2028

Three of the four coal power stations in NSW to close in next 10 years, requiring construction investment in replacement capacity to prevent energy shortfalls and meet emission reduction targets

Renewable generation projects

Meanwhile, work is progressing on a number of largescale energy generators and battery storage facilities in the state. The major public investments are the Snowy Hydro 2.0, Waratah Super Battery and Kurri Kurri Gas Plant. Privately funded investment in electricity generation is centred in solar projects (such as Stubbo Solar Farm, New England Solar Farm and Walla Walla Solar Farm) and wind projects (such as Rye Park Wind Farm and Flyers Creek Wind Farm).

Decline in traditional power sources signals development in storage

Our electricity generation forecasts capture the declining generation activity from traditional power sources (e.g. gas and coal) and the ramp up of wind and solar generation construction activity. Solar energy production peaks during the day when the sun is at its brightest, but demand for electricity is highest in the evening. Thus, there is a need to develop effective electricity storage facilities and we forecast a pickup in investment in battery storage that will remain elevated over the long-run. This is reflected in the Other subsector of our electricity generation forecasts. Pumped hydro plants can also help balance electricity supply and demand. There are two major hydro projects in NSW that underpin our forecasts, the publicly funded Snowy Hydro 2.0 and the proposed Oven Mountain Pumped Storage project (privately funded).

Closure of NSW coal power stations driving construction activity in renewables to avoid shortfall

The medium-to-long-term prospects for the electricity sector remain bright as rising energy demands and the need to replace the ageing coal generation fleets through the 2020s and 2030s influence construction activity. AGL has shut down the Liddell power station (Hunter Valley, NSW), which was Australia's oldest coal-fired power plant. There are four remaining coal powered plants in NSW and three are scheduled to close within the next ten years. However, there are concerns about coal power stations, particularly the scheduled to shutdown of Eraring in August 2025, closing too early and creating electricity shortfalls during the renewable transition process. Other risks to our forecasts are stronger than anticipated investment in the green hydrogen export industry in NSW, which would increase wind and solar generation projects to support the electrolysis process.

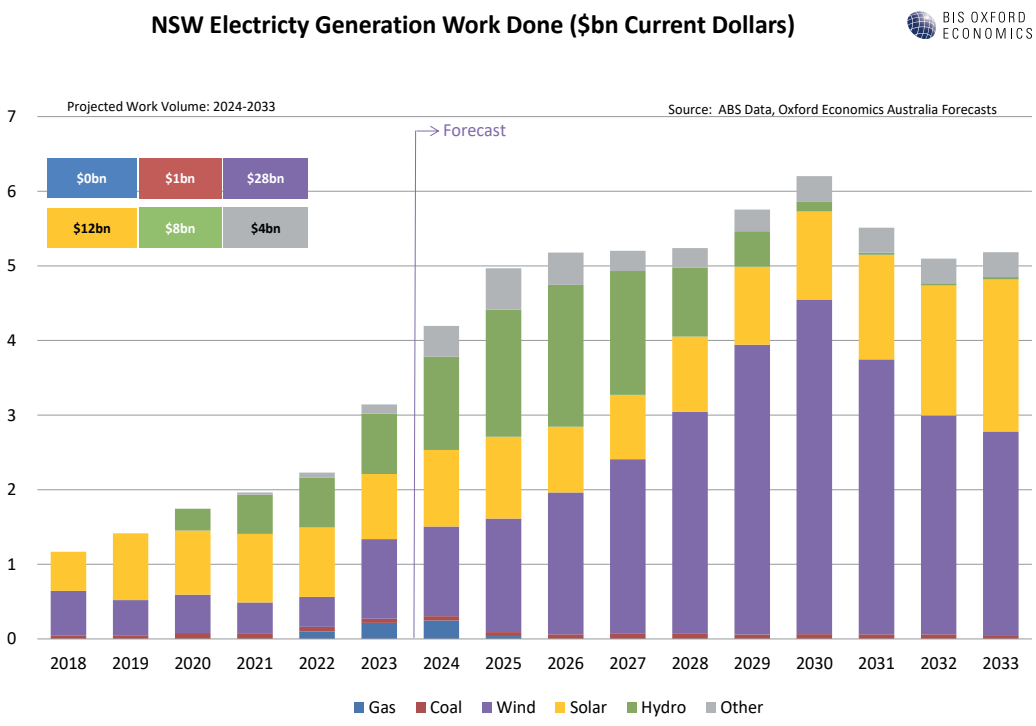


Fig. 6: ***Electricity Generation – by Type***

KEY STAGES OF ENERGY CONSTRUCTION FORECAST:

1. **Growth in activity over the short-to-medium term next four years.** Activity is forecast to grow strongly in FY2024 by 19.9%, then increase by an average of 3.5% per annum over FY2025 to FY2028. This will bring the level of activity to $10.3 billion. We anticipate a slowdown in activity as the volume of work done on the Snowy Hydro 2.0 declines and the initial outlays of the transmission and distribution networks reach completion. Major projects that will underpin activity include:
   - Snowy Hydro 2.0 ($9.0 billion, FY2020-FY2030)
   - HumeLink - Snowy Hydro Transmission Upgrade ($2.2 billion, FY2024-FY2027)
   - Project EnergyConnect ($1.1 billion, FY2022-FY2024)
   - Liverpool Range Wind Farm ($750 million, FY2024-FY2026)
   - Stubbo Solar Farm ($560 million, FY2023-FY2025)
   - Waratah Super Battery ($600 million, FY2023-FY2025)
2. **Strong rise in construction activity in the long run.** We forecast an annual growth rate of 6.7% over the five years to FY2033 as there is a need to develop a network sufficient to replace the coal power plants close to their shutdown dates and keep emission reduction targets on track.

OUTLOOK BY SECTOR

RAILWAYS

45.5% 45.5% increase in Work Done in FY2023

$55.3b $55.3 billion 10-Year Spend – an increase of 16.5%

Activity forecast to peak in FY2025 at $6.4 billion – this will be the highest level of rail construction activity recorded in NSW

Fall in activity in over medium-term – a 21.6% decrease from FY2025 peak

Railway construction work rose sharply in FY2023 (45.5%) with historically high rail commencements in FY2022 and FY2023 supporting the lift in activity. Accordingly, activity for FY2023 came in $1.2 billion higher than our previous forecast. We anticipate a peak in rail construction activity in FY2025 and project that the level of work done will reach a record of $6.4 billion. However, delays and cost increases on mega-projects continue to be a concern to the sector.

Our longer-term outlook has been revised upwards as various projects have encountered significant cost overruns, such as the Parramatta Light Rail – Stage 2 and the Sydney Metro projects. This instigated an independent review into Sydney Metro projects by the incoming Minns Government which was completed in December 2023. The review identified additional funding is likely to be required for Sydney Metro City & Southwest and recommended deferring non-contracted work on Sydney Metro West by one year (to 2032) to control cashflow pressures.

Image credit: Haslin Constructions Pty Ltd – Shellharbour Junction Railway.

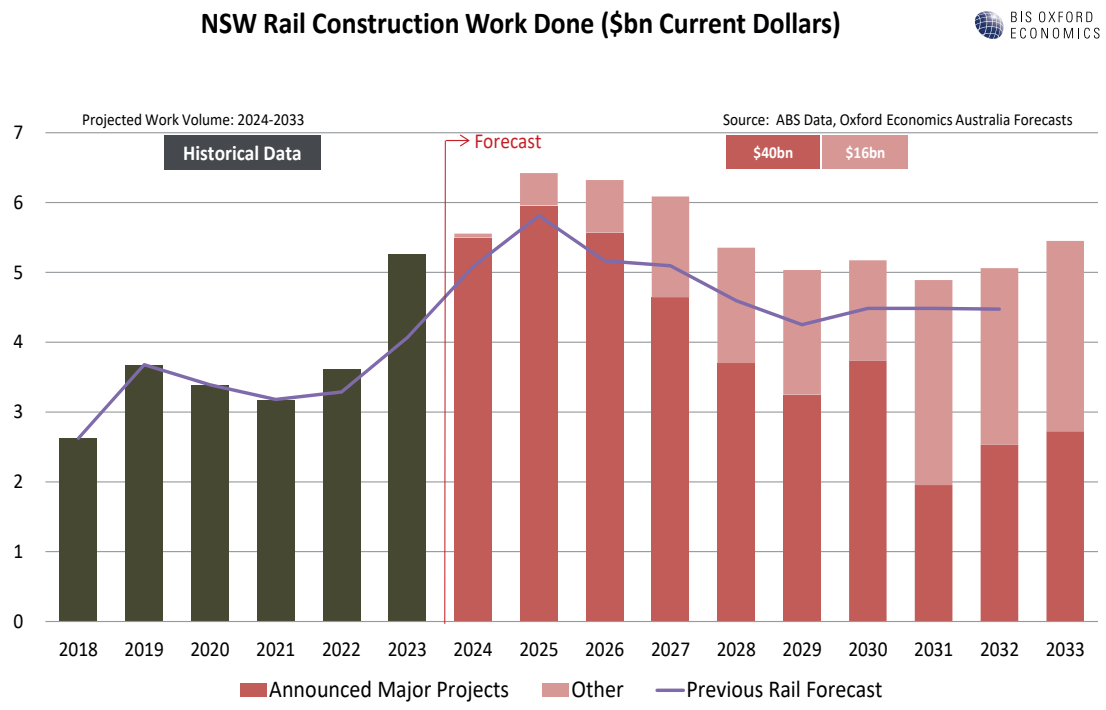


Fig. 7: ***Rail***

KEY STATES OF RAILWAYS FORECAST:

1. **Elevated activity over FY2024 to FY2026.** Activity soared in FY2023 and marked the beginning of a period of heightened activity where work done is forecast to exceed $5 billion. Activity is expected to peak in FY2025 at $6.4 billion then begin to decline in FY2026. Major projects include:
   - Continuing work on Parramatta Light Rail – Stage 1 ($840 million) out to FY2024 and the Sydney Metro City & Southwest project ($8.6 billion) out to FY2024.
   - Commencement and ramping up of projects over FY2023 and FY2024: Sydney Metro West ($11.6 billion), Sydney Metro Western Sydney Airport ($5.5 billion), Inland Rail ($6.1 billion).
2. **Activity will taper off towards the end of the decade but will remain high compared to the long-run average.** We anticipate that the decrease in activity will accelerate over FY2027 and FY2028, leading to a trough in FY2029 as major work on Sydney Metro – Western Airport and Inland Rail projects wraps up. FY2031 is projected to record the next trough in activity at $4.9 billion, which still surpasses the peak of $3.7 billion seen prior to the latest boom in rail work in FY2019. Subsequently, the level of activity is expected to grow at an average of 5.6% per annum over the next two years to $5.5 billion in FY2033.

OUTLOOK BY SECTOR

WATER AND SEWERAGE

51.5% — 51.1% increase in Work Done in FY2023 compared to FY2022

$33.5b — $33.5 billion 10-Year Spend

14.2% — 14.2% growth in FY2024 offset by 14.5% decline in FY2025

Activity to remain elevated (above $2.5 billion) over forecast period

Water and sewerage activity reached a peak of $3.1 billion in FY2023, which is a comparatively high level by historical standards and reflects ongoing upgrades and additions to capacity. The water and sewerage sector has been impacted by decisions to withdraw funding at the Federal and State levels. In the past year, several dam projects have been cancelled, including Raising Warragamba Dam, Raising Wyangala Dam and only Stage 1 of the New Dungowan Dam will go ahead. As a result, we forecast activity will pull back and plateau over the medium-term, but will remain at elevated levels. Construction activity in the sewerage sector will be underpinned by publicly funded infrastructure projects, in particular Stage 1 of the Upper South Creek Advanced Water Treatment Plan is scheduled to commence in FY2024.

From FY2028-onwards, we anticipate broadly sustained growth, and the level of activity is set to drift up to $3.9 billion by FY2032. The return of el Niño conditions, and a positive Indian Ocean Dipole are set to bring reduced rainfall and increased temperatures. If these conditions persist there is a significant risk that water security concerns will drive an uplift in investment – similar to what occurred towards the end of the 2000s when activity in the sector last peaked.

Image credit: Vaughan Civil Pty Ltd – Prospect South to Macarthur (ProMac) Package 17.

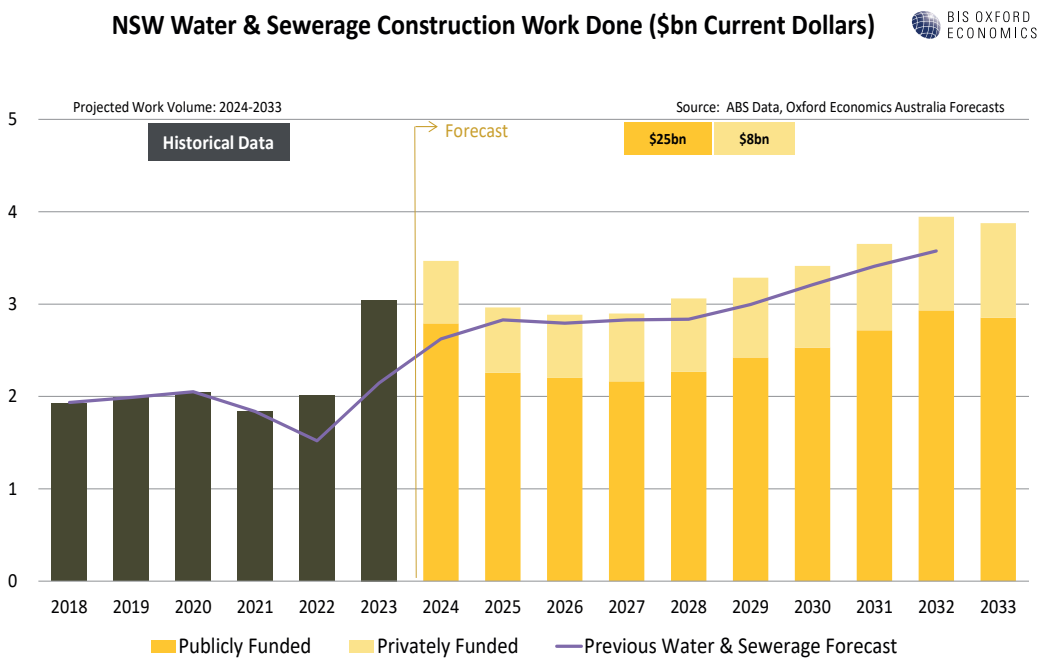


Fig. 8: ***Water and Sewerage***

KEY STAGES OF WATER & SEWERAGE FORECAST:

1. **Strong growth (+14.2%) in the sector for FY2024 will be followed by a contraction over FY2025 and FY2026.** Activity is forecast to decline by an annual average of 8.6% over the two years to FY2026 then plateau in FY2027. This will see the level of activity hover around $2.9 billion. Major projects that will underpin activity include:
   - Work on the Quakers Hill Wastewater Treatment Plant ($346 million) and West Camden Wastewater Treatment Plant ($176 million) are set for completion in 2024 and the Prospect to Macarthur Link ($336 million) is on track to finish in 2025.
   - Commencement of projects scheduled for FY2024, including the Western Weirs Program ($400 million), Upper South Creek Advanced Water Recycling Centre – Stage 1 ($750 million) and Richmond System Wastewater Upgrade ($105 million).
2. **Sustained growth over FY2028 to FY2032.** Activity is expected to move along a trajectory of steady growth with an average annual growth rate of 6.4% over the five years to FY2032. A small decline in activity is anticipated in FY2033, but activity will remain elevated above previous peaks.

OUTLOOK BY SECTOR

OTHER CIVIL

4th Consecutive Year of Decline in Work Done (FY2020 to FY2023)

$12.0b

$12.0 billion 10-Year Spend

40.3%

40.3% growth forecast for FY2024 followed by decline over FY2026 and FY2027

Pipeline projects to uphold activity over near-term – but susceptible to timeliness of approvals and progress on oil and gas projects prone to delays or fast-tracks

'Other Civil' captures work done on gas and oil pipelines, harbours, and various telecommunications projects. The sector continued to contract over FY2023 as major project delays and capacity constraints hampered construction activity. We forecast a strong rebound in growth for FY2024, which will be followed by flat growth in FY2025 and then a decline over FY2026 and FY2027. Driving the pickup in activity over the next year will be the increase in construction activity in the pipelines sector. Pipeline construction is closely linked to oil and gas construction, and we forecast strong lift in oil and gas construction FY2024. Moreover, we have upgraded our valuation of NBN to reflect our latest views on the expansion of the rollout.

