Australian Government | Infrastructure Australia

2026 Infrastructure Priority List

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Acknowledgement of Country

Infrastructure Australia proudly acknowledges the Traditional Owners and Custodians of Australia, and their continuing connections to the land, waters, and communities. We pay our respects to them and to their Elders past and present. In preparing for the future of our infrastructure, we acknowledge the importance of looking beyond the immediate past to learn from Aboriginal and Torres Strait Islander peoples' unique history of land management and settlement, art, culture, and society that began over 65,000 years ago. As part of Infrastructure Australia's commitment to reconciliation, we will continue to develop strong, mutually beneficial relationships with Aboriginal and Torres Strait Islander partners who can help us to innovate and deliver better outcomes for Aboriginal and Torres Strait Islander communities, recognising their expertise in improving quality of life in their communities.

A note from the artist:

"Through sharing culture, we can create a sense of belonging, by connecting to the land we stand on. This connection of people and our communities is shown through connecting campfires. These being places we sit, yarn, and share knowledge. The Infrastructure Australia values - expressed by the colours blue, green, orange, purple and teal - weave through the artwork to represent the opportunities and benefits for our communities. Under this sits our rivers, lakes, oceans, and waterways. Water being the giver and supporter of life and flows through us all. I see the reconciliation journey as the water along the path to benefiting our people. Around our waterways I've shown our traditional infrastructure. Our connections and songlines. The systems set up by the First Peoples of this place that we aim to weave into the modern landscape."

Nani, by Kevin Wilson (Maduwongga, Wongutha).

Introduction

Australia is growing and diversifying, with increasing population and economic activity placing greater demands on infrastructure as a critical enabler of social and economic outcomes. We have ambitious goals to lift national productivity, transition to a clean energy future, and substantially boost housing supply.

There is no shortage of infrastructure needed to meet this demand, realise these ambitions and elevate the country's productivity, liveability and sustainability, in our cities and regions. However, governments cannot fund everything at once, nor should all proposals progress simultaneously, given fiscal constraints, market capacity pressures and delivery risk. Prioritisation and sequencing of infrastructure is important to ensure a sustainable pipeline with the delivery of the projects that matter most at the right time.

To inform the Australian Government's decision-making on infrastructure investment, the Infrastructure Priority List presents Infrastructure Australia's view of the most nationally significant infrastructure priorities across the country – where Australian Government involvement can add the greatest value – over the next 10 years. This cross-jurisdictional, cross-sector view informs decisions on when Australian Government investment will best meet the needs of communities by providing investment advice for proposals in the short-term and advising on nationally significant medium and longer-term opportunities in the infrastructure pipeline. Proposals on the Priority List align to our multi-decade, national perspective and a strong evidence base that helps governments to prioritise investments with confidence.

Through targeted Priority Lists, we narrow the field of potential infrastructure investments to identify the highest-priority proposals across the country. This targeting reflects both proposal readiness and strategic timing across the nationally significant pipeline, recognising proposals that are:

- ready for Australian Government investment in the near term, for either planning or delivery[i]
- in the pipeline for investment in the next 2-4 years
- in the pipeline for investment in the next 5-10 years.

This staged approach can support the Australian Government to maintain sustainable levels of infrastructure investment over time, while ensuring that the market has the capacity and capability to deliver the infrastructure required.

The Infrastructure Priority List is therefore not a comprehensive inventory of infrastructure needs, but a targeted advisory tool focused on those proposals where sequencing and prioritisation matter most for national outcomes.

The 2026 Infrastructure Priority List presents Infrastructure Australia's view on the infrastructure challenges we need to address to realise our growth aspirations, as well as the infrastructure needed to meet the challenges and opportunities Australia is likely to face now and into the future. It takes into consideration how demand may change over time, bringing transparency to sequencing decisions and how projects deliver benefits that enhance productivity and support Australia's long-term growth.

Planning and delivery proposals identified for the 2026 Infrastructure Priority List align with this strategic perspective, including proposals that have been submitted to us by the Australian Government and state and territory governments.

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i Planning could include the development of a preliminary or detailed business case, and/or geotechnical investigations, other site investigations, community consultation or further design work. Delivery involves the construction of a project.

SECTION 1

Global and domestic forces shaping Australian infrastructure

Australia's infrastructure systems are being reshaped by powerful global and domestic trends that are changing how we plan, deliver and maintain essential networks. International forces include climate change, geopolitical tensions, shifting trade dynamics, and competition for materials and skilled labour. Domestically, there is a need to lift productivity, support a growing urban population, improve housing and energy affordability, and strengthen resilience to climate hazards.

The Australian Government's 2023 *Intergenerational Report* considers five major forces expected to shape the Australian economy over the coming decades. These are: population ageing, technological and digital transformation, climate change and net zero transformation, rising demand for care and support services, and geopolitical risk and fragmentation. These dynamics are expected to fundamentally shape future infrastructure demand and the way national systems operate. The Government's productivity agenda is focussed on five pillars, aimed at identifying reforms to continue to modernise and strengthen Australia's economy:

- Creating a more dynamic and resilient economy
- Building a skilled and adaptable workforce
- Harnessing data and digital technology
- Delivering quality care more efficiently
- Investing in cheaper, cleaner energy and the net zero transformation.

These forces underscore the need for infrastructure systems that are resilient to demographic, economic and climate pressures – strengthening national productivity, supporting equitable growth and accelerating the clean energy transition. Consideration also needs to be given to future-proofing new infrastructure networks for new technologies and investigating how technological advancements can make existing infrastructure networks more productive, reducing the need for further build options.

While these shifts bring uncertainty, they also bring opportunities. For example, modelling by the Treasury found that Australia's emission reduction plans support continued economic growth, higher living standards and employment. Declining global demand for fossil fuels is expected to be offset by new renewable energy export markets, with growth in manufacturing and construction as energy infrastructure is modernised and new industrial opportunities arise.[1]

Australia's nationally significant and *critical infrastructure* – public and privately funded – will need to respond to these forces, particularly where disruption, delay or under-investment would have economy-wide consequences. It also needs to support the delivery of national priorities such as the commitment to net zero emissions by 2050, the AUKUS partnership, and the National Housing Accord. The AUKUS partnership, for example, will require significant investment in specialised shipyard infrastructure, transport corridors, utilities, and workforce and training facilities, with specific focus on dedicated precincts to develop local manufacturing capability.

Implications for infrastructure investment

Targeted investment in new and upgraded nationally significant infrastructure is crucial to advancing Australian Government policies aimed at boosting national productivity. As the world's 14th largest economy and 16th largest exporter,[2] Australia relies on connected, efficient, and resilient infrastructure networks to support domestic and international trade.

Government investments in our national infrastructure networks are significant. As outlined in Infrastructure Australia's *2025 Infrastructure Market Capacity Report*, Australia's Major Public Infrastructure Pipeline[ii] has increased 14% from 2024 reporting, growing to $242 billion across 2024-25 to 2028-29. This increased investment underscores infrastructure's role in supporting economic growth and transition.

The Government's infrastructure investments are informed by and aligned to a range of Government policies and strategies relating to infrastructure, including the *Infrastructure Policy Statement*, *National Urban Policy*, *National Freight and Supply Chain Strategy* and *National Road Safety Strategy*.

Targeted investment in the right projects at the right time is important as Australia's nationally significant infrastructure systems become increasingly interdependent – across sectors, locations and operations. Technological advances continue to transform how these systems are designed, built and managed, which in turn, requires greater coordination of technology investment across different infrastructure sectors. This growing interconnectedness underscores the need for coordinated whole-of-government planning across sectors, including collaboration with private sector infrastructure owners.

Coordination also provides the opportunity to maximise the benefits gained through our infrastructure investments by improving strategic planning, coordinating materials and human resources and streamlining approvals and delivery. Importantly, public sector investment should stimulate and supplement private sector investment, not displace it, ensuring a balanced and sustainable approach to infrastructure development.

ii Publicly funded infrastructure projects valued over $100 million in New South Wales, Victoria, Queensland and Western Australia, and over $50 million in South Australia, the Australian Capital Territory, the Northern Territory and Tasmania.

Technological change is a transformational opportunity for shaping Australia's infrastructure systems

To respond effectively to powerful global and domestic trends, technological change and innovation should play a central role in infrastructure decisionmaking. Infrastructure technology is no longer being viewed as a 'nice-to-have' but an opportunity to deliver greater economic, social or environmental outcomes. With the potential to reduce project risks and costs by improving decisionmaking, technology can reduce pressure on government budgets, while also enabling costeffective upgrades that extend asset life and defer major renewals. By using data and automation to optimise operations, it can also strengthen infrastructure resilience to improve asset operation in extreme weather events.[3]

For example, analysis commissioned by Infrastructure Victoria found that utilising robotics for inspection and maintenance across the water sector could reduce water leaks and save over $140 million in maintenance and repair costs every year.[4] Modern technologies such as drones and digital twins can enable efficient data collection and utilisation, provide actionable insights and automate construction processes, which can accelerate project timelines.[5]

Technological change is also fundamentally reshaping the infrastructure systems we need to develop, integrate and maintain. For existing infrastructure networks, ongoing technological advancement may necessitate upgrades to fully realise the benefits of autonomous and connected vehicles, drones, and smart infrastructure.

The rapid development of data centres illustrates the growing interdependence between physical and digital infrastructure systems, requiring coordinated planning across water, electricity, communications, and transport networks.[6] As data centres are typically delivered through a mix of public and private investment, effective planning, funding and delivery depend on close coordination between governments, regulators and the private sector. Targeting the opportunities created by technological change will be essential to delivering and maintaining sustainable, efficient infrastructure systems.

The Centre for Population projects Australia's population will reach over 31 million in 2035-36, up almost 4 million from 27.6 million in 2024-2025.[7] Over the longer term, the population could climb to 41 million in 2065-66.[8] Population growth is expected to be uneven, with capital cities projected to grow the most, on average almost twice as fast as rest-of-state areas. It is expected that 72% of Australians will live in capital cities by 2065-66, with both Sydney and Melbourne expected to be over 8 million by the end of the 2050s.[7]

Analysis by the Centre for Population projects Western Australia, Victoria and Queensland will be the fastest growing states over the next decade, with slower growth expected in Tasmania and South Australia. New South Wales is projected to remain the most populous state over the same period.[7] Sustained growth will drive significant demand for housing, transport and utilities infrastructure, particularly in fast-growing metropolitan areas.

As shown in **Table 1**, Centre for Population 2025 projections suggest that the fastest growth will be in the eastern state capitals, with substantial growth also occurring in Perth. Coordinated planning will be increasingly important for managing growth across cities and regions.

Table 1: Projected population growth in Australian capital cities

Capital city	2024-25 (millions)	2035-36 (millions)	2065-66 (millions)
Sydney	5.6	6.5	8.5
Melbourne	5.4	6.5	9.1
Brisbane	2.8	3.3	4.6
Perth	2.5	2.9	4.2
Adelaide	1.5	1.6	1.9
Canberra	0.5	0.6	0.7
Hobart	0.25	0.27	0.28
Darwin	0.16	0.18	0.23
Australia (total)	**27.6**	**31.5**	**41.0**

Source: Centre for Population 2026

Regional Australia will continue to play an important role in sustaining national productivity and supply chains. Regional centres are increasingly important for the provision of services to surrounding areas, including nearby smaller towns.