Over the 10-year forecast period, total construction work done for 'Other Civil' projects is estimated at $12.0 billion. An upside risk to our forecast is that higher than expected mining production will see a greater investment in export capacity. Additionally, there is a risk that gas projects could be fast tracked to avoid energy shortfalls as the state transitions from coal to renewable energy sources and could bring pipeline construction forward.

Image credit: Cleary Bros (Bombo) Pty Ltd – Red Point Rock Revetment, Port Kembla.

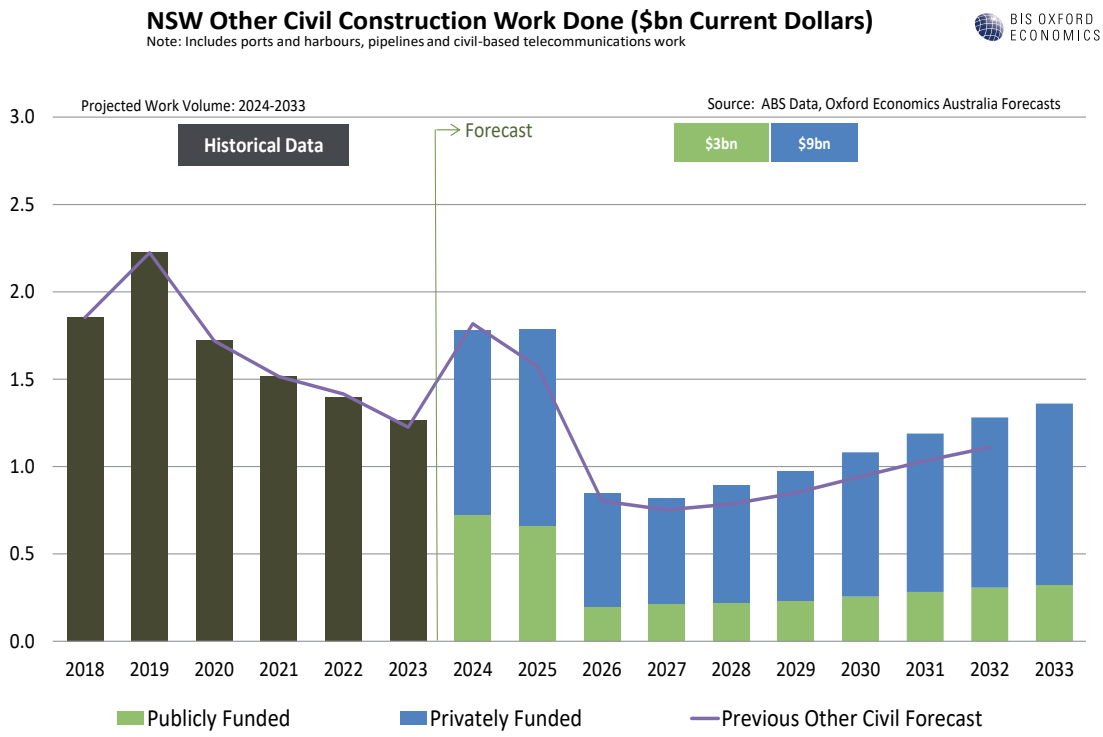


Fig. 9: ***Other Civil***

THE KEY DRIVERS OF 'OTHER CIVIL' ACTIVITY FORECAST:

- Several private pipeline projects are set to commence in the near-term providing extensions to existing networks or creating new connections between LNG projects and the market. For instance, Jemena has committed to the Eastern Gas Pipeline Expansion ($320 million) and the Hunter Gas Pipeline ($960 million) will support the Narrabri Gas project.
- Over FY2024 and FY2026, the expansion of the NBN rollout will support work in the public sector. Additionally, a small contribution to telecommunications construction activity over the next two years will come from private investment in the NSW component of the HyperOne network.
- The NSW Labor Government has confirmed their commitment to the Circular Quay upgrade ($160 million). We expect construction will start in FY2024, while the delayed Port Kembla LNG Import Terminal ($125 million) is projected to wrap up construction.

ANALYSIS BY REGION

Major Takeouts

$366.5b
10 Year spend

10 Year Spends: Sydney $155 billion, Newcastle $18.6 billion, Illawarra $13.9 billion, Regional NSW $179 billion.

42% & 49%
Sydney & Regional

Sydney region (42%) and Regional NSW (49%) to dominate state-wide activity due to transport megaprojects and renewable energy investment.

Road construction & maintenance

Road construction and maintenance to continue dominating Greater Sydney, with rail activity increasing.

Electricity civil construction

Electricity civil construction will be largest contributor to civil activity in Newcastle, Illawarra and Regional NSW, supported by the energy construction boom.[3] Short-run regional work heavily supported by Inland Rail and Sydney.

A regional analysis of NSW civil construction and road maintenance activity reveals that while Greater Sydney continues to attract the majority of civil construction activity across multiple sub-sectors, regional New South Wales is expected to be the main driver of growth in state-wide engineering construction over the 10-year forecast period, with roads and bridges construction accounting for 35% of activity over the next two years, followed by electricity construction at around 26%.

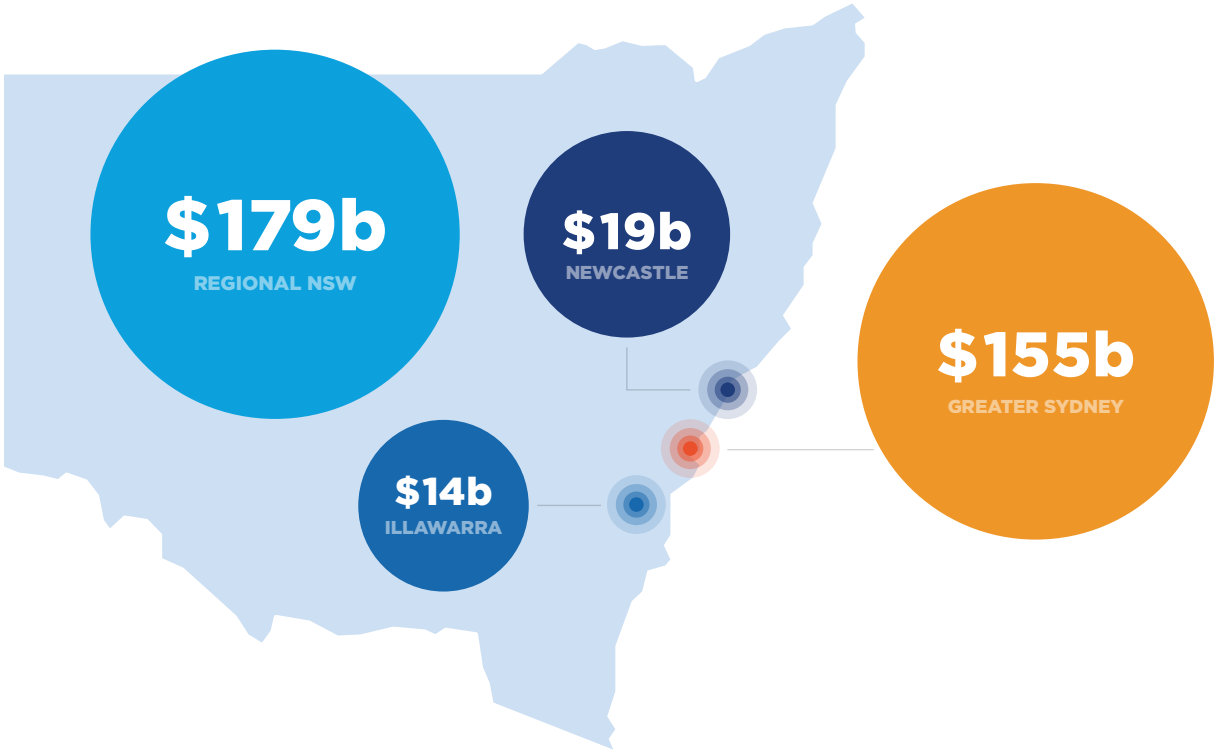
The Greater Sydney region[4] accounted for approximately $14.6 billion (50% of total) of civil activity and road maintenance state-wide in FY2023. The Newcastle and Illawarra regions are estimated to have accounted for $733m (2.5%) and $992m (3.4%), respectively. Regional NSW is estimated to account for the remainder of work done, adding $12.7 billion (44% of total).

Compared to FY2022, the share of NSW's total construction and road-maintenance activity across the regions has remained relatively constant. In the longer term however, **Greater Sydney's share is expected to decline to 41% by 2033, while regional NSW is set to increase to a 51% share by the same year. Despite Greater Sydney holding a majority share in civil activity in FY2023, growing activity in Regional NSW will lead it to become the largest contributor from FY2024.**

[3] In the 2023 report, we have adjusted our electricity forecasts to account for total activity in the sector, whereas in previous reports we had a assigned a proportion of electricity work done (10%). As a result, the composition of civil activity has shifted, particularly for regional NSW where a bulk of renewable energy investment is taking place.

[4] The metropolitan areas "Sydney", "Newcastle", and "Illawarra" are based on ABS SA4 regions and mapped as close as possible to LGAs where necessary.

10-YEAR CIVIL CONSTRUCTION INVESTMENT FORECAST BY REGION ($367b IN NSW)



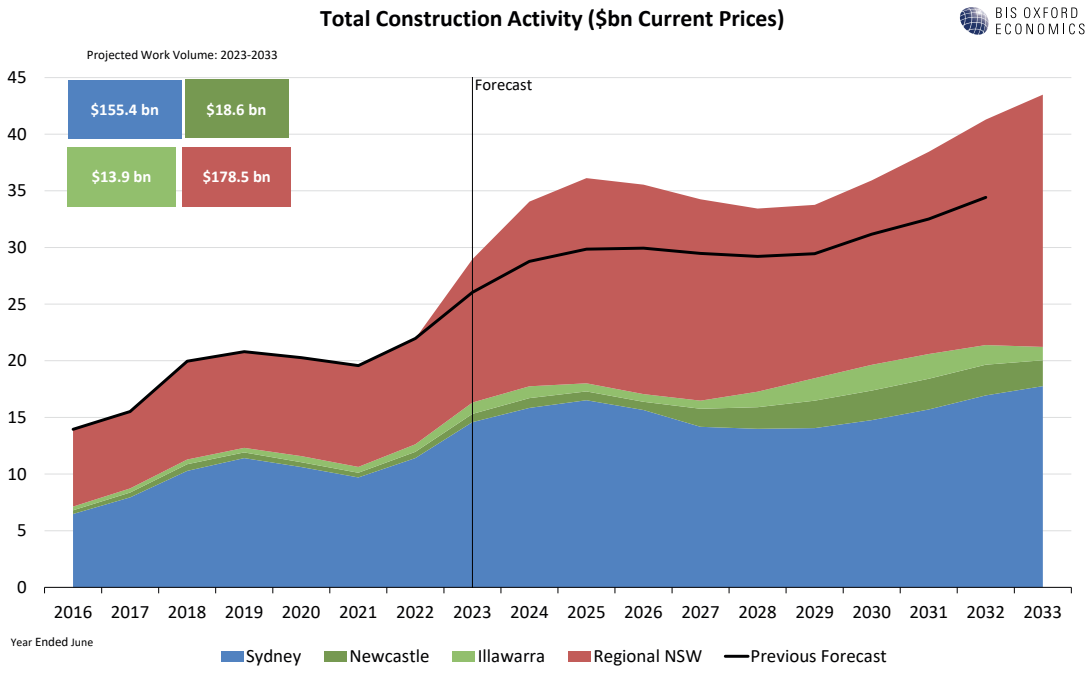


Fig. 10: ***New South Wales Work Done by Region***

ANALYSIS BY REGION

GREATER SYDNEY

Major Takeouts

$16.5b
FY2025 Peak

Peak activity expected in FY2025 at $16.5 billion.

$6.4b
FY2025 Peak

Road construction to peak at $6.4 billion and Rail $4.8 billion FY2025.

$21.2b
14% of total civil work

Electricity construction (distribution) to represent 14% of total civil work.

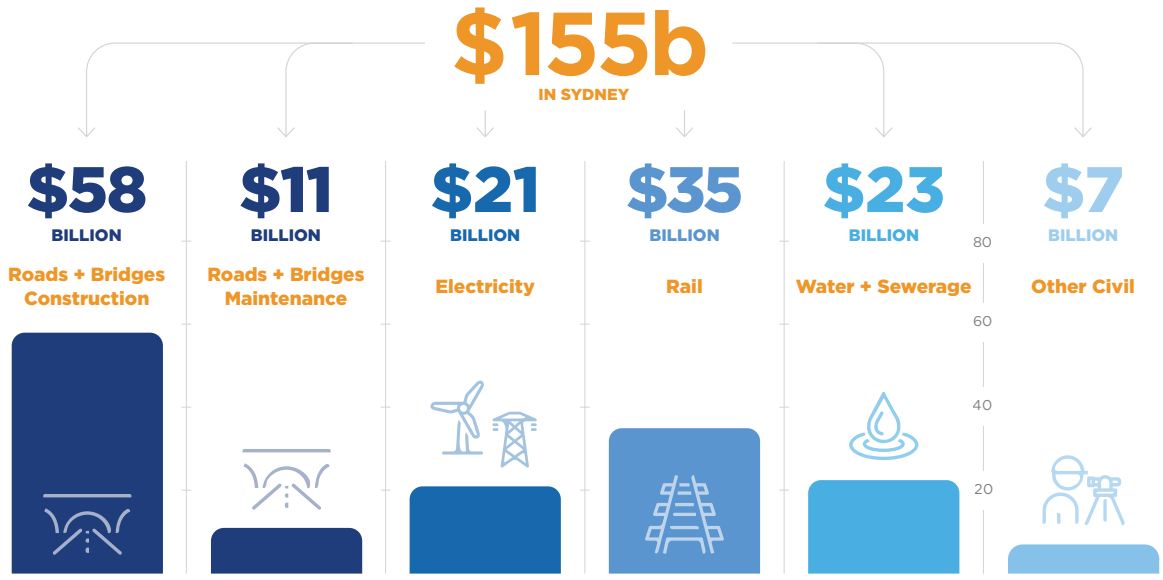
$58b
Roads and bridges

Roads and bridge construction continues to dominate.

FY2028

Activity is expected to fall back to $14 billion by FY2028 followed by growth due to infrastructure needed to meet population growth.

10-YEAR CIVIL CONSTRUCTION FORECAST BY SECTOR (SYDNEY, NSW)



FY2023 – FY2028

As the economy emerged from the worst impacts of the pandemic, FY2022 saw a recovery in activity. This was followed by a 28% increase in activity in FY2023 driven by a historically large commencement in rail projects such the Sydney Metro - Western Sydney Airport (running between FY2023-27). We anticipate activity to remain elevated over the next two years with both road and rail construction set to peak in FY2025 at $6.4 billion and $4.8 billion, respectively. This translates to a peak in activity in FY2025 at $16.5 billion, in line with the completion of the $2.6 billion Sydney Gateway motorway. Activity is then set to ease towards the end of the decade, falling back to $14.0 billion by FY2028. A return to growth is then expected towards the end of the forecast period as strong population growth necessitated higher infrastructure investment.