The prosperity of Australia's regions is fundamental to Australia's economic growth. Infrastructure connects regional communities, supports the movement of goods to and from regions and enables accessibility to essential services. Regional infrastructure supports resource exports, food production, tourism and freight connectivity, all critical to national economic resilience.

Inner and outer regional areas are also home to 44% of First Nations peoples, with a further 15% living in remote or very remote Australia.[9] Remote and very remote areas face increased challenges accessing infrastructure and services, coupled with higher costs of living. First Nations people in regional and remote areas are also on the frontline of climate change, with many already disproportionally exposed to extreme heat, rising sea water levels and climate impacts on food sources.[10] Ensuring equitable access to infrastructure and services in these areas will be critical to Closing the Gap and climate resilience.

Just as Australia's freight task is increasing, so is the role regions play, with freight transported on regional roads growing over the decade to 2022-23 to 187.7 billion tonne-kilometres, an increase of 33.5 billion tonne-kilometres on 2012-13 levels.[9] With great diversity among regions, targeted, focussed infrastructure investment on strategic freight routes and intermodal terminals requires consideration of unique needs and opportunities, both within and across regions.

Australia's cities and regions will also need to cater for an ageing population, with the population share of people aged 65 years and older doubling over the past 40 years.[11] By 2035-36, approximately 25% of the population living outside capital cities is expected to be aged 65 and over, compared to about 17% within capital cities.[7] This demographic shift will increase demand for accessible transport, health and social infrastructure.

The forces shaping the Australian economy will impact Australian communities in cities, regions and remote areas in different ways. Coordinated national planning across governments and sectors will be critical to manage growth, strengthen resilience and unlock new economic opportunities. When all three levels of government work together – local, state and Commonwealth – communities benefit from infrastructure that is better planned, better funded and better delivered.

Collaboration helps align national priorities with state networks and local place-based needs, reducing duplication and gaps while making the most of limited public resources. Coordinated planning also provides clearer accountability and smoother delivery across jurisdictions, which is essential for complex infrastructure systems that people rely on every day to access jobs, services and opportunities.

Collaboration between the public and private sectors will also be crucial to delivering the infrastructure needed to support population growth outside capital cities. As an enabler of housing, industry and regional development, well-planned infrastructure, delivered at the right time, can help communities adapt to change, enhance productivity and create opportunities for sustained growth.

Increasing climate hazards – from extreme rainfall and flooding to prolonged drought – are already disrupting freight, water and energy systems. Future investment will increasingly need to embed climate resilience into these nationally significant systems to safeguard productivity, reliability and long-term economic outcomes.

SECTION 2

Infrastructure Australia's analysis of nationally significant infrastructure needs

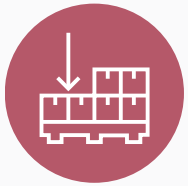
To support a growing population and drive economic growth, Infrastructure Australia has identified a targeted set of nationally significant infrastructure priorities likely to be required over the coming decades, drawing on, but not limited to, priorities raised by state and territory governments. These priorities will address national infrastructure gaps and capitalise on emerging economic opportunities. They respond to the structural forces outlined in Section 1, including population growth, climate transition and technological change.

The Australian Government has already committed substantial investments to support population growth, economic diversification and resilience. Proposals on the Infrastructure Priority List reflect Infrastructure Australia's view of the highest priorities that are likely to require Australian Government investment over the next 10 years to address critical infrastructure gaps and opportunities, based on our strategic view of Australia's long-term infrastructure needs.

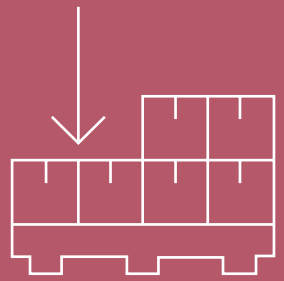
As the Australian Government's independent adviser on nationally significant, nation-wide infrastructure planning and prioritisation, we have focussed on those networks and systems where targeted investment can materially improve national productivity and resilience.

The following sections present this analysis against the five infrastructure investment priorities for the nation, as identified by Infrastructure Australia in our *Annual Budget Statement 2025*. These five priorities represent the areas where investment is most likely to deliver significant national benefits, recognising that they do not cover all infrastructure sectors and asset classes. These priorities will evolve over time as data sets and needs emerge.

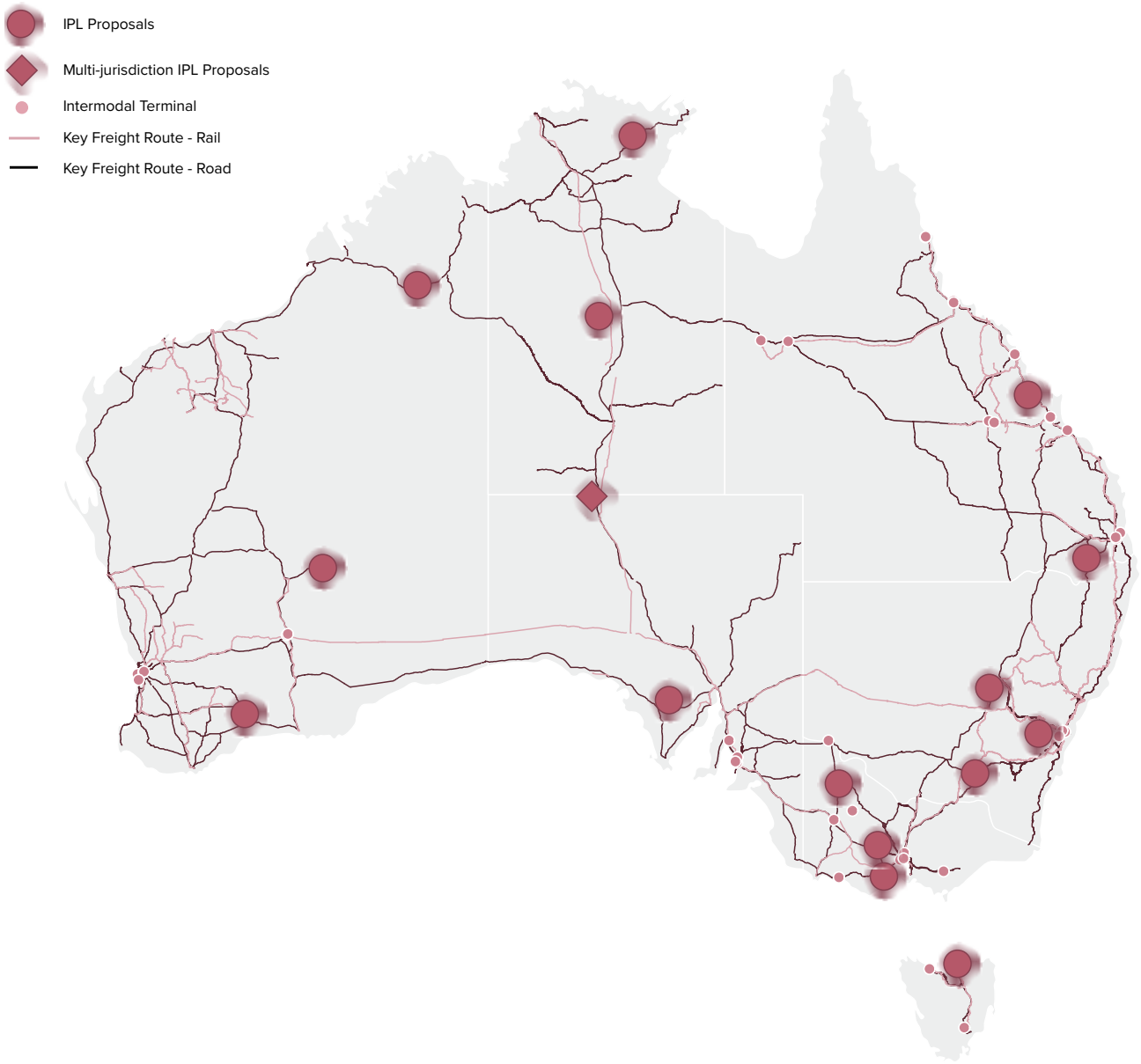
Proposals on the Infrastructure Priority List align with these national priorities, helping to ensure that investment decisions deliver clear and measurable benefits for the community, now and into the future.

 **High Productivity Freight Networks**	Enhancing the capacity, interoperability and resilience of nationally-important freight corridors and networks for higher productivity rail and road freight
 **Ports Capacity and Connectivity**	Increasing national ports capacity and strengthening import-export supply chains with last mile freight and intermodal connections for ports and port precincts
 **High-Capacity Transport for Growing Cities**	Building safe, efficient and city-shaping transport for our fast-growing urban populations, and unlock priority growth areas and precincts for housing and development
 **Secure, Sustainable Water for Growth**	Providing secure, climate-resilient water and wastewater capacity in cities and regions to support housing growth and increasing demands for water-intensive industries
 **Delivering Net Zero and a Clean Energy Economy**	Delivering large-scale renewable generation, storage and transmission, including enabling infrastructure, and unlock national economic opportunities from the net zero transition

High Productivity Freight Networks



Australia’s freight networks are the backbone of domestic supply chains, enabling the efficient movement of goods across vast distances and supporting the nation’s economic growth and resilience.



Australia's domestic freight task (bulk and non-bulk) has grown substantially over the past 40 years and is projected to increase by up to 26% between 2020 and 2050 in a median growth scenario. This equates to approximately 964 billion tonne-kilometres of freight movement, highlighting the need for scalable, interoperable and resilient freight infrastructure.[12]

Rail and road are the dominant modes for transporting domestic freight, together accounting for nearly 90% of Australia's domestic bulk and non-bulk freight task in 2024-25.[13] Road freight is forecast to grow by 77% by 2050, while rail is expected to grow by just 5.7% over the same period.[12] This disparity is particularly significant given transport was the third-largest source of Australia's greenhouse gas (GHG) emissions in 2024 – 83% of which came from road transport and 23% directly from heavy vehicles.[12]

Rail freight

Rail freight plays a crucial role in meeting Australia's growing freight task. The shift of freight from road to rail will significantly reduce road congestion, lower GHG emissions, increase productivity and enhance network reliability and road safety. Rail freight produces 16 times less carbon emissions per tonne-kilometre compared to road freight, highlighting the impact of rail in supporting Australia's decarbonisation goals.[14]

Despite these benefits, rail freight remains concentrated in the movement of bulk commodities such as iron ore, coal and grain, with over 70% of bulk freight moved by rail in 2024-25. Rail freight is less utilised for the movement of containerised and other non-bulk goods, with only 16% of non-bulk freight moved by rail in 2024-25.[15] Rail's competitiveness increases with distance, which is demonstrated by the rail mode share of non-bulk freight being highest along the east-west corridor between eastern states and Perth.[16]

Strategic and coordinated investments are essential to unlock the full potential of rail in the national freight network. These investments include modernising rail infrastructure, improving interoperability of rail systems, dedicated freight railways, and strengthening regional connectivity. Systematic investment in these measures will increase freight productivity and resilience and support Australia's long-term competitiveness in global markets.

Enhancing rail network connectivity and productivity through the National Network for Interoperability

The *National Rail Action Plan* (NRAP) provides a coordinated framework to address systemic challenges and drive reform across Australia's rail system. The NRAP focusses on harmonising technical standards and operational practices to achieve interoperability across jurisdictions, building workforce capability and driving innovation through adoption of digital technologies.

Advancing interoperability across Australia's rail network is a central focus of the NRAP. The National Transport Commission, in collaboration with government and industry, defined the *National Network for Interoperability* (NNI) to improve the efficiency and competitiveness of Australia's rail system. The NNI maps interstate freight and passenger lines and identifies critical interfaces where consistent signalling, control systems and asset management practices are essential to expanding the role and productivity of rail in national freight and passenger transport networks. To support the objectives of the NNI, Australia's infrastructure and transport ministers have agreed to adopt a unified digital signalling technology – European Train Control System (ETCS) – across major corridors. Any future digital train control and signalling system introduced on the NNI is to comply with ETCS mandatory standards.

Strategic investment in the NNI and other network connections that it supports, including high productivity rail corridors and intermodal terminals, will be essential to support a shift of freight from road to rail.

This includes leveraging automation and technology – such as digital train control, predictive maintenance and real-time freight systems – to optimise network capacity, enhance safety and deliver supply chain efficiency. Mode shift from road to rail will be essential to meeting future freight demands sustainably, supporting reduced emissions and improved freight performance.[17] To maximise interoperability and efficiency, consistent skills and capabilities across the network are essential, ensuring that all operators can manage assets to the same high standard.

Australia's interstate rail freight network plays an important role in supporting long-distance freight movements and national supply chain resilience. The Australian Rail Track Corporation (ARTC) manages a network that spans over 9,600 km and operates under a unified set of infrastructure, operational and rolling stock standards – including consistent track gauge. ARTC's signalling systems are also being progressively updated to adopt uniform standards across the network.[18]

The ARTC is also responsible for the delivery of *Inland Rail*, a dedicated freight line connecting Melbourne and Brisbane supporting 1,800 metre, double stacked trains and transit times under 24 hours. Inland Rail will support double stacked services between a new intermodal terminal at Beveridge in Victoria and a proposed intermodal terminal at Ebenezer in Queensland, with 39 km of further single-stacked operations to continue to Kagaru.[16] Inland Rail is expected to support a road-to-rail mode shift equivalent to removing 200,000 heavy vehicle movements per year on key inter-capital corridors, which will deliver significant benefits from supply chain efficiencies safety improvements, and congestion reduction.[19] Projects like Inland Rail are also expected to boost investment in sectors such as agriculture processing and freight logistics.[20]

10-year national priorities

Australia's growing freight task and decarbonisation goals require targeted investment aligned to the NNI, which is needed to realise greater mode shift from road to rail.

Advancing interoperability on the NNI is a national priority to improve the productivity and competitiveness of Australia's rail network. The 2026 Infrastructure Priority List includes the ***National interoperability of digital signalling and train control*** proposal as a priority for future investment in the 2-4 year pipeline, following planning activities to define trackside infrastructure requirements by relevant jurisdictions and the ARTC. This national proposal relates to other 2026 Infrastructure Priority List proposals captured in the *High Capacity Transport for Growing Cities* section for delivery of high-capacity signalling within Australian capital cities. This would support further rail system harmonisation and integration beyond the extent of the NNI into urban rail networks.

Inland Rail is a key component of the NNI, and its completion will support delivery of the NNI's full benefits. Inland Rail is being delivered in a staged approach, prioritising construction from Beveridge to Parkes by 2027.[21] The 2026 Infrastructure Priority List includes the ***NSW Inland Rail interface improvements*** proposal as a future investment opportunity in the 2-4 year pipeline to deliver interoperability upgrades and maximise freight benefits from Inland Rail. There are further opportunities to improve network interfaces with Inland Rail, such as with agricultural freight in Darling Downs, Parkes-Perth corridor, and connection to Melbourne-Adelaide freight corridor (see ***Melbourne Outer Metropolitan Ring / E6 transport corridor*** listing below).

Increasing intermodal capacity and connectivity

Intermodal terminals are critical infrastructure nodes that facilitate the transfer of freight between transport modes – primarily rail and road but also shipping and air – and form the backbone of efficient national freight flows. Broadly, intermodal terminals consist of two subsystems: one servicing port-oriented import/export movements and the other supporting domestic freight transfer.[22] While these operations often function independently, some terminals cater to both.

To meet future freight demands and support decarbonisation, the *National Freight and Supply Chain Strategy* calls for increased use of integrated intermodal precincts that optimise modal transitions by co-locating supply chain services. The Australian Government through National Intermodal Corporation is progressing delivery of the *Beveridge Intermodal Precinct* (BIP). BIP is set to become Australia's largest intermodal precinct, which is strategically located on the NNI as part of the Inland Rail route.

10-year national priorities

Integrated intermodal terminals are needed to improve freight productivity and enhance connectivity across the NNI. The 2026 Infrastructure Priority List identifies proposals that support the development and enhancement of intermodal terminal capacity on the NNI, including the ***South East Queensland intermodal terminal capacity*** proposal, which is identified as a future investment opportunity in the 5-10 year pipeline to provide additional intermodal terminal capacity to support the growing freight task in South East Queensland, with the capability to meet future operating requirements of Inland Rail through a proposed new intermodal terminal at Ebenezer.

The ***Melbourne intermodal terminal capacity*** proposal is also included on the 2026 Infrastructure Priority List. This proposal is planning to develop a well-located terminal to provide additional rail freight and intermodal capacity and connectivity, noting potential connection of the Western Interstate Intermodal Terminal (WIFT) to the proposed Outer Metropolitan Ring Rail in the future. The WIFT is identified as a longer-term investment priority in the 5-10 year pipeline as the immediate focus is on delivering the Beveridge Intermodal Precinct to support Inland Rail, with WIFT to follow when additional capacity is needed.[23]

Expanding intermodal terminal capacity is key to meeting future freight demand and strengthening supply chain resilience. The 2026 Infrastructure Priority List includes the ***Western Sydney Freight Line and Intermodal Terminal*** proposal as a priority for future investment in the 2-4 year pipeline to boost intermodal terminal capacity in Western Sydney, supported by dedicated freight rail connectivity from the Southern Sydney Freight Line, which connects to Port Botany. The 2026 Infrastructure Priority List also identifies the ***Northern Territory freight rail and logistics capacity improvements*** proposal as an immediate priority for planning investment to support local supply chains and connectivity to the national transport network. The Australian Government has committed $440 million in planned equity to develop regional logistics hubs along the Darwin-Tarcoola rail line, which is part of the NNI. Further planning is required to progress this proposal, which will increase supply chain capacity and resilience for the Northern Territory. By improving rail efficiency and intermodal capacity along this rail corridor, the proposal supports industry development within the mining, agricultural, energy and gas sectors.[12]

Improving intermodal terminal connectivity is needed to enable seamless road-rail integration and optimise network performance. The ***Melbourne Outer Metropolitan Ring / E6 transport corridor*** proposal is included on the 2026 Infrastructure Priority List as a priority for future investment in the 5-10 year pipeline to support stronger connectivity in Melbourne's north and west. The proposal includes the Outer Metropolitan Ring Rail South project that would deliver a new rail link connecting the proposed interstate freight terminal (WIFT) at Truganina to the national freight network. The proposal also supports the long-term development of a multi-modal transport corridor improving freight connectivity between existing and planned trade gateways.

Improving resilience and safety of rail freight networks

Infrastructure Australia has recognised the importance of enhancing and building infrastructure to support *regional road and rail freight resilience* through a previous Infrastructure Priority List proposal drawing on the findings of the *2023 Road and Rail Supply Chain Resilience Review*. Resilient freight corridors are important because they underpin the reliability of Australia's supply chains, particularly for regional and remote communities that depend on key routes for access to goods, services and economic activity. Natural disaster risks are forecast to increase in intensity and frequency as Australia's climate changes, which further highlights the importance of strengthening freight corridor resilience to safeguard communities from escalating disruption risks.[24,25]

The *2023 Road and Rail Supply Chain Resilience Review* assessed 13 critical rail supply chains from the *National Key Freight Routes* (KFR) to develop a better understanding of Australia's rail resilience. These routes connect nationally significant freight hubs – ports, airports and intermodal terminals – and comprise a key part of Australia's supply chain infrastructure. Five critical rail KFRs were determined to have a high or very high vulnerability rating, which means there is a high or very high risk of natural hazard disruption and high or very high proportion of freight obstructed – see summary in **Table 2**.

Table 2: Critical rail key freight routes with high or very high vulnerability ratings

Rail Key Freight Routes	Manager	Change (%) in freight along alternative road routes	Key sector/s	Vulnerability rating
Western Australia Transcontinental Line	ARTC	Great Eastern Highway (271%)	Iron ore, grains, general freight	**Very High**
South Australia Transcontinental Line	ARTC	Eyre Highway (133%)	General freight	**High**
Queensland Great Northern Line	Queensland Rail	Flinders Highway (92%)	Minerals	**High**
Queensland Western System	Queensland Rail	Warrego Highway (107%)	Coal	**High**
New South Wales Main West Line	ARTC	Alternate rail route for 19% of freight, remaining freight completely obstructed.	Mining	**High**

Source: *Road and Rail Supply Chain Resilience Review – Phase 1*

The table shows that all rail KFRs with high or very high vulnerability are east-west connections, two of which comprise the East-West rail corridor that connects Sydney to Perth. Disruptions to these rail corridors cause major issues given freight volumes are often too large to practically shift to road, leading to significant economic and logistical consequences.

Three of the five most vulnerable rail KFRs are managed by the ARTC, which is delivering the $1 billion *Network Investment Program* across its interstate rail network, with a focus on improving safety, resilience and reliability of the network. High vulnerability ratings across the two Queensland Rail corridors indicates a need for targeted upgrades to improve east-west resilience along these corridors.

Building resilience across critical rail KFRs is one part of the challenge – ensuring operational continuity and safety within the network is equally important. Robust rail connections reduce economic risk during disruptions, but hazards such as level crossings must be addressed to improve safety and maintain efficient operations.[12]

Level crossings remain the highest public safety risk on the rail network (excluding suicide and trespass) – with 15 people losing their lives due to rail-related accidents in 2023.[12] The removal of level crossings from our transport network supports improved productivity and increased safety by enabling more efficient rail and road movements and reduced conflict. The movement of high productivity and oversized and/or overmass (OSOM) freight often requires road access across high-traffic rail freight corridors, creating complex network interface challenges. These interactions can cause delays for both road and rail users, reducing overall network productivity and highlighting the importance of coordinated infrastructure solutions at critical level crossings.

Removing level crossings located on the *National Land Transport Network* (NLTN) and KFRs supports improved safety and efficiency of both freight and passenger transport networks, including local networks. It also delivers benefits for commuters by reducing delays and improving travel reliability in urban areas. **Table 3** shows the number of level crossings on the NLTN and KFRs by jurisdiction and capital city, showing clusters of level crossings in metropolitan areas of Adelaide, Melbourne and Perth.