10 Year Forecast (to FY2033)

Over the next 10 years, Greater Sydney is expected to see $57.9 billion of road and bridge construction

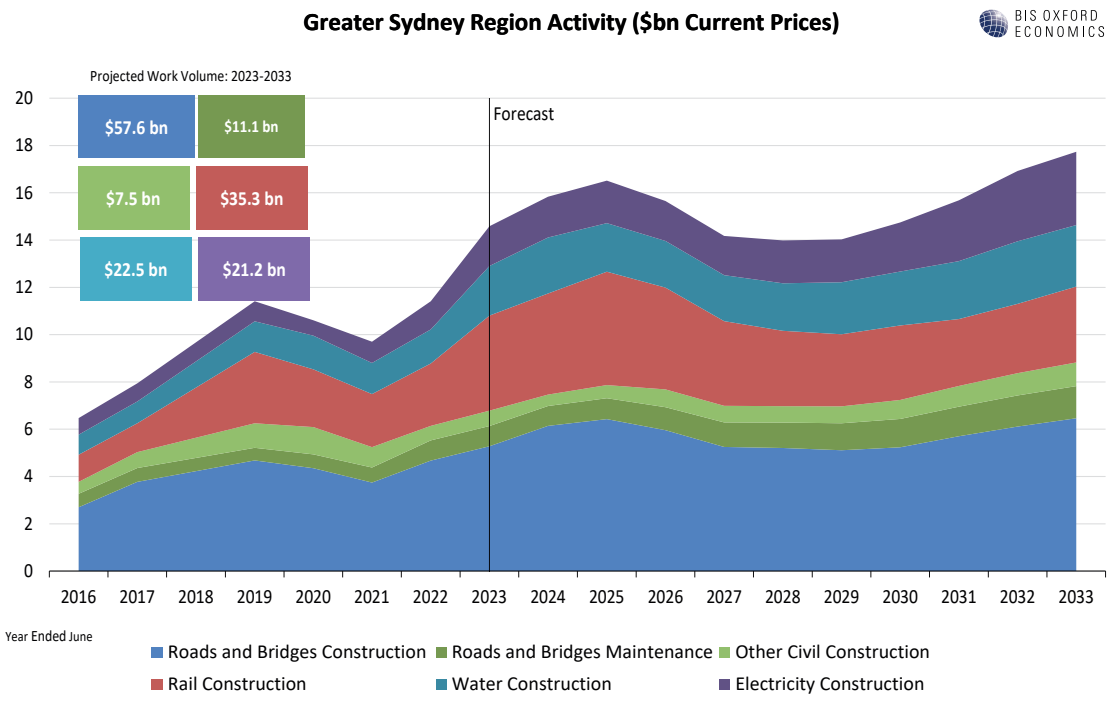


Fig. 11: ***Work Done by Region by Sector – Greater Sydney***

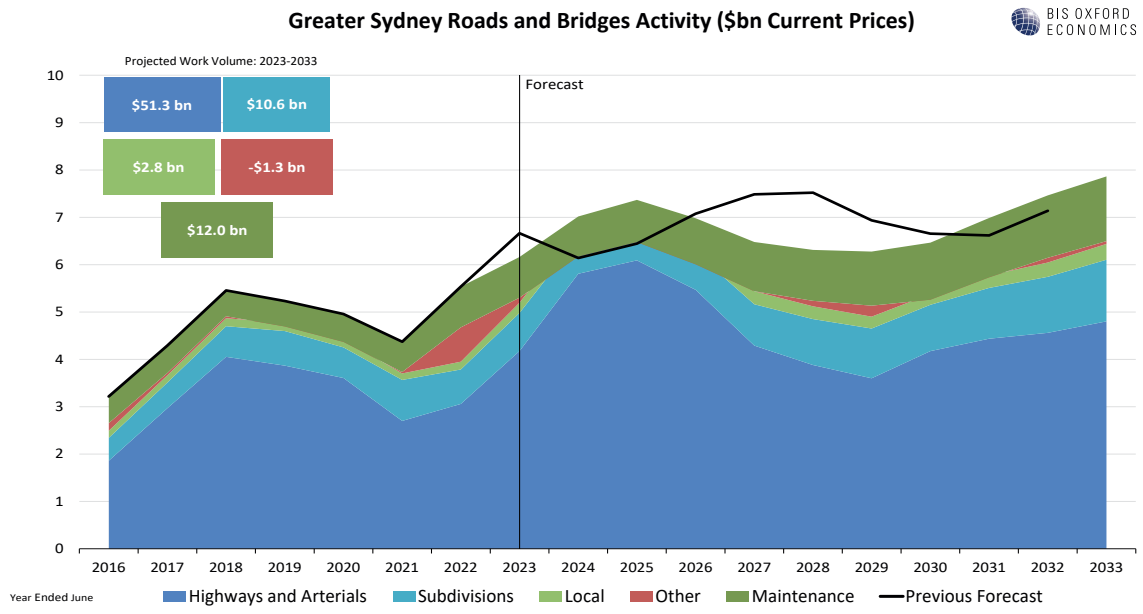


Fig. 12 : ***Roads and Bridges by Region – Greater Sydney***

activity (37% of total civil work), with road and bridge maintenance contributing an increased $11.1 billion of work (7% of total work), reflecting the additional work to maintain the growing road network. Rail construction is set to add $35.3 billion (23% of total work) – with key projects including the various segments of the $25.7 billion Sydney Metro lines. Electricity construction, namely from the distribution segment is expected to add $21.2 billion of work (14% of total work). Water and Sewerage construction will contribute $22.5 billion to the construction profile (14% of total work).

Compared to last year's outlook, our current forecasts have pushed back some road construction activity due to cost overruns and delays caused by capacity constraints. The removal of the Beaches Link project has also caused a large reduction in the current outlook across FY2025-30 compared to our previous forecast. Comparatively, a historically high level of rail commencements in FY2023 resulted in activity above previous expectations.

ANALYSIS BY REGION

NEWCASTLE

Major Takeouts

$19b

10-year forecast spend

$773m

FY2025 Peak

Historic high of construction spend in 2023 of $773 million.

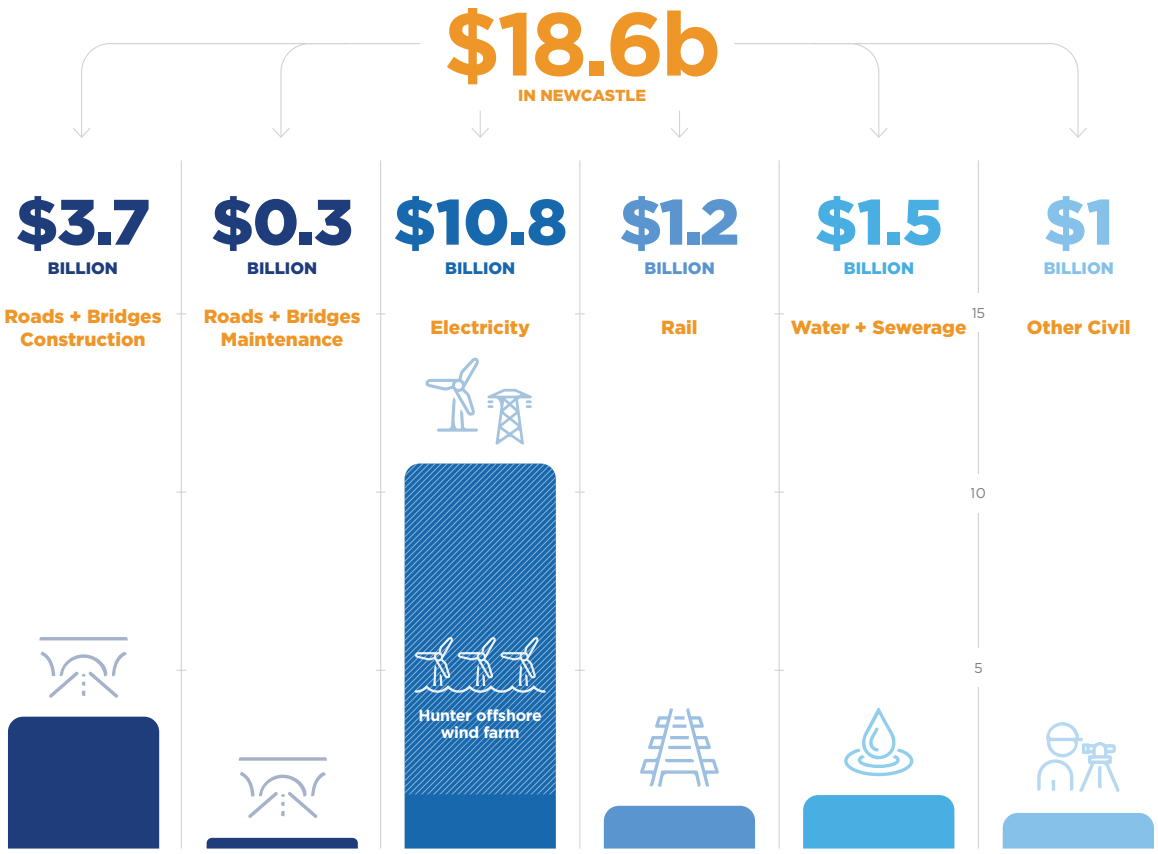
FY2026/2027

Trough expected in FY 26/27 due to transport construction easing.

Off-shore wind farms

Off-shore wind farms a key driver of growth in back half of decade.

10-YEAR CIVIL CONSTRUCTION FORECAST BY SECTOR (NEWCASTLE, NSW)



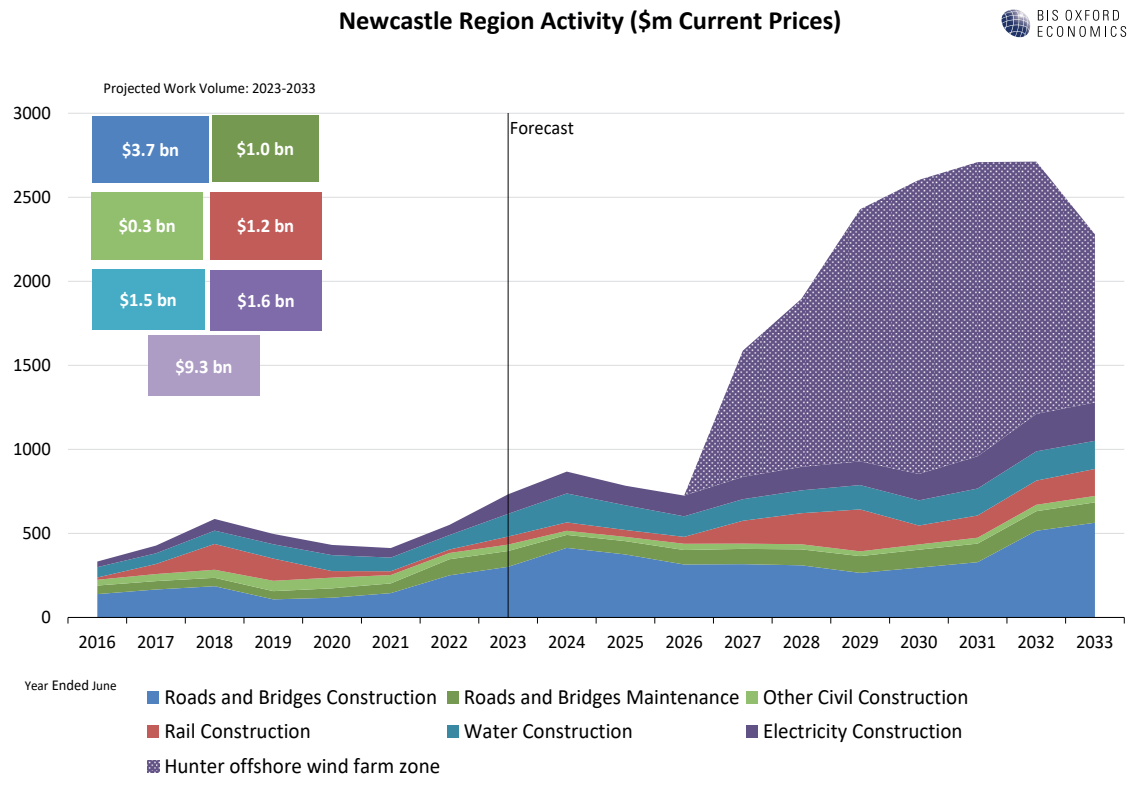


Fig. 13: ***Work Done by Region by Sector – Newcastle***

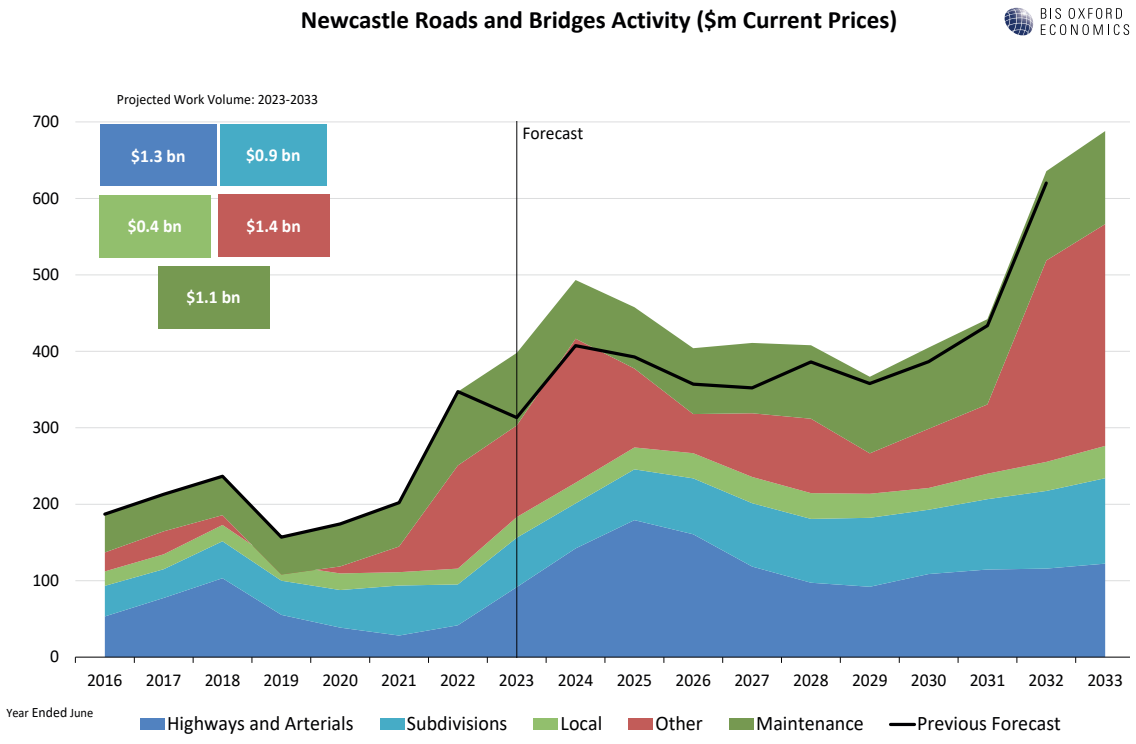


Fig. 14: ***Roads and Bridges by Region – Newcastle***

ANALYSIS BY REGION

ILLAWARRA

Major Takeouts

$14b

10-year forecast spend

$992m

FY2023

Historic high of construction spend in 2023 of $992 million.

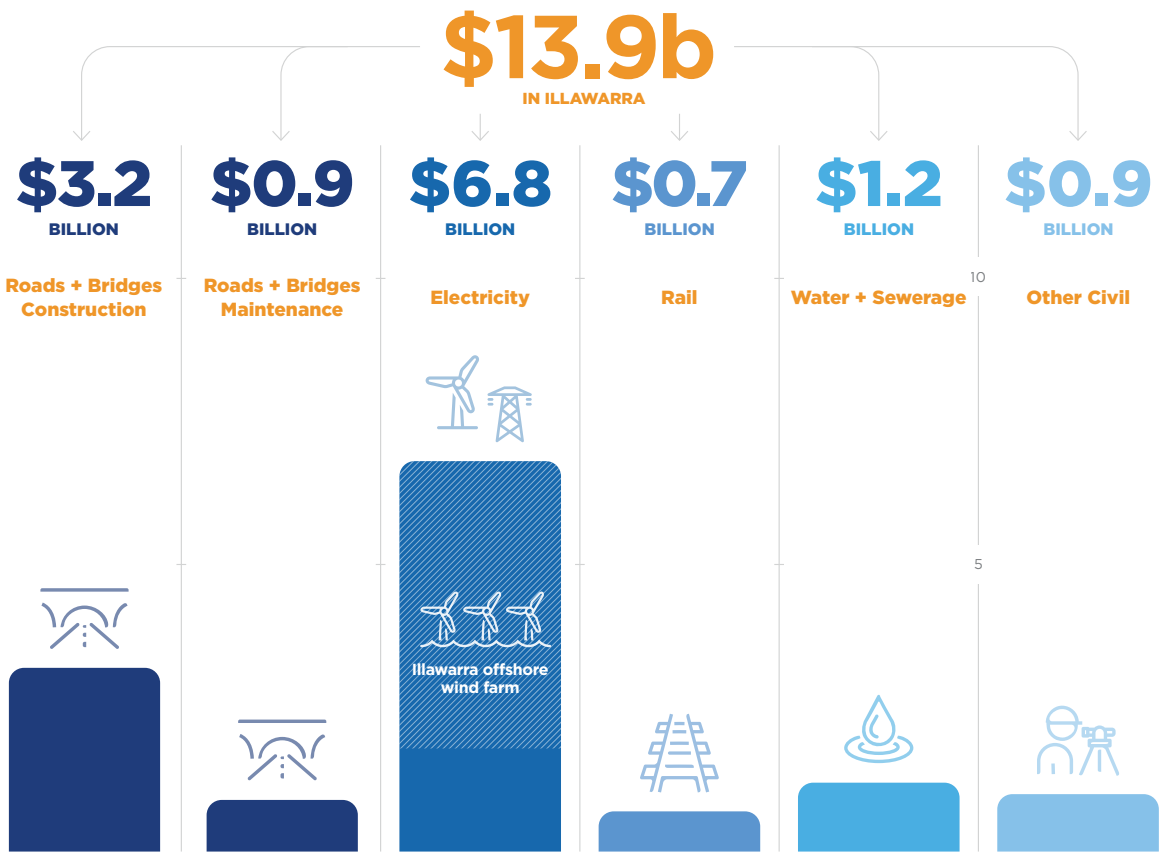
FY2026/2027

Trough expected in FY 26/27 due to transport construction easing.