Melbourne has the second highest number of level crossings on the NLTN and KFRs out of Australia's capital cities, behind Adelaide. The Victorian Government is delivering the *Level Crossing Removal Program* to remove 110 high risk, congested level crossings in Melbourne by 2030, with 88 removals already complete.

The South Australian and Western Australian governments are developing similar level crossing removal programs to address safety and congestion issues from high risk level crossings in Adelaide and Perth. In addition to state or territory-led programs, the Australian Government has supported the removal of level crossings as part of the delivery of nationally significant infrastructure projects.

Table 3: Number of level crossings on the national land transport network and key freight routes

Jurisdiction	Level crossings on NLTN and KFRs	Capital city	Level crossings on NLTN and KFRs
ACT	3	**Canberra**	3
NSW	18	**Sydney**	3
NT	6	**Darwin**	1
QLD	125	**Brisbane**	0
SA	48	**Adelaide**	22
TAS	4	**Hobart**	1
VIC	65	**Melbourne**	17
WA	84	**Perth**	12

Source: Infrastructure Australia analysis of OpenStreetMap (OSM) level crossings data. Highlighted cells indicate values that are above the average for their respective column.

As shown in **Table 3**, there are many level crossings in regional and remote areas of Australia on the NLTN and KFRs. The *National Level Crossing Safety Strategy* emphasises technology adoption and coordinated national action to work towards zero harm at level crossings. To address level crossing safety risks in regional areas, the Australian Government is delivering the *Regional Australia Level Crossing Safety Program*, which includes investment in lower cost safety protections, research funding, data improvement grants and education and awareness.

Road freight

Road freight plays an important role in Australia's freight network, but it comes with significant environmental and infrastructure challenges. Road is the dominant mode of transport for moving non-bulk freight – accounting for almost 80% of non-bulk freight in 2024-25.[13] Road transport accounts for around 83% of Australia's transport emissions, with heavy vehicles contributing 23% of total transport emissions.[12]

As freight volumes grow, reliance on road transport will intensify, placing pressure on high-capacity corridors, compounding environmental impacts and potentially affecting overall supply chain efficiency. Understanding trends and projections is important for planning targeted investment and complementary modal shifts to support a resilient and sustainable freight system.

Emerging transport technologies offer a valuable opportunity to help address these pressures, with potential to improve the safety, efficiency and sustainability of Australia's road freight task.

The *National Road Transport Technology Strategy* provides a nationally consistent framework for deploying and adopting road transport technologies, including intelligent transport systems, connected and automated vehicles and smart network management tools.

These technologies can help optimise freight movements, reduce emissions and improve safety outcomes. The adoption of these technologies, alongside targeted infrastructure investment, will be important to managing rising freight demand.

Improving productivity and reliability of road freight routes

Productive and reliable road freight corridors are fundamental to the performance of high-productivity networks. In addition, enabling access for high productivity vehicles (HPVs) results in fewer truck movements, leading to lower emissions and lower operational costs.

Table 4 shows that in absolute terms, large increases in road freight are expected for Melbourne, Brisbane, Sydney and Perth, which drives infrastructure demand in high-capacity corridors. The strongest projected absolute growth is in Melbourne, with an additional 8 billion tonne-kilometres projected by 2040, reflecting its role as a major freight hub.

Table 4: Metropolitan road freight, by capital city

City	Road freight (2024-25)[26]	Projected road freight (2040)[27]	Projected growth in road freight (2040)	Projected growth in road freight (2040)
	(billion tonne-kilometres)	(billion tonne-kilometres)	(billion tonne-kilometres)	(%)
Adelaide	3.4	4.3	0.9	26
Brisbane	11.4	15.5	4.1	36
Canberra	0.3	0.3	0	0
Darwin	0.3	0.5	0.2	67
Hobart	0.8	1.1	0.3	38
Melbourne	18.2	25.8	7.6	42
Perth	7.4	10.5	3.1	42
Sydney	14.8	18.8	4.0	27

Source: BITRE Yearbook 2025 Table 1.5, BITRE Road Freight Forecasts 2022 Table 3.1. Highlighted cells indicate values that are above the average for their respective column.

High percentage growth in smaller markets, such as Darwin (67%) and Hobart (38%), indicate emerging pressure points that require consideration to avoid infrastructure constraints or bottlenecks. Darwin records the highest percentage growth, which despite its smaller base, indicates significant relative growth in northern supply chains.

Regional and remote communities are particularly vulnerable to supply chain disruptions, which can severely impact productivity and access to essential goods and services. The *2023 Road and Rail Supply Chain Resilience Review* identified KFRs that are critical for both carrying large volumes of freight and also for serving remote communities. Disruptions to these corridors can delay or prevent delivery of basic commodities and perishable items, creating significant risks to community wellbeing.

The increasing prevalence of natural disasters due to climate change threatens the availability of essential goods and services in remote and regional communities, particularly in central and northern Australia where flooding is frequent. Remote First Nations communities are disproportionately impacted by supply chain disruptions, which pose a significant risk to the wellbeing of these communities.[12] In many locations, aviation provides the only reliable year-round access. The Australian Government's *Regional Aviation Access Program* supports aviation services that are important for the social and economic wellbeing of remote communities. The *Infrastructure Policy Statement* notes the Australian Government will continue to support nationally significant projects in regional Australia that support connectivity between our regions, communities and major gateways.

10-year national priorities

Australia's growing demand for road freight requires investment focussed on improving corridor efficiency and access for HPVs to keep goods moving reliably and support economic growth.

The development and upgrade of HPV networks on Key Freight Routes is an infrastructure priority for Australia over the next 10 years. The 2026 Infrastructure Priority List includes two program proposals in South Australia and Victoria as future investment opportunities in the 2-4 year pipeline that support HPV network improvements. These proposals represent a snapshot of broader national investment priorities, with HPV network improvements across all jurisdictions leading to a more resilient, high-capacity freight network.

The ***South Australian High Productivity Vehicle Network – Future stages*** proposal identifies solutions to improve freight efficiency and strengthen network resilience, while the ***Enabling infrastructure for zero emissions and high productivity freight vehicles in Victoria*** proposal supports improved efficiency and reliability of KFRs and emissions reduction in Victoria. A further listing looking to improve access for HPVs on key freight routes is the ***Hume Highway (Sheahan Bridge) upgrade*** proposal, which is on the busiest freight corridor in New South Wales and is a key constraint preventing more efficient HPV movements between Melbourne and Sydney. This proposal is also identified as a future investment opportunity in the 2-4 year pipeline.

Improving the capacity of nationally significant transport corridors is an ongoing priority for Australia to support national freight productivity and connectivity. The 2026 Infrastructure Priority List identifies both the ***Bruce Highway upgrade*** in Queensland and the ***Burnie to Hobart freight corridor improvements*** in Tasmania, as proposals for further capacity, efficiency and connectivity improvements on key corridors that are part of the NLTN. Both proposals are identified as priorities for future investment in the 2-4 year pipeline.

Infrastructure to safeguard critical supply chains for regional and remote communities is a national priority to ensure reliable access to essential goods and services. The 2026 Infrastructure Priority List includes the ***Road access improvements for remote Western Australia communities*** as an immediate priority for planning investment to consider options to address unreliable road access.

Strengthening resilience and safety on key road freight corridors

The *2023 Road and Rail Supply Chain Resilience Review* assessed 52 critical road supply chains from National Key Freight Routes (KFRs) to develop a better understanding of Australia's road resilience. These routes connect nationally significant freight hubs – ports, airports and intermodal terminals – and comprise a key part of Australia's supply chain infrastructure. Eight critical road KFRs were determined to have a high or very high vulnerability rating.

Table 5 shows high vulnerability ratings clustered across northern and western Australia, where long distances and climate exposure amplify disruption risks. Storms, flooding and heat are the dominant hazard drivers, directly affecting reliability for key export commodities including mining, agriculture and construction materials. Addressing these vulnerabilities will improve national supply-chain reliability and protect regional productivity.

Table 5: Critical road KFRs with high or very high vulnerability ratings

Road Key Freight Routes	Commodity most impacted (% obstructed)	Vulnerability rating
Arnhem Highway (NT)	Cropping (100%), Wood products (100%)	**Very High**
Buchanan Highway (NT)	Construction (92%)	**High**
Lasseter Highway (NT)	Livestock (31%)	**High**
South Coast Highway (WA)	Mining (51%)	**High**
Central Arnhem Road (NT)	All (100%)	**High**
Carpentaria Highway (NT)	All (100%)	**High**
Gregory Development Road (QLD)	Vehicles (100%), Cropping (95%)	**High**
Stuart Highway (NT, SA)	Construction (70%)	**High**

Source: *Road and Rail Supply Chain Resilience Review – Phase 1*

As shown in **Table 5**, the Northern Territory contains six of the eight most vulnerable road freight corridors, highlighting a need for targeted investment to enhance both safety and network resilience. The Australian Government has committed delivery funding towards the progressive upgrade of several of these key freight routes, including $630.7 million within the *Regional Roads Corridor* investment program. This funding supports major works on both the Arnhem Highway and Central Arnhem Road to improve connectivity and reliability for remote communities and industries.

The *Industry Roads Corridor* program includes a commitment of $518.5 million to support staged upgrades to the Carpentaria Highway to enhance freight capacity and safety. A further $779.3 million has been allocated to the *Stuart, Victoria and Barkly Highways Corridor* program, delivering improvements focussed on flood immunity, road safety, and increased freight efficiency across northern and central Australia.

These commitments support progressive upgrades to strengthen the resilience of the Northern Territory's key freight routes. However, further investment is likely to be required across corridors such as the Buchanan and Lasseter Highways, as well as remaining unfunded sections of other KFRs, to ensure ongoing improvements to resilience and connectivity across the vulnerable Northern Territory key freight routes. These upgrades to KFRs also play a critical role in supporting industry development across the mining, agricultural, energy and gas sectors by improving the efficiency, safety and reliability of transport connections essential to their operations.

Additionally, there is one highly vulnerable KFR in Queensland – the Gregory Development Road, the southern portion of this KFR is part of the *Inland Freight Route – Mungindi to Charters Towers*. The Inland Freight Route is an alternative to the Bruce Highway and is supported by an $800 million commitment from the Australian Government to deliver road upgrades to improve connectivity and safety for road users. Early works are underway for this program.

The *Infrastructure Policy Statement* emphasises the need for targeted investment to improve the resilience of critical road corridors. Disruptions to Australia's freight network highlight the importance of efficient and resilient supply chains. Infrastructure upgrades that reduce vulnerability to storms, flooding, heat and other hazards will ensure our critical road corridors remain reliable and accessible into the future, even in extreme conditions.

Alongside weather-related vulnerabilities, crashes are a source of disruption to key road corridors, with crash incidents making up 70% of unplanned road closures on the NLTN and KFRs between 2020 and 2024.[28] The Australian Government has committed $2.94 billion to the *Road Safety Program* to address road safety issues and crash hazards on key sections of the road network. The program approved almost 500 projects for delivery from 2023 to 2026 – the majority of which are in New South Wales. This aligns with Infrastructure Australia's analysis of the National Freight Data Hub roadworks and road closures data, which shows that crash hazards as the main cause of unplanned road closures on the NLTN and KFRs in New South Wales.

The *Australian Road Assessment Program* (AusRAP) provides a nationally consistent measure of road safety using the globally recognised International Road Assessment Program star rating system, where each additional star halves the risk of severe crashes. Results from the 2025 AusRAP assessment of over 71,000 km of road, including the NLTN, show that over 53% of assessed road length is rated 3-star or better. **Table 6** shows the safety improvements across the different star ratings for the NLTN since the previous assessment in 2013, which shows a positive trend of improving road safety for the roads assessed by AusRAP within the NLTN.

Table 6: Changes in proportion of road length by AusRAP star rating (2013 to 2025)[iii]

	NLTN road length by star rating				
	1-star	**2-star**	**3-star**	**4-star**	**5-star**
AusRAP 2025	884 km (5%)	3,751 km (21%)	8,326 km (47%)	4,274 km (24%)	576 km (3%)
% change from AusRAP 2013	-4%	-9%	-6%	+16%	+3%

Source: *Australian Road Assessment Program* Summary Report

iii No data available for the NLTN within Queensland, South Australia and Tasmania

The *National Road Safety Strategy 2021-2030* sets a target that by 2030, at least 80% of travel (on national highways and the high-speed network) occurs on roads rated 3-star or better. Jurisdiction performance is highly variable, with Western Australia recording 82.3% of travel on 3-star or better rated roads, compared to the Northern Territory at only 27.7%.[29]

As the 2025 AusRAP assessment covered only jurisdictions with available NLTN data, Queensland, South Australia and Tasmania were not assessed, however the Bruce Highway in Queensland – part of the NLTN – remains a priority for further safety and capacity upgrades. The *Bruce Highway Targeted Safety Program* is supported by a $7.2 billion commitment from the Australian Government to deliver safety upgrades on priority sections of the Bruce Highway with higher than average crash rates, with the intention to bring the Bruce Highway to a minimum 3-star AusRAP safety rating.[30,31]

10-year national priorities

Extreme weather, ageing infrastructure and crash rates threaten the resilience and safety of Australia's road freight network. Investment priorities include upgrades to vulnerable corridors and enhanced safety measures to maintain freight reliability and protect national supply chains. The Australian Government continues to make significant investments to improve the safety and resilience of major road corridors.

Targeted resilience and safety upgrades to Key Freight Routes will be required over the next 10 years. The 2026 Infrastructure Priority List includes the ***Great Northern Highway improvements – Broome to Kununurra*** as an immediate priority for planning investment and the ***South Coast Highway improvements – Albany to Esperance*** proposal as a priority for future investment in the 2-4 year pipeline to address safety and resilience issues from regular weather-related road closures. In the *2023 Road and Rail Supply Chain Resilience Review,* these corridors in Western Australia were assigned vulnerability ratings of medium and high, respectively.

The 2026 Infrastructure Priority List also identifies ***Northern Territory road safety and connectivity improvements*** as a future investment opportunity in the 2-4 year pipeline to address resilience, safety and connectivity issues on vulnerable KFR corridors. The Northern Territory recorded only 27.7% of travel on roads rated at 3-star or better (out of over 7,000 km of the sealed territory-controlled road network), which is the lowest level of travel for all jurisdictions assessed in the 2025 AusRAP.[29] The Northern Territory also contains six of the eight most vulnerable road freight corridors, highlighting a need for targeted investment to enhance both safety and network resilience. The Australian Government has committed funding for priority upgrades through road corridor funding programs, including Regional Roads, Industry Roads and Outback Way corridor programs.

Summary: Infrastructure response and investment priorities

Australia's national freight networks are facing growing pressures from rising freight volumes, evolving supply chains and the need for greater interoperability. These challenges are compounded by ageing infrastructure and the need to integrate new technologies to improve safety, resilience and efficiency. Targeted investment over the next 10 years should focus on system-level coordination to enhance the capacity, resilience and connectivity of freight corridors and intermodal terminals, while also driving decarbonisation and supporting a shift from road to rail to improve the efficiency and sustainability of Australia's supply chains.

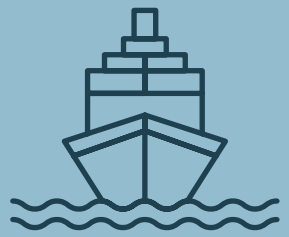
Table 7 identifies the **highest priority proposals for *High Productivity Freight Networks*** to provide targeted solutions to address identified infrastructure constraints.

Table 7: High Productivity Freight Networks: 2026 Infrastructure Priority List proposals

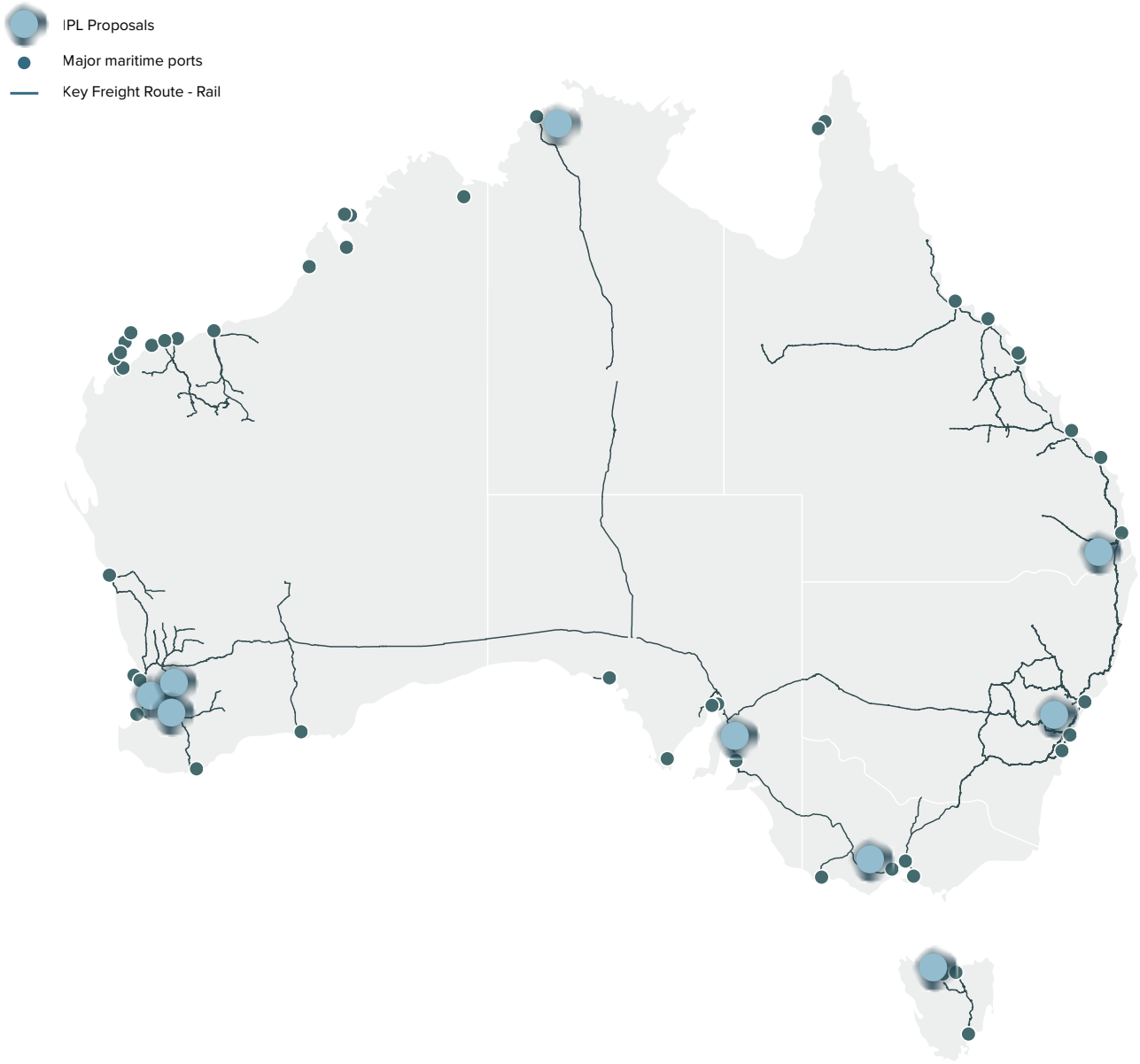
10-year national priorities	Location	Investment timing
Increasing productivity of rail freight networks		
Enhancing rail network connectivity and productivity through the National Network for Interoperability		
National interoperability of digital signalling and train control	WA, SA, VIC, NSW, QLD, NT	2-4 year pipeline
New South Wales Inland Rail interface improvements	NSW	2-4 year pipeline
Increasing intermodal capacity and connectivity		
Melbourne intermodal terminal capacity	VIC	5-10 year pipeline
Melbourne Outer Metropolitan Ring / E6 transport corridor	VIC	5-10 year pipeline
Northern Territory freight rail and logistics capacity improvements	NT	Investment-ready for Planning
South East Queensland intermodal terminal capacity	QLD	5-10 year pipeline
Western Sydney Freight Line and Intermodal Terminal	NSW	2-4 year pipeline

10-year national priorities	Location	Investment timing
Improving road freight productivity and safety		
Improving productivity and reliability of road freight routes		
Bruce Highway upgrade	QLD	2-4 year pipeline
Burnie to Hobart freight corridor improvement	TAS	2-4 year pipeline
Enabling infrastructure for zero-emissions and high productivity freight vehicles in Victoria	VIC	2-4 year pipeline
Hume Highway (Sheahan Bridge) upgrade	NSW	2-4 year pipeline
Road access improvements for remote Western Australia communities	WA	Investment-ready for Planning
South Australia High Productivity Freight Vehicle Network – Future stages	SA	2-4 year pipeline
Strengthening resilience and safety on key road freight corridors		
Great Northern Highway improvements – Broome to Kununurra	WA	Investment-ready for Planning
Northern Territory road safety and connectivity improvements	NT	2-4 year pipeline
South Coast Highway improvements – Albany to Esperance	WA	2-4 year pipeline

Ports Capacity and Connectivity



Australia’s ports underpin national productivity and export competitiveness, connecting producers, freight networks and global markets.



The Australian economy is reliant on international trade, with exports accounting for nearly 25% of GDP in 2024.[32] The vast majority (over 99%) of Australia's international trade by volume moves through our maritime ports,[33] which exported $467 billion worth of sea freight in 2023-24. The value of Australia's international sea freight has increased at an average of 6.4% each year over five years to 2023-24, highlighting the growing importance of maritime trade to Australia's economy.[34] This underscores that Australia's global competitiveness depends on the productivity, capacity and resilience of its maritime gateways.

Australia's trade growth trajectory is increasingly challenged by structural and operational constraints. Congested road and rail connections to ports, ageing landside infrastructure and limited intermodal capacity create inefficiencies across supply chains. The global shipping industry is also undergoing rapid transformation, with fleet modernisation introducing larger vessels that some Australian ports cannot currently accommodate.[33]

Ports and landside supply chain infrastructure are highly important to the competitiveness of Australian businesses that rely on these gateways to import and export raw materials and manufactured goods.