Off-shore wind farms

Off-shore wind farms a key driver of growth in back half of decade.

10-YEAR CIVIL CONSTRUCTION FORECAST BY SECTOR (ILLAWARRA, NSW)



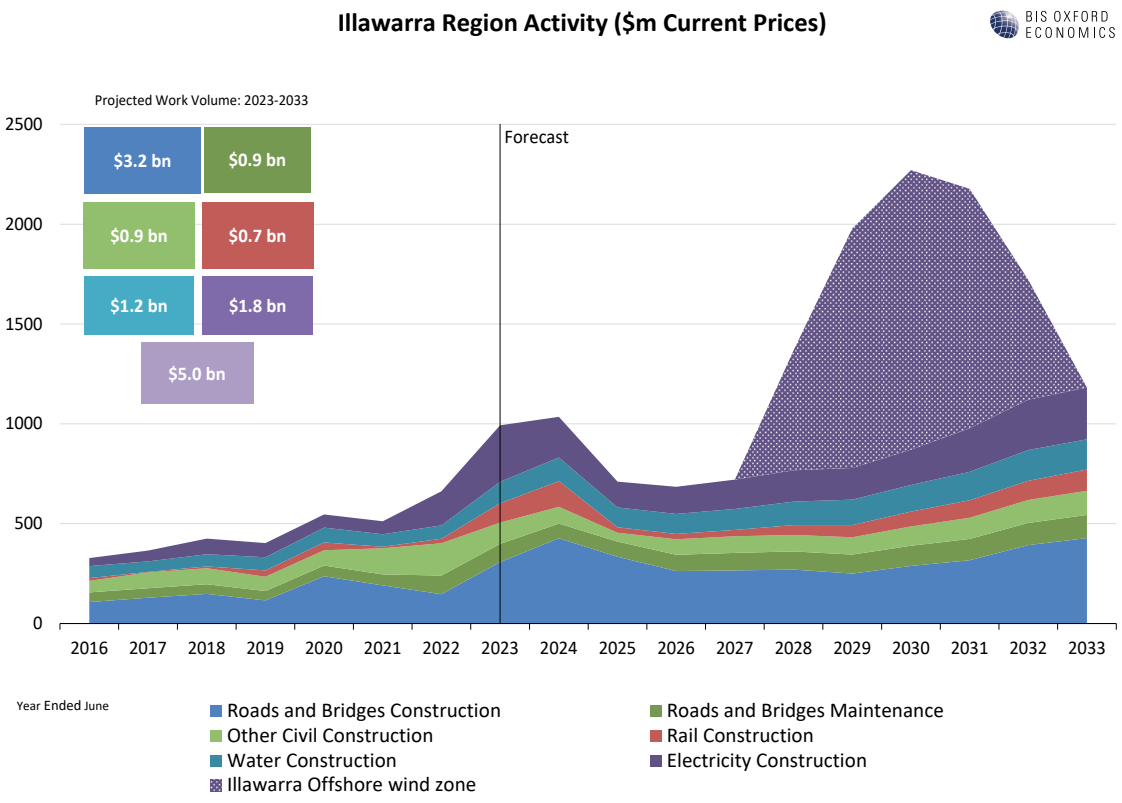


Fig. 15: ***Work Done by Region by Sector – Illawarra***

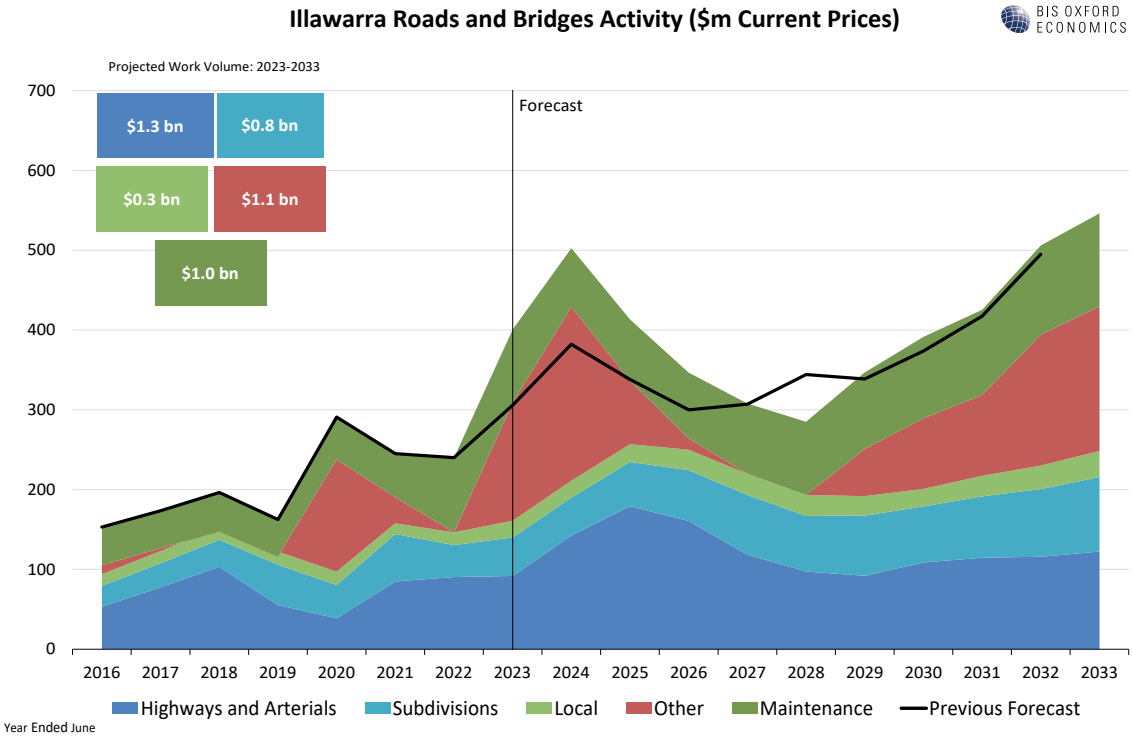


Fig. 16: ***Roads and Bridges by Region – Illawarra***

ANALYSIS BY REGION

NEWCASTLE AND ILLAWARRA

Similar growth trends

Newcastle and Illawarra follow similar growth trends over the 10-year forecasting period among numerous civil industries, with electricity construction accounting for the largest activity proportions (58% for Newcastle and 49% for Illawarra) followed by road and bridges construction (20% for Newcastle and 23% for Illawarra). Both regions saw continued growth across FY2023, to reach new historic highs ($733 million for Newcastle and $992 million for Illawarra) – which broadly mirrored movements in state-wide activity.

Impact of offshore wind farm proposals

It is noted that the electricity sector's large proportions are driven by the proposed offshore windfarms slated off the coast of Newcastle and Wollongong. The total engineering spend of these offshore windfarms is currently estimated at $10 billion for Newcastle's and $5 billion for Illawarra's. The engineering spends cover all stages of construction, from the fabrication and transportation of the turbine components (either domestically or internationally) to instillation and connection to the transmission network.

Over the near term, both regions will see a trough in activity over FY2026/27 as transport related construction eases, before the multi-billion-dollar offshore wind zones sees skyrocketing activity over the back half of the decade. The coasts off Newcastle and Wollongong have been designated as offshore wind zones by the federal government (six such zones have been sanctioned nationally). Both zones have prospective projects, which are currently undergoing feasibility studies. As such, the exact timing and cost of these projects remains uncertain. However, given the national significance of these zones and the guaranteed push towards renewable sources of energy, it is highly likely these projects will materialise over the back half of the decade.

Despite the large spends on these offshore windfarm projects, the actual amount of civil work available to the local civil construction sector may be a smaller proportion of the total spend. At a rough estimate, around 50% of the cost of these types of projects may be attributed to the turbine structure, which could be fabricated interstate or internationally, and shipped to site.

Beyond the electricity sector

Illawarra's outlook will be driven by substantial construction activity accrued by large rail projects such as construction of the Maldon-Dombarton Rail Link which is due to run between FY2025-28. Completion of this project accounts for the subsequent decline in activity around the FY2028 mark of our forecast. The growth in Newcastle's rail construction is backdated to FY2027, due to the commencement of the proposed Lower Hunter Freight Corridor that is planned to run from FY2027 to FY2029.

We have removed the Sydney to Newcastle - Tuggerah to Wyong Faster Rail Upgrade from our forecasts following the cease of enabling works and the withdrawal of Federal Government funding.

Electricity, excluding offshore windfarms

Both regions again show similar trends across all sub-sectors across the forecasting period. Electricity sector is set for the largest value of activity across both Newcastle and Illawarra, seeing cumulative values of $10.8 billion and $6.8 billion, respectively. Excluding the offshore windfarms, this figure falls to $1.6 billion and $1.8 billion – which would see their share of the total outlook amount to 17% for Newcastle and 21% for Illawarra.

Roads and bridges

Roads and bridges construction is set for the second largest value of work done with investment over the forecast period at $3.7 billion in Newcastle and $3.2 billion in Illawarra.

Water and sewerage

Water and sewerage will add $1.5 billion in civil construction investment in Newcastle and $1.2 billion in Illawarra.

Railways

Rail construction for Newcastle is set to reach $1.2 billion while for the Illawarra $0.7 billion of work done is forecast over the 10 years to FY2033. Although the smallest of the 4 sectors, roads and bridge maintenance is seeing a greater share of overall work done with Newcastle and Illawarra recording around $1 billion each worth of activity over the forecast period.

Image credit: Townes Contracting Group. Construction of New England Solar Farm, east of Uralla NSW.

Image credit: Daracon. Gunnedah Bridge Infrastructure Project.

ANALYSIS BY REGION

REGIONAL NSW

Major Takeouts

$179b
Over next decade

Civil construction investment over next decade

29%
Uplift in civil work

29% uplift in civil work in FY2024 alone

$18.5b
FY2026 Peak

Peak expected in FY 26 at $18.5 billion

$178.5b
Over next 10 years

Total civil engineering work to accumulate to $178.5 over next 10 years

Despite not being at the forefront of attention for major civil infrastructure projects occurring in metropolitan areas, civil activity in regional NSW is forecasted to experience sizable growth in the near-term, driven the electricity sector, with activity estimated to have already doubled over the past two years. Additionally, the road & bridge and rail sectors will contribute to rising activity coming into FY2025 and FY2026. A substantial ongoing contributor to this growth is investment in a plethora of renewable energy generation and transmission projects, the numerous NSW Inland Rail packages, and mining projects occurring over the decade, with many of these coming to completion around the FY2025-28 mark.

Activity is expected to peak in FY2026 at $18.5 billion (with FY2024 alone seeing activity lift 29%). Activity will then ease out to FY2029 with the winding down of the various Inland Rail packages, smaller road projects and the Snowy Hydro 2.0 which is due for completion in FY2030.

Total civil engineering work in regional New South Wales is forecasted to accumulate to $178.5 billion over the 10-year forecasting period. The largest contributor to the long-term growth forecast is the electricity construction sector which sees a 10-year cumulative investment of $71.9 billion (40% share of the total). The cost overruns for Snowy Hydro 2.0 and the HumeLink Snowy Hydro Transmission Upgrade have contributed to the upgrade in the sector as well as increased investment in renewable energy generation and the associated transmission network. Roads and bridges construction is the second largest sector, with a 10-year investment of $55.2 billion. The next largest sector is roads and bridge maintenance, with a 10-year investment of $20.7 billion, followed by rail construction at a forecast investment of $18.1 billion over the same period.

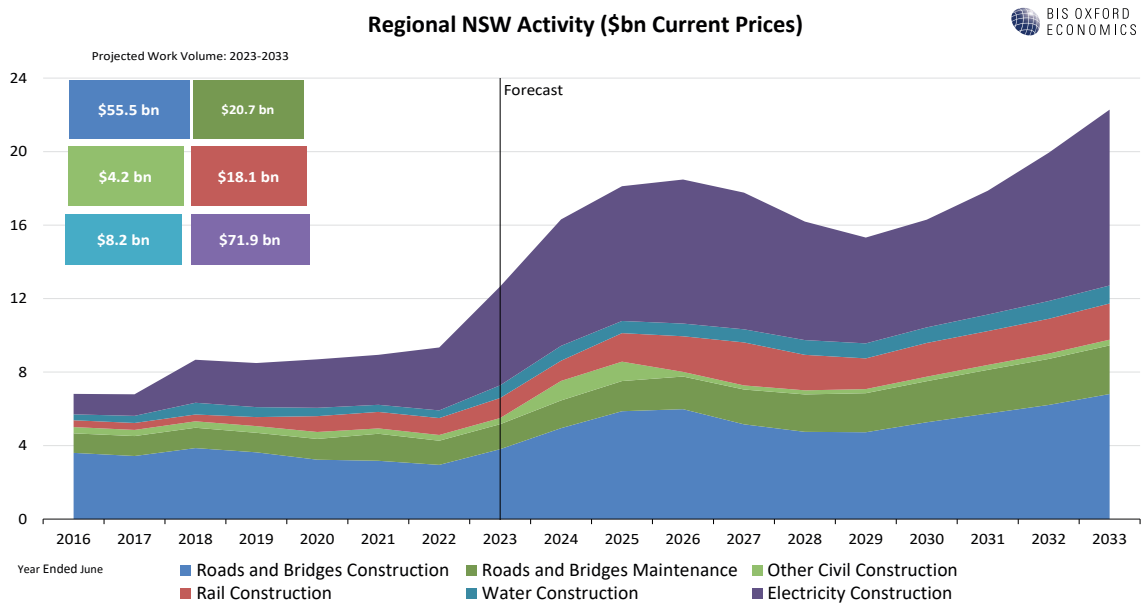
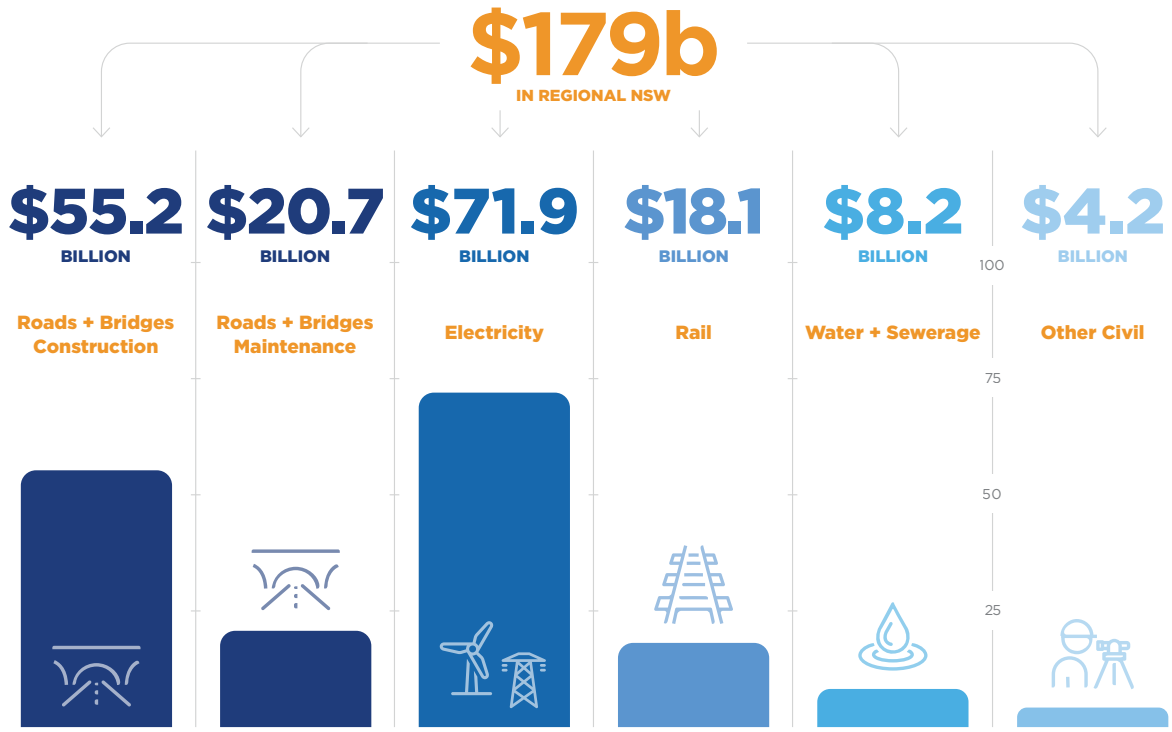


Fig. 17: ***Work Done by Region by Sector – Regional NSW***

10-YEAR CIVIL CONSTRUCTION FORECAST BY SECTOR (REGIONAL NSW)



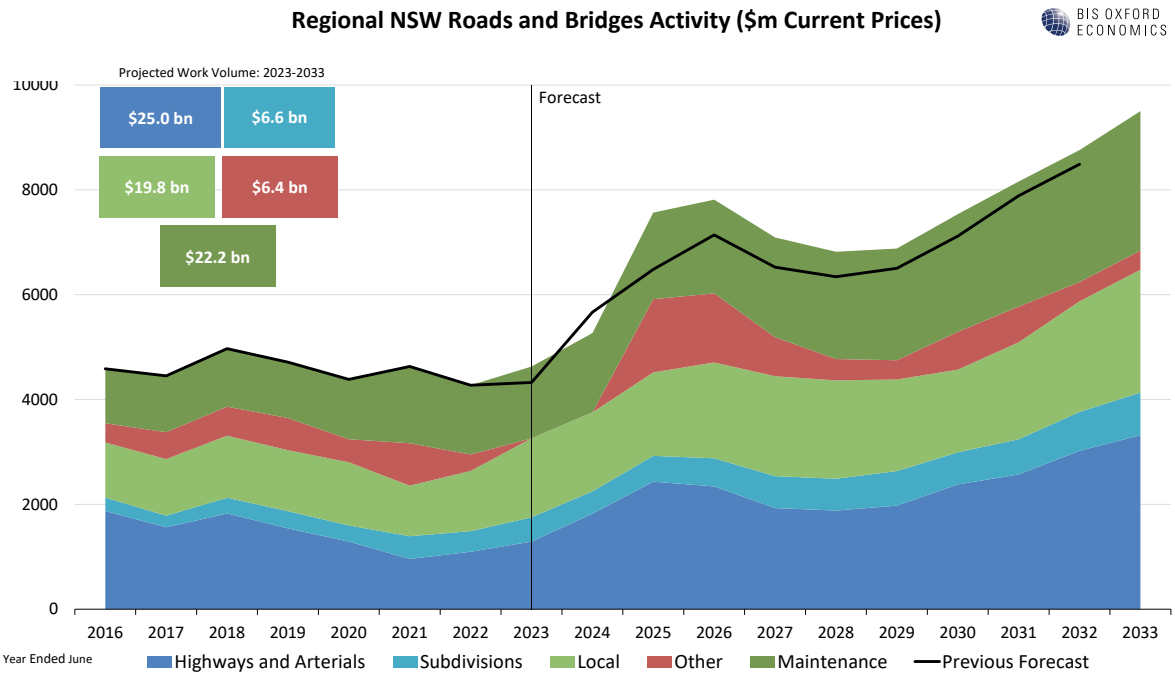


Fig. 18: ***Roads and Bridges by Region – Regional NSW***

ACTIVITY FORECAST

BY SECTOR, BY REGION

Roads and Bridges

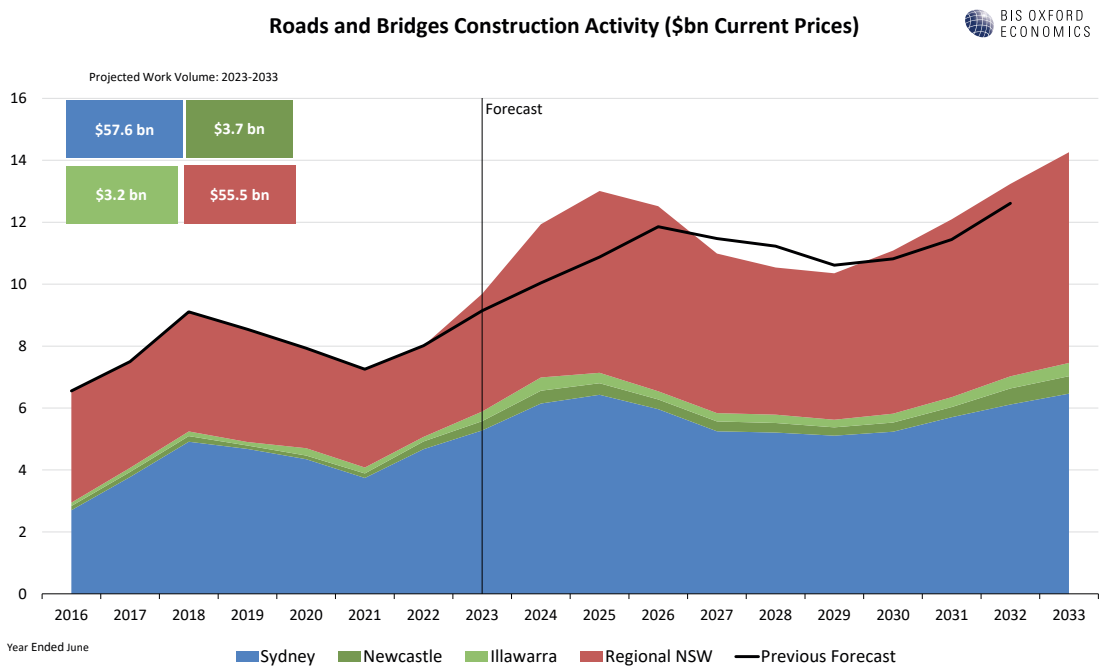


Fig. 19: ***Work Done by Sector by Region – Roads and Bridges Construction***

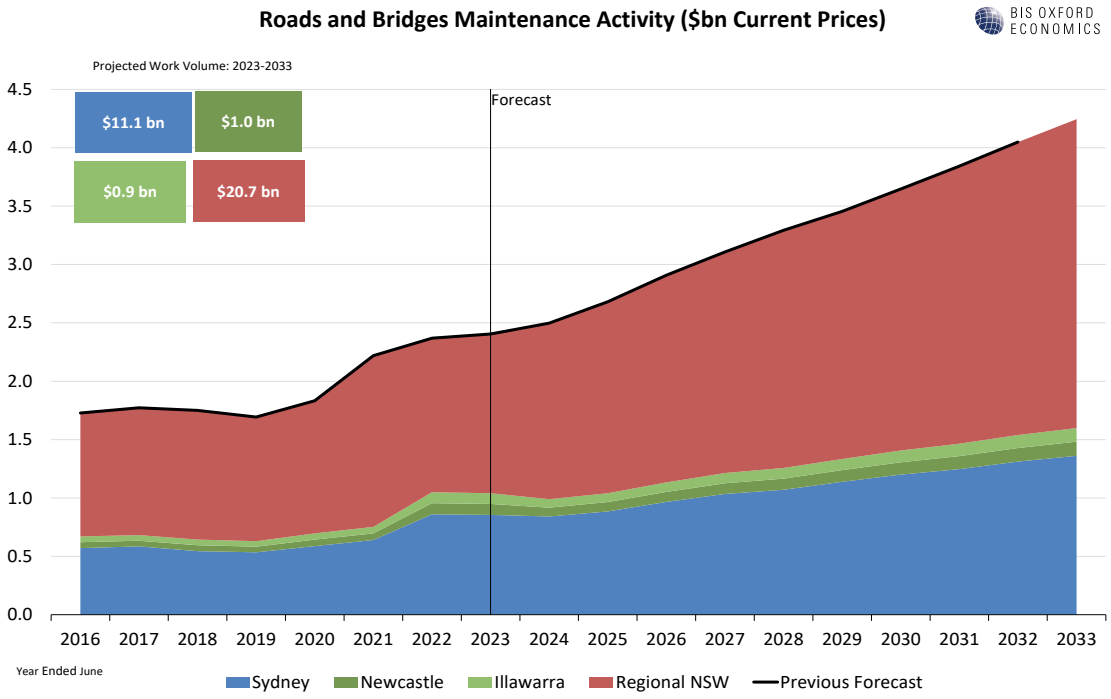


Fig. 20: ***Work Done by Sector by Region – Roads and Bridges Construction***

ACTIVITY FORECAST

BY SECTOR, BY REGION

continued

Rail

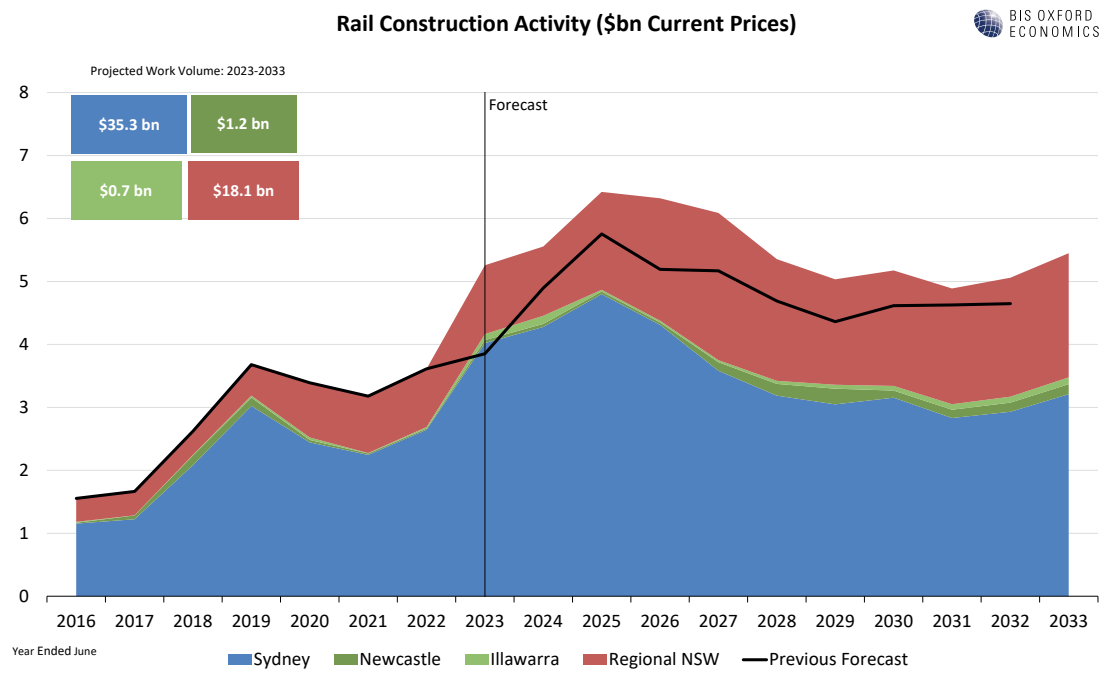


Fig. 21: ***Work Done by Sector by Region – Rail Construction***

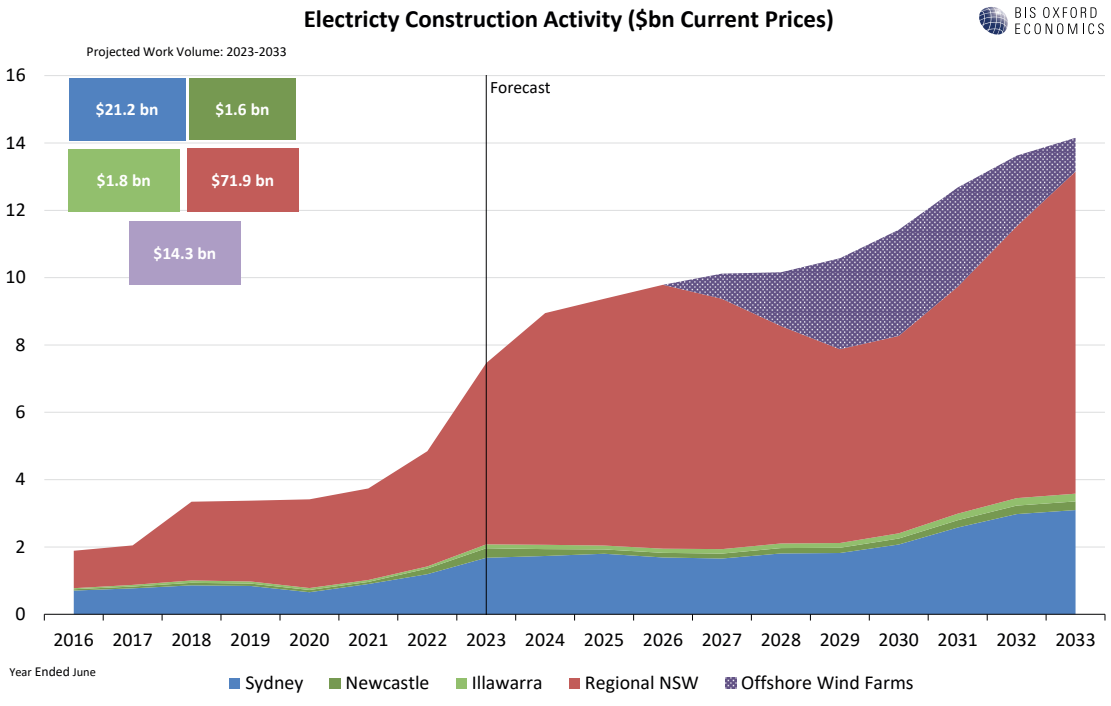


Fig. 22: ***Work Done by Sector by Region – Electricity Construction***

ACTIVITY FORECAST

BY SECTOR, BY REGION

continued

Water and Sewerage

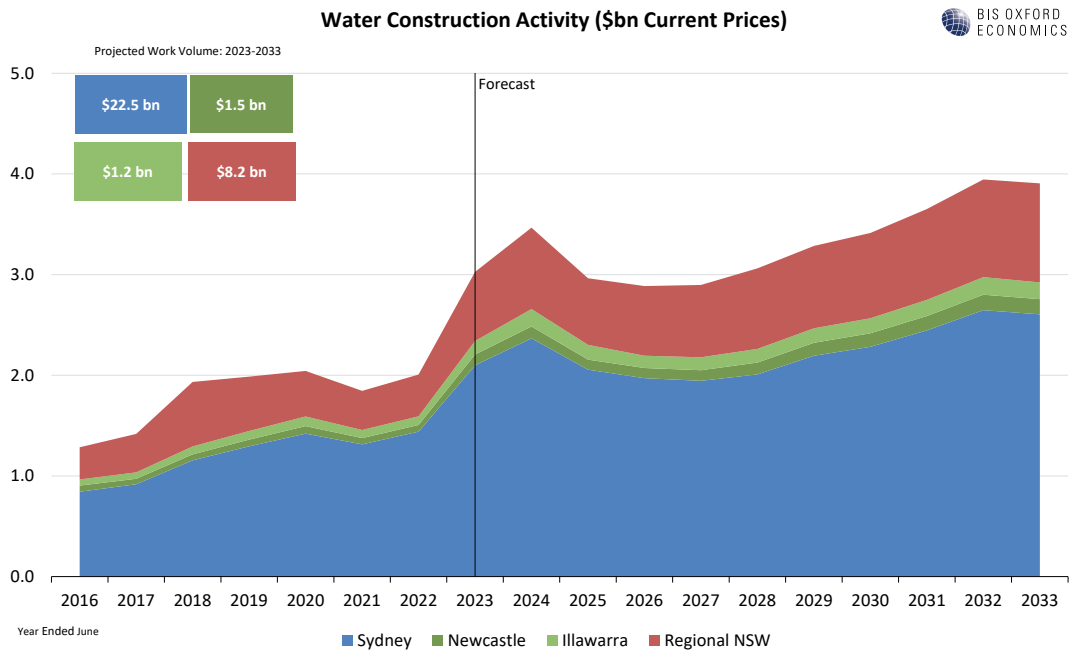


Fig. 23: ***Work Done by Sector by Region – Water and Sewerage Construction***

Other Civil

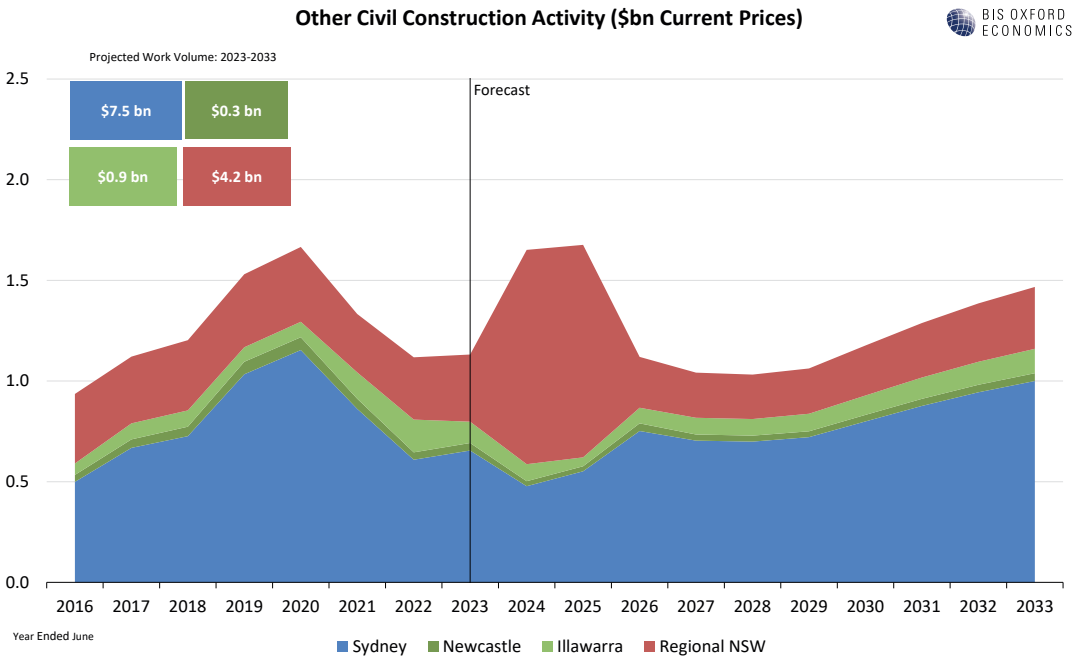


Fig. 24: ***Work Done by Sector by Region – Other Civil Construction***

FURTHER NOTES AND IMPLICATIONS

NSW publicly funded civil commencements lifted 12% in FY2023 to $18.2bn. The strong increase in commencements over the past two years underpins our forecasted lift in the civil Work Done outlook over FY2024 to FY2025.

OEA's research conducted for CCF NSW into the dollar value of NSW Government Civil Commencements in FY2023 (see Section 2 of this Infrastructure Report) identified a 12% increase for total civil, while transport civil (Road and Rail) decreased 4%. Despite the small decline, transport civil commencements remain at record high levels, with road and rail commencements recording $6.2bn and $4.9bn, respectively. A significant portion of new work in the transport sector is derived from mega projects, with projects valued at $500m+ accounting for 61% of commencements in FY23. This includes projects such as the Coffs Harbour Bypass, M12 Motorway, Western Harbour Tunnel. Mega projects underpin OEA's forecast increase in civil Work Done over the next two years as their construction activity ramps up.

Construction cost escalation is easing although costs will remain high as strong near-term growth in civil construction adds to demand.

Globally, governments are targeting stimulus in the construction of transportation infrastructure to help their economies recover from the coronavirus pandemic, which is expected to see a global increase in the demand for key construction inputs. Over FY2022, COVID-19 related supply chain disruptions and labour shortages in the first half of the year were compounded by rising energy and fuel costs arising from the Russia-Ukraine conflict. Evidently, increasing demand for construction inputs has been concurrent with rising costs.

Civil engineering construction activity is the single largest component of total construction work done in Australia (and NSW). National total construction activity will remain relatively stable over the next few years as strength in the civil engineering construction sector is offset by weakness in building construction activity (Figure 10). **NSW leads the outlook for total construction activity (Figure 11), underpinned by the substantial lift in civil commencements over the past two years. Consequently, the demand for civil skills is likely to remain strong and demand for locally sourced quarry materials such as concrete are expected to increase.**