Australia's ports can significantly improve their productivity through the adoption of automation and digital technologies. The Productivity Commission estimates that addressing inefficiencies at Australia's major container ports alone could deliver up to $600 million in annual savings.[35] Progress is often constrained by rigid industrial agreements and fragmented technology systems. Bulk ports share similar barriers but also present opportunities for targeted automation, including automated shiploaders and predictive maintenance. The Port of Brisbane's Green Button project trialled a new vessel management system to optimise shipping movements within the Port of Brisbane shipping channel to reduce emissions and support productivity. This project demonstrates how digital solutions can address delays and improve coordination, while also delivering environmental benefits.

State and territory governments are responsible for land use planning and controls for ports, adjacent land and connecting transport systems. Port owner/operators (mainly private sector) are responsible for port operations and investment, under government regulatory frameworks. The absence of a recent national ports strategy highlights an opportunity to improve coordination and strategic alignment across jurisdictions, informed by current trade patterns, infrastructure capacity and emerging trends.

Maritime Ports: Containers

Australia's container trade is forecast to grow significantly over the coming decades, with import volumes at major ports such as Brisbane, Fremantle and Adelaide projected to increase by 34%, 55% and 66% respectively, by 2029-30.[36] Container trade growth is predominantly driven by imports, which make up the majority of containerised trade, reflecting Australia's reliance on overseas goods to support domestic consumption and production. Australia's containerised exports are predominantly empty containers, which were the single largest category of containerised exports from Australia in 2020.[37]

Australia's major container ports[iv] are becoming more productive but continue to lag behind our trading partners for key indicators, including vessel schedule reliability[38] and ship turnaround time.[39] Nearly all Australian container ports ranked in the bottom 20% of the ports assessed by the World Bank in the inaugural Container Port Performance Index (CPPI) in 2020. Port Botany, Port of Brisbane and Port of Fremantle ranked in the bottom 20% in the most recent CPPI rankings (2024).[v,43]

While Australia's five major container ports handle most of Australia's containerised trade, smaller regional ports play a critical role in supporting national supply chains and regional economies. Ports such as Burnie, Darwin and Townsville act as key gateways for container trade, as well as agricultural and mining exports. These ports provide connectivity for industries located far from metropolitan hubs. Analysis on many of Australia's regional ports is constrained by the absence of nationally consistent data, which limits the ability to understand relative performance and possible infrastructure constraints or gaps. See the *Maritime Precincts* section for further information on specific ports and maritime precincts of national significance, including associated proposals on the 2026 Infrastructure Priority List.

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iv Container trade data is reported for Adelaide, Brisbane, Fremantle, Melbourne and Sydney ports in BITRE Yearbook 2025 and Waterline 70.
v The 2024 Container Port Performance Index assessed the performance of 403 container ports.

Expanding port capacity

Australia's containerised trade growth is increasing pressure on port capacity. The global trend towards larger container vessels raises questions about whether and when to invest in infrastructure upgrades to accommodate them.[40] While ships visiting Australia remain small by international standards, projections suggest that vessels of 15,000 TEU[vi] could arrive by the late 2020s, with 18,000 TEU ships possible by the early 2040s.[41] This shift would require significant investment in both landside and portside infrastructure, including upgrades to terminal operations, deepening and widening shipping channels and adding cranes to maintain service levels as vessel sizes increase.

Infrastructure Australia previously recognised the opportunity for *infrastructure improvements that enable larger vessels access to Australian ports on the east coast*, although this would require a coordinated response, as shipping companies prefer to service multiple ports along a route, therefore the capacity of all ports along that route will influence the choice of vessel.

Many of Australia's major container ports also face capacity issues resulting from physical (space) constraints, which means that available land must be used efficiently.[42]

Australia's major container ports are projected to experience long-term trade growth between 111% (Port of Melbourne) and 209% (Port of Brisbane). **Table 8** identifies current and projected trade volumes for Australia's major container ports, highlighting the extent of growth expected in the long-term.

Table 8: Australia's major container ports: performance, trade, trade projections and growth

Port	CPPI rank (2024)[43]	Container trade volume (2024-25)[44]	Projected trade volume (2055 onwards)	Projected trade growth (to 2055 and beyond)	Projected trade growth (to 2055 and beyond)
		('000 TEU/year)	('000 TEU/year)	('000 TEU/year)	(%)
Port Adelaide	266	413	1,254[45]	841	204
Port Botany	357	2,815	7,300[46]	4,485	159
Port of Brisbane	377	1,620	5,000[47]	3,380	209
Port of Fremantle	379	886	2,300[48]	1,414	160
Port of Melbourne	265	3,386	7,130[49]	3,744	111

Note: Highlighted cells indicate values that are above the average for their respective column.

Port Adelaide, Port of Brisbane and Port of Fremantle are projected to experience the largest relative trade growth – 204%, 209% and 160% respectively, and will require associated capacity uplifts to meet projected trade demands in the future. Port Botany, Port of Brisbane and Port of Melbourne are expected to experience the largest absolute growth in trade to 2055 and beyond. The Port of Fremantle will be unable to accommodate the long-term projected trade growth shown in **Table 8**. Under a moderate growth scenario with the existing infrastructure, the port's capacity is expected to be reached by around 2038.

vi Twenty-foot Equivalent Unit (TEU) – standard unit of measurement used in shipping to describe the capacity of shipping containers.

In response to this projected growth, Australia's major container ports are pursuing a range of capacity enhancement strategies. The Port of Melbourne is planning for new container trade capacity at Webb Dock North to be available by 2036 to mitigate capacity constraints forecast for 2037 by delivering a fourth international container trade terminal.[50] The upgrades are in planning and being delivered by the Port of Melbourne as part of their *Port Capacity Enhancement Program*. The Port of Brisbane is progressing planning for the *Channel Enhancement Program* to respond to increasing vessel sizes and provide additional channel capacity for vessels by deepening and widening the existing channels.

To meet long-term container trade projections, NSW Ports is planning to develop a container trade terminal at Port Kembla to supplement available capacity at Port Botany, however this is not expected to be required until the late 2040s.[51] Port Adelaide is expected to require additional berth capacity before 2054, which is complicated by waterside constraints related to channel and berth depths.

Although most of Australia's imports move through container terminals in capital cities,[37] bulk ports also play a role in supplying commodities such as crude oil, fertiliser and petroleum products. The Port of Geelong and Port Kembla both rank among the top ten ports by value and weight of Australia's international sea freight imports.[52] Port of Geelong infrastructure needs are considered in the *Delivering Net Zero and a Clean Energy Economy* section in relation to the 2026 Infrastructure Priority List proposal ***Enabling infrastructure for Renewable Energy Zones – Ports of Adelaide/Geelong to South-West REZ***.

10-year national priorities

Alongside investment in automation and digital technologies, all of Australia's major container ports require long-term infrastructure investment to accommodate projected trade growth. The Port of Fremantle faces acute capacity constraints, with existing infrastructure unable to support long-term trade growth and capacity expected to be reached by 2038.

Port capacity enhancements will be required to support projected container trade growth and address emerging capacity constraints. The 2026 Infrastructure Priority List identifies the ***Westport (Kwinana port development)*** proposal in Western Australia as a future investment opportunity in the 2-4 year pipeline to enable transition of container trade from the Port of Fremantle to a new facility in Kwinana.[vii] With Fremantle expected to reach capacity around 2040, *Westport* represents a proactive solution to support continued growth in container volumes.

vii Port of Fremantle (container port) and Port of Kwinana (bulk port) are existing ports in Perth, Western Australia.

Increasing port connectivity

The use of rail for freight transportation within our cities has been limited as rail journeys to and from capital city ports are typically short and often compete against passenger services on shared infrastructure, which reduces frequency and reliability.[53]

Investment in dedicated freight lines will improve service frequency and utilisation, enabling rail to better compete with road freight.[54] In addition, investment in intermodal terminals can increase the share of freight moved by rail in and out of ports[54] and for every 1% of the national freight task that moves to rail, society gains $72 million a year resulting from lower carbon emissions, safety and health benefits.[55]

Dedicated freight rail lines improve the efficiency and competitiveness of rail freight servicing Australia's ports. Many existing rail freight connections operate on shared infrastructure, which has contributed to low rail mode share at key ports. **Table 9** identifies which of Australia's major container ports has a dedicated freight rail line and what proportion of containerised freight was moved on rail in 2022-23.

Table 9: Australia's major container ports rail freight connectivity

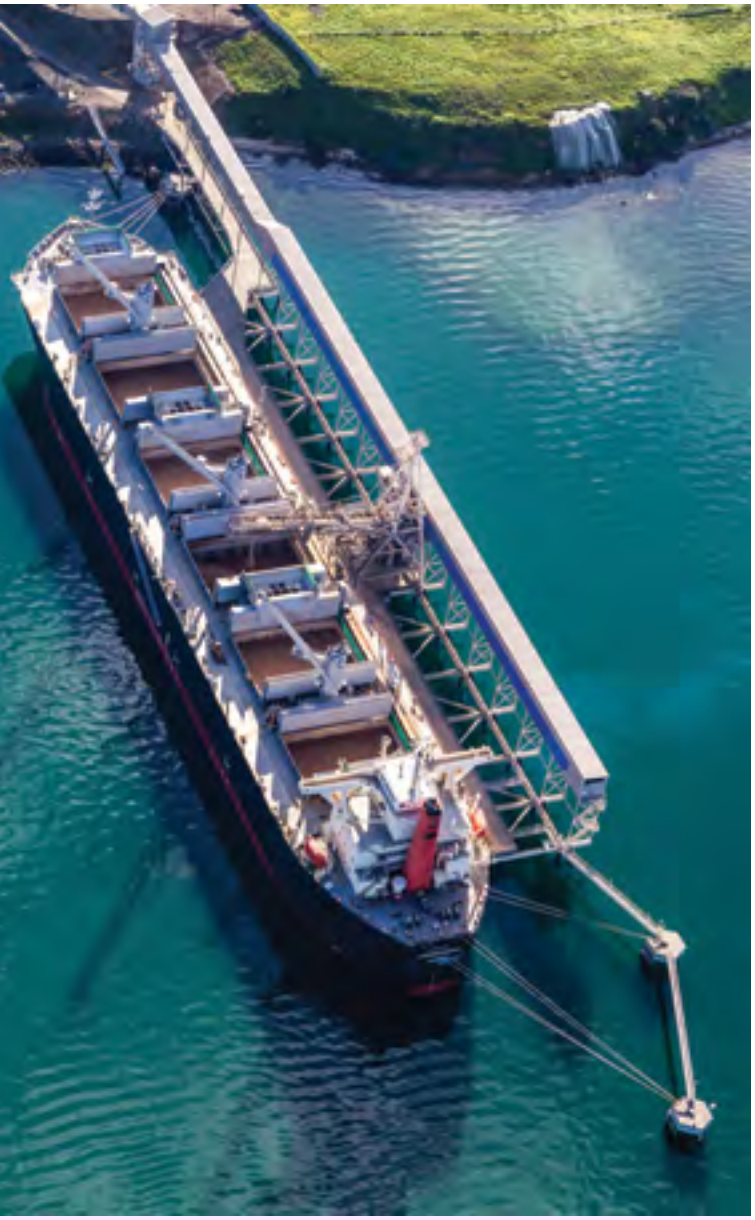
City	Port	Dedicated freight rail line		Rail share (%) of port container trade (2022-23)
Adelaide	**Port Adelaide**	✓	Dry Creek – Outer Harbor Line	**13**
Brisbane	**Port of Brisbane**	✗		**1**
Melbourne	**Port of Melbourne**	✗		**5**
Perth	**Port of Fremantle**	✓	Fremantle Railway Line	**20**
Sydney	**Port Botany**	✓	Port Botany Freight Rail Line and Southern Sydney Freight Line	**13**

Source: Infrastructure Australia analysis of BITRE Yearbook 2025, Table 7.6; Waterline 70 Table 1.1. Highlighted cells indicate values that are below the average for their respective column.