The average change in engineering construction cost inflation in Australia (as measured by the Engineering Construction Implicit Price Deflator (EC IPD)) for FY2023 was 8.2%. In terms of the Roads and Bridge Index (RBI) for Australia, average annual growth in FY2023 was 9.0% and growth remains strong, lifting 1.4% q/q in the September quarter. The average change in the RBI for NSW over the last year (FY2023) came in at 8.5% and the latest data for the September 2023 quarter shows high growth of 1.8% q/q (Figure 12). This recent growth was driven by increased quarry prices and continuing price pressures in construction wages. Cost increases for labour, plant, equipment and materials are unavoidable for civil construction projects. Moving forward, we expect an easing price growth of construction inputs as commodity prices ease and unemployment drifts back up to 4%, albeit prices will remain at elevated levels.

Civil engineering construction activity is the single largest component of total construction work done in Australia (and NSW).

FURTHER NOTES AND IMPLICATIONS *continued*

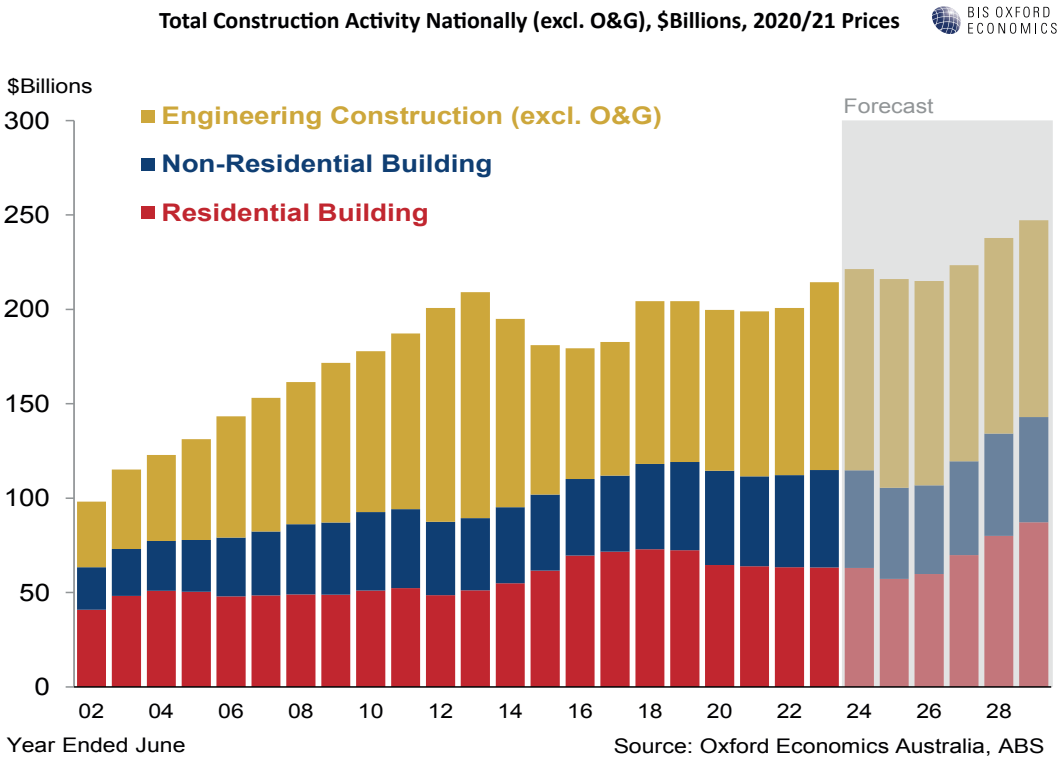


Fig. 25: ***Total Construction Activity Nationally (excl. O&G), $Billions, 2020/21 Prices***

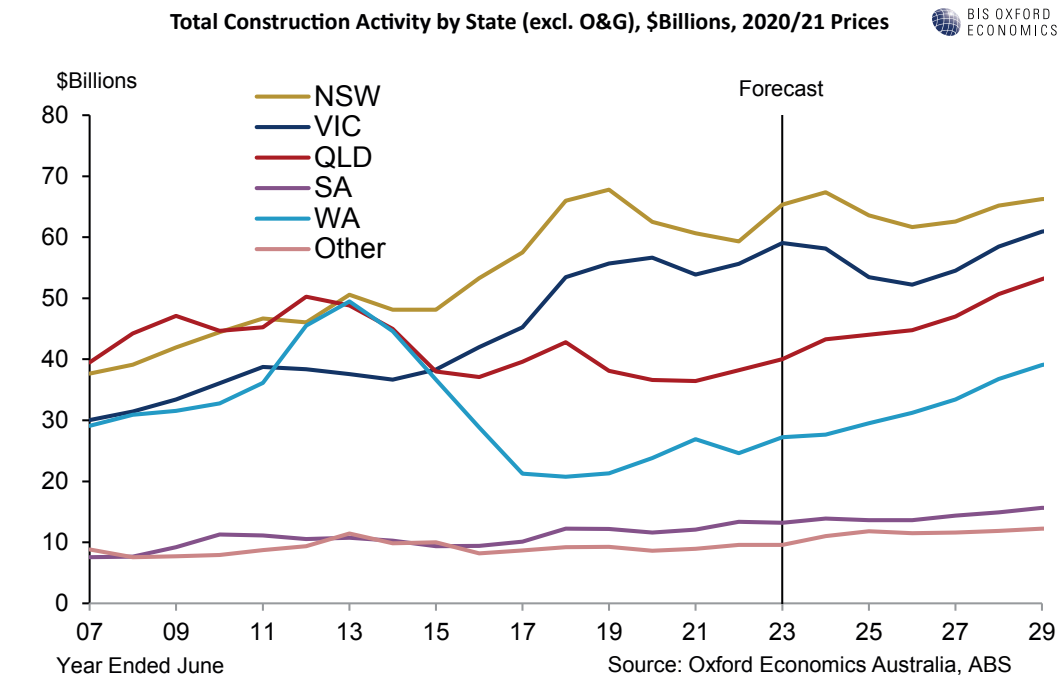


Fig. 26: ***Total Construction Activity by State (excl. O&G), $Billions, 2020/21 Prices***

FURTHER NOTES AND IMPLICATIONS *continued*

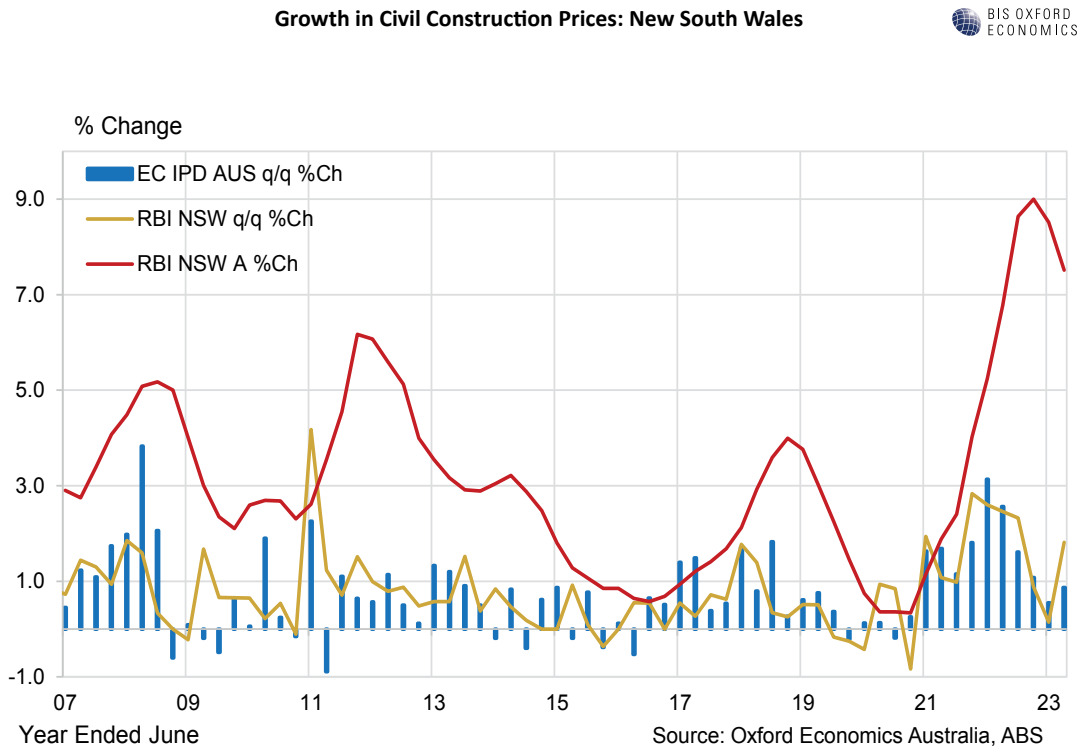


Fig. 27: ***Growth in Civil Construction Prices: New South Wales***

FURTHER NOTES AND IMPLICATIONS *continued*

Federal Government Infrastructure Review

Rise of domestic mega projects Australia-wide has resulted in a major transport infrastructure boom, but delivery of this pipeline was considered unachievable at a national level.

Publicly funded transportation construction work done in Australia increased 18.8% to $30.1bn over the 12 months to June 2023, which is the highest recorded level of activity over a twelve-month period on record. However, the pipeline of work was not sustainable given the current capacity constraints and elevated construction costs. This led to a 90-day independent review of the Infrastructure Investment Program by the Federal Government, which found the 10-year pipeline of projects could not be completed within the $120bn budget allocation. As a result, 52 projects with an estimated value of $17.1bn will not receive funding while $6.8bn was allocated to address cost overruns. There continues to be uncertainty in the sector with an additional 20 projects having an undetermined funding status.

Impacts of Infrastructure and Sydney Metro Reviews

The impact of the review's recommendations on NSW would translate into a $7.0bn reduction in total project value as projects such as the M7-M12 Interchange and the Sydney to Newcastle - Tuggerah - Wyong faster rail upgrade will not receive Federal funding. There are a suite of road and rail projects that are essentially in competition for funding to provide infrastructure solutions to support the expansion of city boundaries and effective allocation of materials, labour and funding is crucial. In December 2023, the NSW Government released the Sydney Metro Review that flagged the same issues as the national 90-day independent review – construction cost escalation and capacity constraints are causing costly delays. The report also recognised that energy related projects are increasingly creating competition for resources as we transition to renewable electricity generation.

Other Risks

Longer term downside and upside risks exist for construction projects as well as maintenance work could impact the forecasts expressed in this report.

These include the risk of further global economic shocks that may impact on the timing or funding of long-term projects. If realised, these risk factors may see projects delayed or funding switched to alternative projects in non-civil areas. Furthermore, cost price pressures and record high levels of government debt pose a downside risk to the ability of the public sector to fund future civil sector projects.

FURTHER NOTES AND IMPLICATIONS *continued*

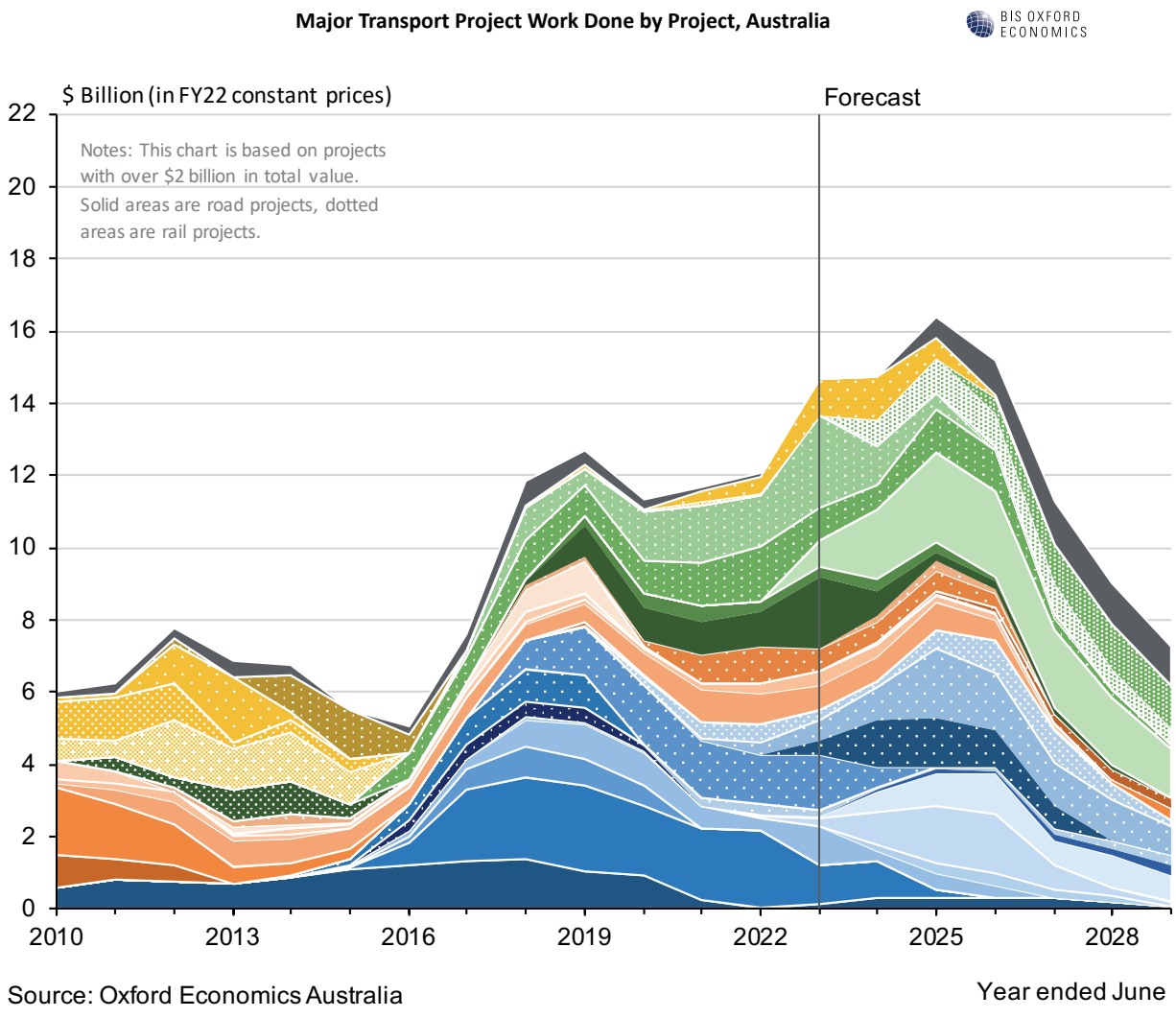


Fig. 28: ***Major Transport Project Work Done by Project, Australia***

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CIVIL CONTRACTORS FEDERATION

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ANALYSIS CIVIL WORK PROCURED BY THE NSW GOVERNMENT

SECTION 2

Overview

This report focuses on uncovering trends in the dollar value of civil works procured by the NSW Government, both overall and by project size. Civil engineering construction is the cornerstone of State's construction activity, and NSW government is industry's primary client.

Since 2020, Oxford Economics Australia (OEA) has delivered comprehensive analyses of State Government-procured civil construction activity in NSW to the Civil Contractors Federation New South Wales (CCFNSW). These insights help informing the planning and resource decisions of CCF NSW members.

In this report, we present FY23 outcomes alongside minor revisions to previous estimates spanning FY15 to FY23, inclusive. These revisions are based on updated ABS data[5] and are segmented by project size for clarity.

How the analysis is done

The analysis focuses on State Government civil procurement (including State Owned Corporations), proxied by NSW publicly funded commencements data from the ABS Engineering Construction Survey (Cat. No. 8762.0).[6] OEA excludes from this series our estimated impact of Federal Government projects, notably Inland Rail, Snowy Hydro and packages related to Western Sydney Airport. OEA then undertakes further project analysis to further break down these series into project size value range profiles.

The project size analysis is broken down into two categories across public sector procured civil construction in NSW between FY15 and FY23:

- The value of total commencements
- The value of transport commencements

KEY FINDINGS IN THIS REPORT:

- **FY23 saw an increase in the dollar value of procurement of NSW Government total civil work while transport work decreased** - after accounting for Federal projects in the raw ABS commencements data. The value of total NSW Government civil commencements (a proxy for procurement) rose 12% in FY23. Transport civil commencements fell by 4% but remains at a record level.
- **Projects valued at $500m+ are estimated to account for 61% of transport commencement value in FY23.** This reflects the pipeline of work associated with road and rail megaprojects, and well above the 32% average share seen over FY15 to FY21.

Commentary and Analysis

The dollar value of total NSW publicly funded civil commencements (which is used here as a data proxy for the total value of projects let) in NSW – including state transport commencements – continued on an upward trajectory in FY23, reaching $18.2bn[7] (Figure 29). This 12% increase in the value of NSW publicly funded commencements in FY23 was driven predominately by the utilities sector.

The value of transport civil commencements had fallen sharply over FY19 to FY20, with the June 2020 quarter of raw ABS data (including both State and Federally funded commencements) recording the lowest quarterly value for over 20 years, at $655m (Figure 30). In FY21, raw ABS data indicated that there was a small increase in transport-related publicly funded civil commencements, but OEA estimates that NSW Government funded transport commencements fell in FY21 once accounting (and removing) the estimated impact of Federally funded projects. With the start of large projects in the metropolitan area during FY22, NSW publicly funded transport commencements (controlling for Federally funded projects) lifted by $8.8bn, to $12.0bn[8]. Over FY23, NSW Government funded transport commencements slightly decreased but remained at an elevated $11.6bn.

Figure 29 depicts the value of publicly funded commencements by the transport and total civil sectors in NSW. The gap between total civil commencements and transport commencements has remained relatively consistent since FY15, indicating that the transport sector has been the most volatile component of overall publicly funded civil works. FY23 shows a slight deviation from this trend, with the annual change in NSW Government funded total civil and transport commencements moving in opposite directions. Despite the small decline in FY23, the level of NSW funded transport commencements remains above the historical average.

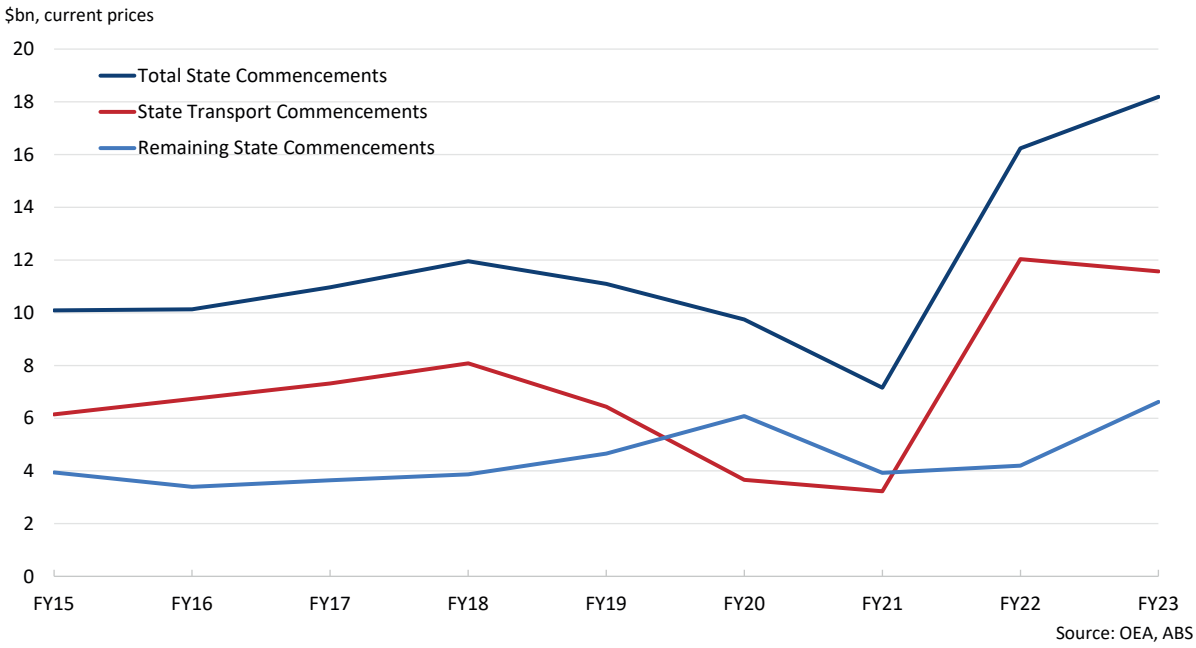
[5] Data for this analysis is provided in the Appendix.

[6] This analysis uses current price commencements data from Cat. No. 8762.0 and from Oxford Economics Australia and so is not inflation-adjusted. Note the ABS data excludes maintenance

[7] Oxford Economics Australia uses ABS publicly funded commencements data from the Engineering Construction Survey with an adjustment to remove Federally funded projects from the data. These Federal projects include sections of Inland Rail, Snowy 2.0 and Western Sydney Airport related works.

[8] FY22 data has been revised up since the last report.

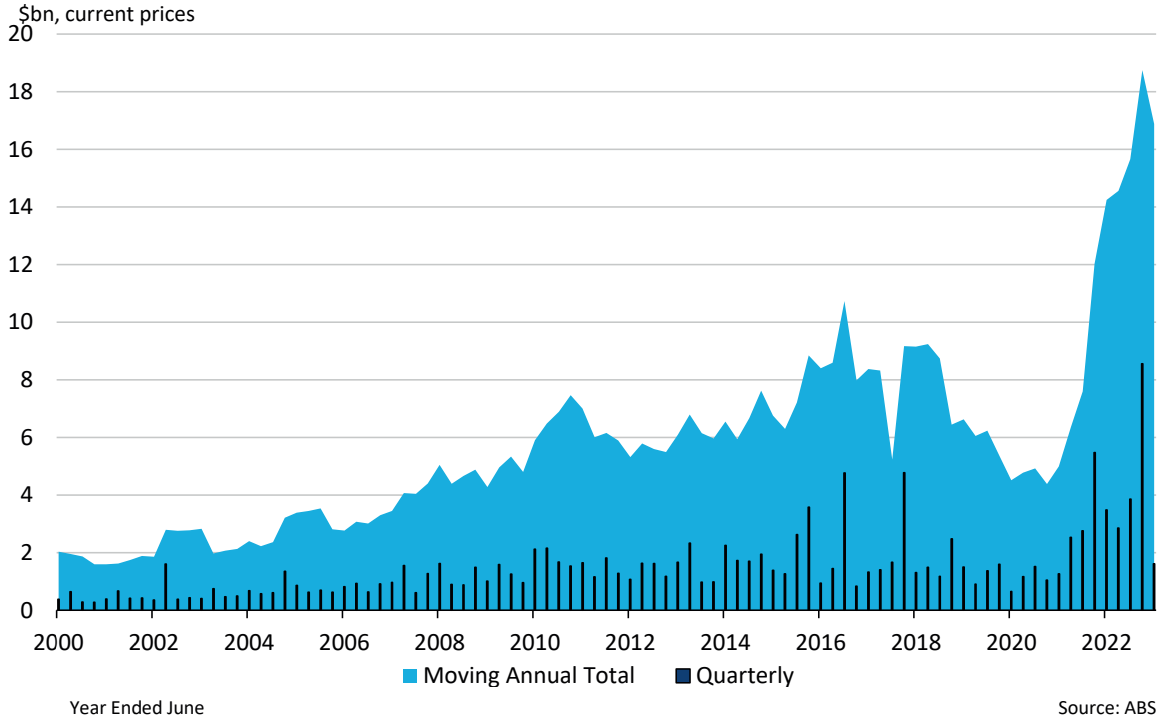
Estimated NSW Government Funded Commencements: Annual, Total Civil and Transport



Source: OEA, ABS

Fig. 29: ***Estimated State Funded Commencements, Annual, Total Civil and Transport Segment***

Raw ABS Data - Public Funded (State and Federal) Transport Commencements, Quarterly



Source: ABS

Fig. 30: ***Raw ABS Data - Public Funded (State and Federal) Transport Commencements, Quarterly, New South Wales***

STATE FUNDED TRANSPORT COMMENCEMENTS BY PROJECT SIZE

Figure 31 breaks down the aggregated values for transport commencements shown previously (in Figure 29) into project value range profiles. From FY15 to FY18, the value of NSW Government funded transport commencements experienced marked growth (around 32% overall) – with this growth estimated to have been driven by the commencement of $500m+ road and rail projects. Over the same period, the average yearly value of total transport commencements sat around $7.1bn. During the subsequent three years, transport commencements declined to a trough of $3.2bn in FY21. In FY22, the value of transport commencements lifted to $12.0bn, exceeding the levels seen in FY17 and FY18. 'Megaprojects' (projects valued at or above $500m) in roads and rail were again a key driver of growth.

Trends in procurement by project size has affected the structure of the transport procurement market in NSW over time. In FY15, commencements of projects of $100m and smaller made up around 58% of total state transport commencement value while projects of $500m and above made up 19%. The share of commencements under $100m has reduced to 27% in FY23. In contrast, the percentage of commencements on projects with a total value of $500m+ in FY23 has grown to 60%.

Overall, OEA estimates that commencements of NSW Government state funded transport projects in FY23 continue to be historically high. Total transport commencements are estimated at $11.6bn – with projects valued $500m+ accounting for 61% by value.