The data highlights a clear correlation between dedicated freight rail infrastructure and higher rail mode share. Ports without dedicated lines – such as the Port of Brisbane and Port of Melbourne – reported the lowest rail mode share at just 1% and 5% respectively for 2022-23. While dedicated freight lines provide the greatest efficiency improvements, targeted upgrades to access, signalling and capacity on shared freight-passenger rail corridors can still support higher rail mode share.

In Melbourne, the *Port Rail Shuttle Network* is working to modernise Melbourne's existing transport networks to better connect the Port of Melbourne to intermodal terminals[56] and is supported by an Australian Government commitment of $38 million. The Port of Melbourne's *Our Plan for Rail* describes a range of initiatives to support further separation of passenger and freight rail services to improve rail mode share, including connecting the future Western Interstate Freight Terminal (WIFT) to the port via a dedicated freight rail link.

At Port Botany, an expansion of on-dock rail capacity is underway, going from 1 million to 3 million TEU annually[57] to increase rail freight mode share. This work is being privately funded and delivered by NSW Ports,[58] with data showing that the mode share has increased from 13% in 2022-23 (as reported in **Table 9**) to 20% at the end of 2025.[59]



10-year national priorities

Port connectivity improvements require coordinated investment in dedicated freight rail corridors and integrated intermodal precincts to increase productivity, drive mode shift and support future trade growth.

Improving both rail and road connectivity to ports will reduce freight bottlenecks and strengthen Australia's supply chain performance. The ***Westport enabling infrastructure (Anketell Road upgrades)*** proposal is an immediate priority for delivery investment recognising that road, rail and intermodal terminal upgrades will be key enablers of the broader Westport Program, delivering essential port connectivity to support efficient access to new port facilities. Upgrading Anketell Road is the initial priority, with additional infrastructure works planned in coming years to further enable the overall functionality of Westport.

Targeted investment over the next 10 years is required to support further mode shift to rail to meet Australia's growing freight task and reduce road congestion. The ***Port of Brisbane freight rail improvements*** proposal is identified on the 2026 Infrastructure Priority List as a priority for future investment in the 5-10 year pipeline. The proposal is supported by an Australian Government commitment to develop a business case to consider options to improve freight rail capacity and connectivity to the Port of Brisbane to reduce congestion and boost productivity in South East Queensland.

Maritime Ports: Bulk

Australia's bulk ports[viii] are among the largest in the world, supported by world-class supply chains and rail infrastructure. The Port of Port Hedland and Port of Newcastle are the world's largest export hubs for iron ore and coal respectively.[60,61] Western Australia, New South Wales and Queensland collectively capture 86% of Australia's export trade by value, and 95% by volume.[62]

Iron ore and coal are Australia's top commodity exports[63] and the two largest bulk freight flows by rail.[64] Export volumes for iron ore and coal are projected to rise modestly over the coming years,[65] although Australia's bulk ports face a shifting global landscape, shaped by evolving trade patterns, decarbonisation efforts and changing demand from key international markets.

Commodity prices for iron ore and coal declined by 17% and 24% respectively between 2023-24 and 2024-25 and are forecast to fall further by 2029-30.[65] This reflects broader global trends, including reduced demand for fossil fuels and increased supply of iron ore, particularly as Chinese imports are expected to gradually decline.[66,67]

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viii Bulk ports are specialised ports that handle the bulk movement of liquids and solids, largely for oil, gas, mining and agricultural sectors.

Diversifying port operations

Table 10 highlights the scale and concentration of Australia's bulk export activity on iron ore and coal resources. Many of Australia's major bulk ports report export volumes where a single commodity accounts for up to 100% of total exports. Long-term energy transition scenarios will require bulk-port diversification to new commodities such as critical minerals and hydrogen. To respond to shifting demand patterns and aging infrastructure, targeted investment is needed to maintain efficiency, unlock future export opportunities and support diversification of port uses.

Table 10: Australia's major bulk export ports[ix] and commodities

Port	State	Export volume TOTAL (2024-25) *	Key export commodity*	Export volume of key commodity (2024-25)*	% of total export volume (2024-25)
		(million tonnes)		(million tonnes)	(%)
Port Hedland	WA	576.2	Iron ore	569.8	99
Port Walcott	WA	Unavailable	Iron ore	Unavailable	-
Dampier	WA	171.3	Iron ore	147.1	86
Newcastle	NSW	149.8	Coal	145.9	97
Hay Point	QLD	96.2	Coal	96.2	100
Gladstone	QLD	96.3	Coal	64.3	67
Abbot Point	QLD	34.0	Coal	34.0	100

*Information extracted from respective port documents

Strategic planning is underway for some of Australia's bulk ports to diversify operations and support Australia's energy transition. The Port of Newcastle is developing a *Clean Energy Precinct* at Kooragang Island, aiming to generate more than 50% of its revenue from non-coal sources by 2030. The Port of Port Hedland is expanding into emerging export markets through the development of a multi-use facility and logistics hub at *Lumsden Point*, which is supported by an Australian Government funding commitment of $565 million for common user port upgrades. This project will support battery metals exports and import of renewable energy infrastructure, which will leverage established connectivity to the Pilbara, enhance trade capacity and diversify exports for the Port of Port Hedland.

Further planning for some of Australia's major bulk ports should be considered to support opportunities in relation to the energy transition, particularly for the Port of Hay Point and the Port of Abbot Point, both in Queensland, which operate as dedicated coal ports. The recent master plans for the Port of Hay Point and Port of Abbot Point identify opportunities to support emerging industries (including renewable hydrogen) and trade diversification,[68] however they do not establish specific commitments or targets regarding a transition of port operations beyond their current coal-export focus to realise these opportunities.

Upgrades at the Port of Newcastle, Port Adelaide and Port of Gladstone are captured in the 2026 Infrastructure Priority List within the *Delivering Net Zero and a Clean Energy Economy* section. These upgrades would support the movement of oversized renewable energy components between ports and Renewable Energy Zones, ensuring large-scale projects can be delivered to help meet net zero targets.

ix Top 7 Australian ports with the largest weight of Australia's international sea freight exports over the last 10 years according to BITRE Australian Sea Freight 2023-24, Table 1.4

Maritime Precincts

Transforming strategically significant ports and maritime precincts

Australia's ports and marine precincts are critical enablers of national productivity, trade competitiveness, and sovereign capability. These gateways connect resource-rich regions to global markets and underpin essential industries and defence capabilities. As trade volumes rise and industries transition towards low-emission technologies, targeted investment in common-user infrastructure will help unlock opportunities for economic diversification, support emerging industries, and strengthen resilience in national supply chains. The transformation of maritime precincts also includes enabling infrastructure to deliver AUKUS-related capabilities, reinforcing the role of ports and maritime precincts as anchors for both commercial and strategic priorities.

Major infrastructure upgrades are needed to enable the delivery of complex maritime and defence projects, including the Henderson Defence Precinct on the Western Trade Coast (Western Australia) and the Osborne Naval Shipyard Precinct on the Lefevre Peninsula in South Australia. These nationally significant precincts will require coordinated investment in enabling transport and utilities infrastructure to support the scale and complexity of upcoming works related to Australia's commitment under AUKUS.

The Western Trade Coast, located south of Perth, is a major industrial area incorporating the planned Henderson Defence Precinct to the north and industrial zones to the south. The Australian Government has committed $127 million to planning activities for the Henderson Defence Precinct, which is in an area that is currently owned by the Western Australian Government and referred to as the Australian Marine Complex (AMC). This planning will confirm the boundaries and exact infrastructure requirements for the Defence Precinct and support the relocation of current common user facilities in the AMC. The Australian Government has committed a further $12 billion to deliver the Defence Precinct, which will incorporate facilities for docking and maintenance of nuclear-powered submarines as well as ship building capabilities.[69] The precinct's strategic importance is explicitly identified in *Australia's AUKUS Submarine Industry Strategy* and is a critical enabler of Australia's naval shipbuilding program.

The Osborne Naval Shipyard Precinct, north of Adelaide, is a critical site for the delivery of defence and advanced manufacturing projects. Realising the full potential of this precinct requires overcoming significant infrastructure constraints, including limited land availability, utility capacity pressures, and transport access challenges. Targeted upgrades and investment are needed to accommodate increased freight and workforce movements, as well as higher levels of industrial activity and population growth.

Darwin Port is Australia's gateway to the Indo-Pacific, offering significant time savings for exporters and access to Asian markets.[70] The *Middle Arm Precinct* is being master planned to deliver common-user infrastructure such as offloading facilities and a dedicated shipping channel to de-risk private investment and enable scalable export capacity. The *Territory Economic Reconstruction Commission Report* recommends accelerating industry growth to drive demand for renewable energy, supporting investment in renewable energy for export. Middle Arm is designed to leverage the Northern Territory's natural advantages – including its strategic location and solar, energy and mineral resources – to unlock market opportunities and support long-term economic security.

The Port of Burnie is Tasmania's largest multi-use port, handling over five million tonnes of freight annually and accounting for 35% of the state's total tonnage and 18% of ship visits.[71] The Port of Burnie is emerging as Tasmania's preferred bulk export port given its proximity to rich mineral deposits and it being the only deepwater port on the north-west coast of Tasmania.[72] Key to unlocking this growth is the port having the capability to accommodate larger bulk export vessels to enable direct shipping to international markets. Recent upgrades, including a new shiploader, have doubled bulk loading capacity and improved freight productivity.[73] Further upgrades to channel depth, berth capacity, and landside infrastructure are required to accommodate larger vessels and respond to projected growth in mineral exports, safeguarding Tasmania's connectivity and economic resilience.[71]

10-year national priorities

Australia's port infrastructure must be able to respond to global trends and emerging market opportunities.

Enabling infrastructure is needed to transform Australia's maritime precincts, ensuring they can support the delivery of complex maritime and defence projects. The 2026 Infrastructure Priority List includes the ***Western Trade Coast enabling infrastructure – Henderson Precinct*** in Perth and ***Lefevre Peninsula growth infrastructure – Osborne Precinct*** in Adelaide as immediate priorities for planning investment. These proposals support the transformation of existing maritime precincts in line with Australia's AUKUS and naval shipbuilding commitments.

Targeted investment in common user infrastructure supports economic diversification by enabling new industries to deliver value for both regional and national economies. The Australian Government has committed $1.5 billion in equity to support construction of ***Common user infrastructure at Middle Arm Precinct*** in Darwin, which presents an opportunity to develop new industries that will increase export value and economic diversification. The 2026 Infrastructure Priority List identifies this proposal as an immediate priority for planning investment to support the Northern Territory Government to define the full package of infrastructure and associated staging.