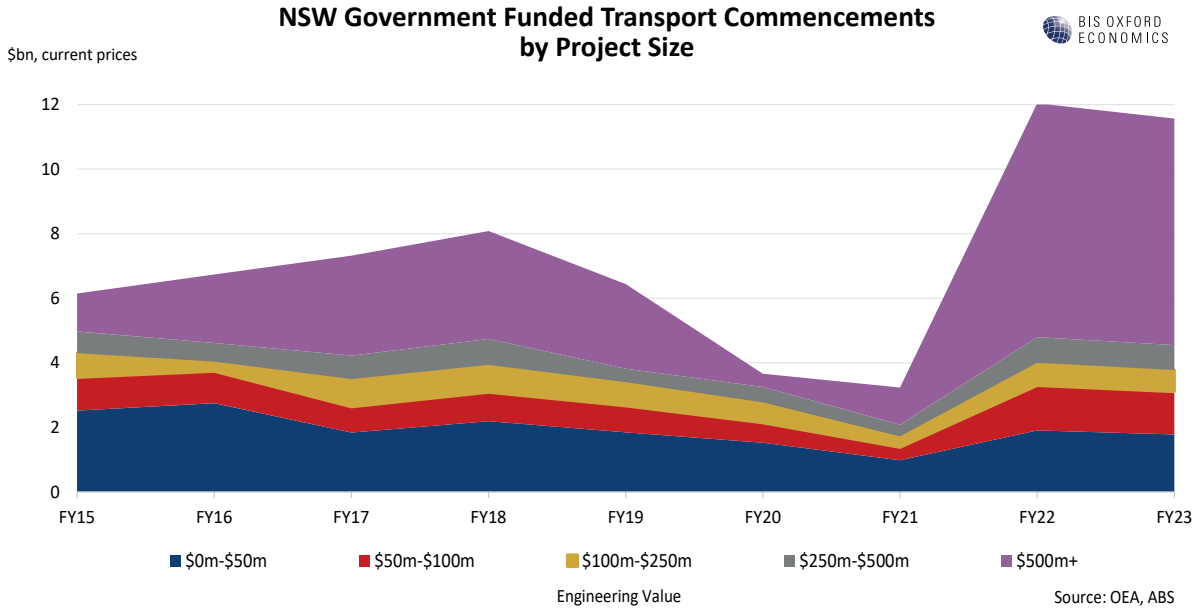
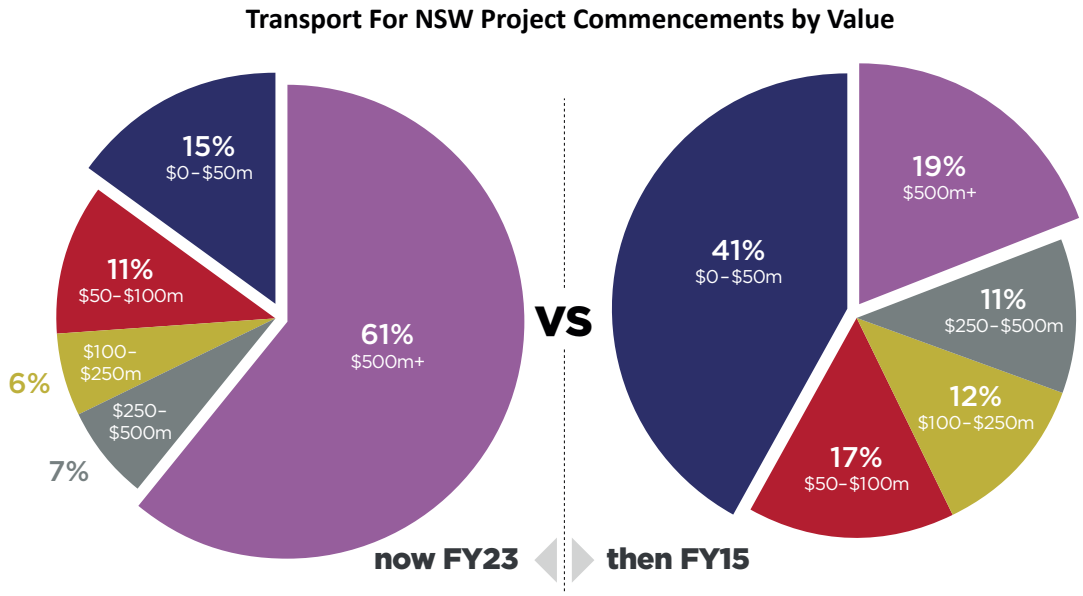


Fig. 31: ***Estimated State Funded Transport Commencements by Project Size Bracket***

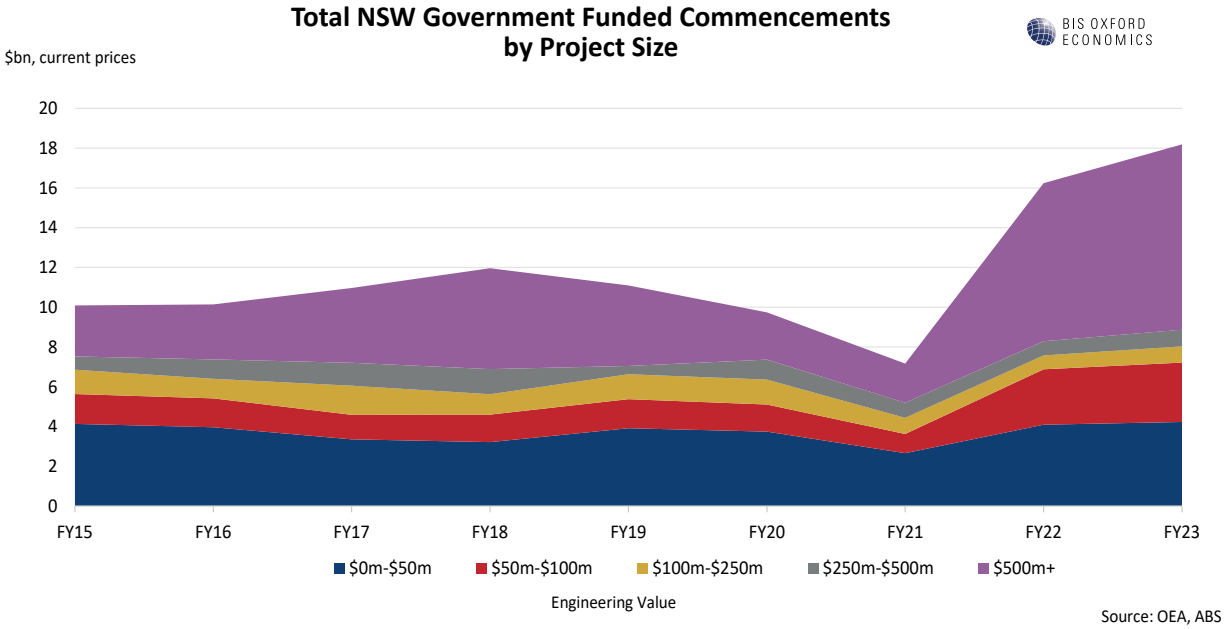


TOTAL STATE FUNDED COMMENCEMENTS BY PROJECT SIZE

Similar to the state funded transport commencements, headline state funded civil commencements across the transport and utilities sectors experienced a period of notable growth from FY15-FY18, increasing by nearly 20%, then fell back over FY20 and FY21. Total civil commencements more than doubled in FY22, rising to $16.2bn.

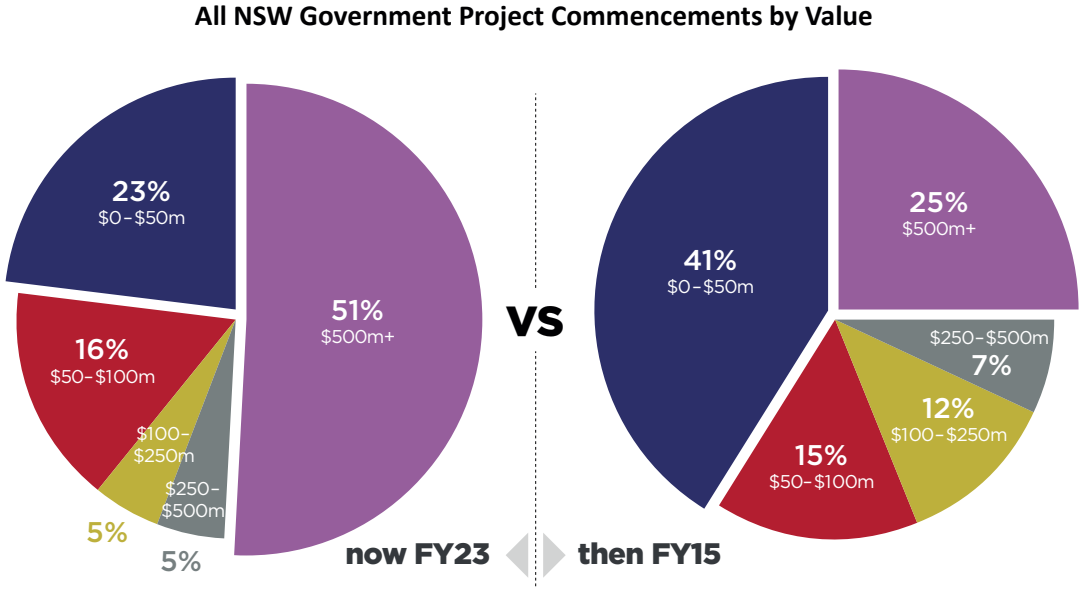
The share of total commencements for projects valued under $100m hovered around 50% during FY15 to FY21. Over FY22 and FY23, the share of total commencements for projects valued $100m or below has decreased to an average of 41%. The share of commencements going to projects with total values over $500m+ has remained relatively consistent at around 30% over the seven years to FY21. In more recent years, the portion of commencements allocated to $500+ projects has risen and was recorded at 51% in FY23.

It is estimated that total civil commencements increased 12% ($2.0bn) in FY23 to $18.2bn. Of this $2.0bn increase, 70% was attributed to $500m+ sized projects, and just 17% attributed to projects under $100m.



Source: OEA, ABS

Fig. 32: ***Estimated Total State Funded Commencements by Project Size Bracket***



PUBLICLY FUNDED TRANSPORT COMMENCEMENTS BY SUB SECTOR

Raw ABS commencement data has recorded a $0.7bn increase in NSW publicly funded (State and Federal) road commencements in FY23, lifting from $8.7bn in FY21 to $9.4bn. Publicly funded rail commencements grew $1.8bn in FY23 to $6.7bn, up from $4.8bn in FY22.

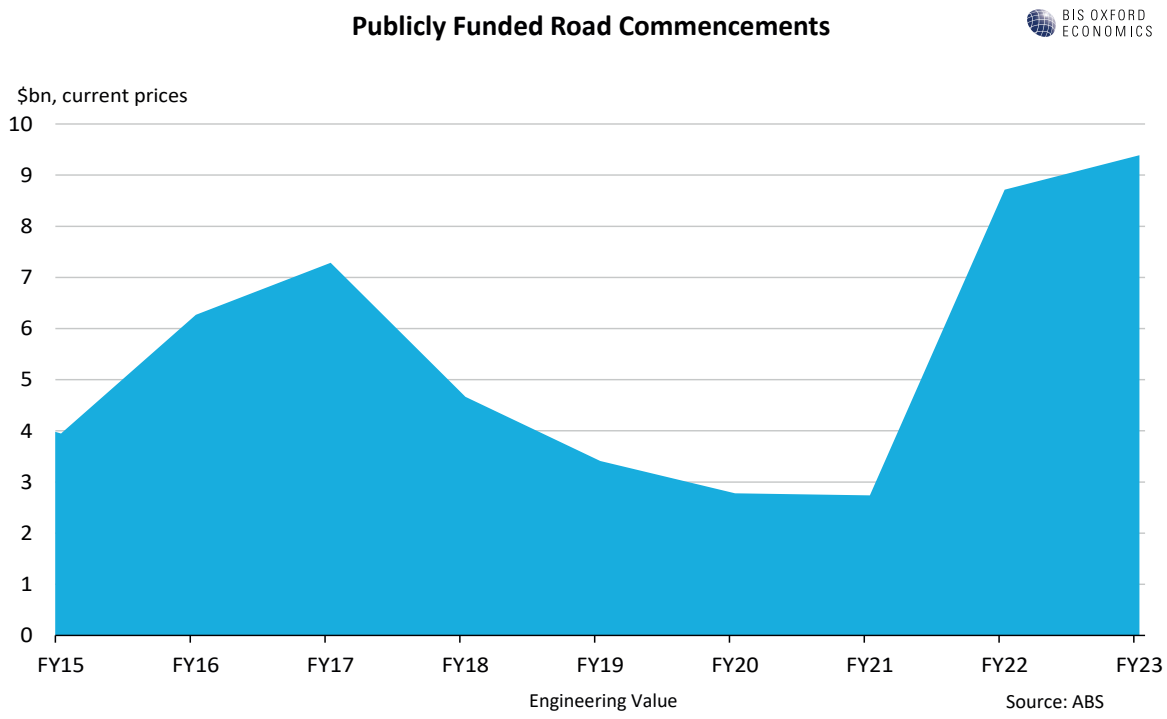


Fig. 33: ***Publicly Funded Road Commencements, New South Wales***

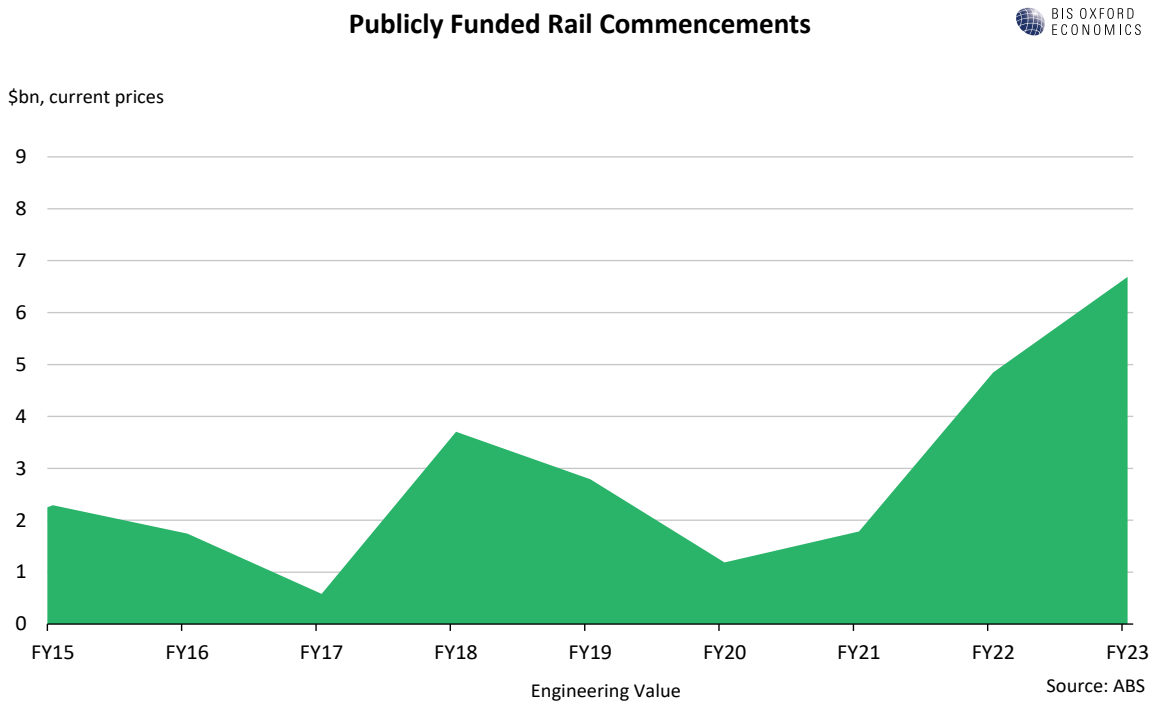


Fig. 34: ***Publicly Funded Rail Commencements, New South Wales***

New South Wales, Total State Funded Commencements, $m Current Prices

BIS OXFORD ECONOMICS

Project Size Bracket ($m)		FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
0	50	4125	3964	3351	3210	3910	3742	2658	4092	4225
50	100	1505	1452	1240	1391	1464	1361	967	2784	2988
100	250	1225	982	1454	1018	1254	1258	809	695	818
250	500	670	976	1160	1261	420	1003	757	716	837
500 +		2564	2760	3759	5074	4045	2381	1969	7950	9322
Total		10088	10135	10964	11954	11093	9744	7160	16237	18190

Source: OEA (work done and commencement distribution), ABS (total work done and commencement series)

Fig. 35: ***New South Wales, Total State Funded Commencements, $m Current Prices***

New South Wales, Total State Funded Transport Commencements, $m Current Prices

BIS OXFORD ECONOMICS

Project Size Bracket ($m)		FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
0	50	2520	2749	1840	2192	1847	1521	982	1903	1781
50	100	1030	992	795	899	821	621	401	1395	1330
100	250	752	296	859	843	732	630	338	705	663
250	500	670	580	726	808	420	480	364	791	778
500 +		1173	2118	3101	3340	2618	409	1146	7245	7015
Total		6144	6734	7321	8081	6438	3661	3231	12039	11568

Source: OEA (work done and commencement distribution), ABS (total work done and commencement series)

Fig. 36: ***New South Wales, Total State Funded Transport Commencements, $m Current Prices***

Methodology

Great care has been taken in preparing the series and estimates of project size bracket activity shares. This process involves the merging of headline commencement series from ABS data with OEA's proprietary databank of individual projects.

For commencement estimates, each engineering project is allocated to a bracket based on its estimated total value in engineering terms. Projects were selected based on public funding and then further differentiated by source of funding: State, Federal, and State/Federal share. The estimated engineering activity of these projects in each year is then aggregated. The sum of these projects was subtracted from the headline public commencement series as supplied by ABS to determine the residual value not accounted for by our project knowledge. A distribution was then applied to the residual to allocate values to each project size bracket, with the majority being allocated to the smallest value brackets due to a lower coverage in our project listings. These values were then summed with the state project allocations and 50% of the State/Federal funded project allocations. Hence, the difference between the headline publicly funded commencements and the sum of this process is the estimated Federal Government funded projects in each year. This process is applied to transport projects estimates with the additional step being aggregating only all transport sectors.

Additionally, the database with all projects listings considers contract details rather than the entire project value. This splits the data at the contract level not at the project level as projects can involve multiple contracts. Furthermore, the total engineering value of the contract is recorded in one year instead of a steady stream of activity from each project. This allows us to capture any momentum or further decline in the value of commencement in subsequent years.

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