Modernising port infrastructure will support export growth and adapt to changing trade patterns and vessel requirements. The 2026 Infrastructure Priority List identifies the ***Port of Burnie capacity*** proposal as a priority for future investment in the 2-4 year pipeline. This proposal aims to expand export capacity at Tasmania's only multi-use seaport, safeguard access to external markets and drive economic diversification through sustainable and resilient port infrastructure.

Refer to the *Delivering Net Zero and a Clean Energy Economy* section for details of proposals included on the 2026 Infrastructure Priority List that are planning for infrastructure upgrades to support renewable energy zone project development, including potential upgrades to relevant port infrastructure.

Airports

Increasing airport connectivity

Aviation is a key part of Australia's transport system, providing passenger transport services for international and domestic travellers between highly dispersed population centres and vital connectivity for rural and remote communities.

While air freight accounts for a small share of Australia's overall freight task by mass – less than 0.03% of domestic freight in 2023-24[74] – it plays an important role in moving high value freight, including sensitive or perishable goods.[75] Total air freight volumes through Australia's capital city airports are projected to increase by 42% on average by 2050.[76] Together, maritime ports and airports form an integrated network essential to Australia's trade resilience and national connectivity.

Table 11 outlines current and projected passenger numbers, projected air freight growth, rail connectivity, and fuel pipeline availability across Australia's capital city airports. Significant passenger growth (over 135%) is expected in Brisbane, Darwin, Melbourne and Perth airports, with Brisbane and Perth also expecting over 80% growth in total air freight to 2050.

Table 11: Capital city airport passenger and freight growth

Airports	Airport passengers (2024-25)[77]	Projected airport passengers (2050)	Projected passenger growth (2024-25 to 2050)	Projected air freight growth (2022-23 to 2050)	Fuel pipeline	Rail connection
	(million)	(million)	(%)	(%)		
Adelaide	8.4	15.1	80	46	✗	✗
Brisbane	23.8	55.4	133	82	✓	✓
Canberra	2.8	5.1	82	-	✗	✗
Darwin	1.9	4.8	153	40	✗	✗
Hobart	2.8	6.2	121	-	✗	✗
Melbourne	36.0	82.3	129	41	✓	✗
Perth	14.2	30.9	118	83	✓	✓
Sydney	41.8	88.2	111	18	✓	✓
Western Sydney	-				✗	✓

Source: Infrastructure Australia analysis of Australian aviation forecasts – 2024 to 2050 Research Report 157, Chapters 4 and 7. Highlighted cells indicate values that are above the average for their respective column.

Although airport capacity data is not publicly available, capital city airports face rising passenger and freight demands, highlighting the importance of runway and terminal capacity, as well as fuel pipeline and rail connectivity. To meet forecast demand, runway and terminal capacity upgrades are progressing at Melbourne and Perth airports. Upgrades may be required at Brisbane, Darwin and Hobart airports to meet projected passenger and freight growth to 2050.

10-year national priorities

Australia's airports are critical gateways for trade, tourism and connectivity. To support economic growth and global competitiveness over the next decade, there should be a focus on strengthening airport infrastructure, improving resilience and ensuring seamless integration with freight and passenger networks.

Fuel pipeline connectivity to major international airports supports operational resilience and efficiency. The new Western Sydney International Airport, due to open in 2026, will provide significant new passenger and air freight capacity, helping to meet Sydney's future aviation demands.[78] The 2026 Infrastructure Priority List includes the ***Western Sydney Airport fuel pipeline*** proposal as a priority for future investment in the 2-4 year pipeline. Without direct fuel pipeline infrastructure to Western Sydney Airport, 50 to 65 B-double fuel tanker deliveries per day would be required via Sydney roads.[79]

Airport rail connections for Australia's major capital cities support improved access and reduced urban road congestion. Melbourne is Australia's biggest capital city without airport – rail connectivity. The 2026 Infrastructure Priority List includes ***Melbourne Airport Rail*** as a priority for future investment in the 2-4 year pipeline to support delivery of the full project. The Australian Government has committed $7 billion to the construction of Melbourne Airport Rail, which includes the redevelopment of Sunshine Station, to provide critical rail connectivity between Melbourne's CBD and the airport.

Summary: Infrastructure response and investment priorities

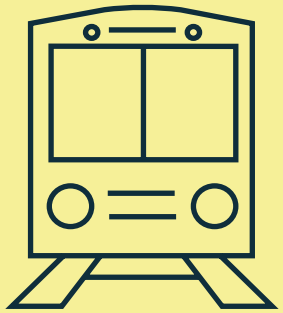
Australia's maritime ports and airports are critical to the nation's economic prosperity, however the sector faces mounting pressures from rapid trade growth and changing global shipping trends. These challenges are compounded by the need to modernise infrastructure, improve supply chain efficiency and support the energy transition. Targeted investment over the next 10 years will remove capacity constraints and maintain Australia's maritime and aviation industry competitiveness and resilience.

Table 12 identifies the **highest priority proposals for *Ports Capacity and Connectivity*** to provide targeted solutions to address identified infrastructure constraints.

Table 12: Ports Capacity and Connectivity: 2026 Infrastructure Priority List proposals

10-year national priorities	Location	Investment timing
Enhancing ports to enable growth and adapt to future trends		
Expanding port capacity		
Westport (Kwinana port development)	WA	2-4 year pipeline
Increasing port connectivity		
Melbourne Airport Rail	VIC	2-4 year pipeline
Port of Brisbane freight rail improvements	QLD	5-10 year pipeline
Western Sydney Airport fuel pipeline	NSW	2-4 year pipeline
Westport enabling infrastructure (Anketell Road upgrades)	WA	Investment-ready for Delivery
Transforming strategically significant ports and maritime precincts		
Common user infrastructure at the Middle Arm Precinct	NT	Investment-ready for Planning
Lefevre Peninsula growth infrastructure – Osborne Precinct	SA	Investment-ready for Planning
Port of Burnie capacity	TAS	2-4 year pipeline
Western Trade Coast enabling infrastructure – Henderson Precinct	WA	Investment-ready for Planning

High Capacity Transport for Growing Cities



Australia’s transport networks connect people, places and opportunities across our cities and regions, supporting access to jobs, housing and essential services.

Australia's growing population and economic activity are increasing pressure on urban and regional transport networks. Most daily travel continues to rely on private vehicles, despite the need for efficient and reliable public transport growing across metropolitan and regional areas. As populations in Australian cities continue to grow, mass transit must carry more of the transport task. As seen internationally, mass transit systems are the foundation for efficient transport in the world's largest cities.

High-capacity public transport will be important for the liveability of Australia's major cities and for driving productivity, improving accessibility, and supporting well-located housing growth.

The *National Housing Accord* commits Australian governments to 1.2 million[80] new well-located homes over 5 years from mid-2024. The majority (77%) of this new housing supply is expected to be delivered in Queensland, New South Wales and Victoria. Jurisdictions consistently identify the importance of enabling infrastructure (such as water, sewerage, energy, communications and transport) in unlocking and supporting new housing, but almost all are having difficulty providing it, particularly for new greenfield housing development. Infill areas suited to higher-density housing development can also be constrained by infrastructure gaps and the high cost of enabling infrastructure.[81] The timing and sequencing of enabling transport infrastructure is important to ensuring housing can be delivered where and when it is needed.

Further investments in urban roads across Australian cities are needed to accommodate new housing, population growth and support productivity considering growing congestion. However, building more roads alone will not be a long-term solution to congestion. Encouraging modal shifts to mass transit public transport will improve the ability of Australians to move around the places they live, work and learn, and help achieve more productive cities. Buses and active transport – walking and cycling – are an integral component of high functioning, multi-modal transport systems. However, these transport modes alone will not provide the scale or capacity to address the passenger volumes in Australia's largest or fastest growing cities, especially for new housing developments in the greater growth areas of the major capital cities.

Through its *Infrastructure Policy Statement*, the Australian Government has committed to investing in projects that increase the role of mass transit in the urban commuter task to help develop more productive central business districts and precincts. Noting significant investments by Australian Government in public transport in recent decades, it is important that governments continue to develop and deliver a consistent pipeline of infrastructure projects that improve and increase access to public transport, particularly in our major cities.

Public transport networks

Expanding high-capacity public transport networks

As populations in Australian cities continue to grow, mass transit must carry more of the passenger task. Australia's urban road networks are already experiencing rising congestion and increasing freight movements, limiting their ability to absorb additional private vehicle demand. In addition to supporting growing populations and reducing congestion, investments in public transport projects will support reduced emissions and network efficiency. High capacity public transport modes with competitive journey times can also offer affordable mobility compared to private vehicle trips.

Public transport infrastructure must be sized according to population and travel demand to achieve efficiency, sustainability, and cost-effectiveness. In Australia's largest cities with high passenger volumes, heavy rail or metro networks are often the most appropriate solution, offering high capacity, speed, and reliability along dense corridors. Smaller cities can benefit from light rail and bus rapid transit systems, which provide flexibility and lower capital costs while enabling urban connectivity. Across all city types, buses play a critical complementary role in ensuring an integrated and accessible network by extending coverage to areas where rail is not feasible, serving as feeder services to major transit hubs and providing first and last mile connectivity.[x]

x First and last mile refers to the initial and final segments of a trip. First mile is the segment from the place of trip origin to a public transport hub, such as a train station or bus stop. Last mile is the segment from the public transport hub to the destination.

Observed benefits of high capacity transport

There are multiple benefits of investment in high capacity transport networks in our growing cities. Recent data released by Sydney Metro found public transport usage increased significantly following the opening of Sydney Metro City, with over 17.8 million additional ticketed trips across all public transport modes recorded between August 2024 to July 2025, compared with the year prior.[82] Following Metro City's opening, there are 3,200 fewer vehicles travelling southbound over the Sydney Harbour Bridge each day, demonstrating how mass transit projects can reduce congestion and pressure on other infrastructure assets.[81] Similarly, the Australian Capital Territory Government's *Light Rail Benefits Realisation Report 2024* found that the light rail project led to an 18% reduction in motor vehicles at certain intersections compared to 2016, and the project supported 6,100 new dwellings along the light rail corridor over the same period.

Other jurisdictions are also delivering significant high capacity transport projects, such as Victoria's recently opened Melbourne Metro tunnel, which provides enhanced public transport accessibility and capacity, through new stations, integration with other modes and utilisation of high capacity signalling.[83] The European Train Control System (ETCS) is the agreed train signalling system for the National Network for Interoperability (NNI) – a shared technical framework designed to ensure interstate freight and passenger trains can operate seamlessly across jurisdictions. Perth's METRONET provides approximately 72 km of new passenger rail lines and 23 stations, providing greater high capacity transport access and connectivity across Perth, supporting population and economic growth.[84]

Mass transit projects have broader benefits outside of the transport network and can shape how cities grow, unlocking priority areas for housing and employment. Public transport networks often lag population growth and housing in outer-metropolitan areas, resulting in lower levels of public transport access, entrenched car dependency and growing congestion. Improving access in lower-coverage areas will be important for equity and liveability, connecting new housing to employment and improving travel-time reliability.

Investment in urban roads plays an important role in supporting liveability for new housing and employment growth in surrounding precincts, such as the *Western Sydney International Airport*. However, road upgrades cannot substitute for expanding public transport coverage and frequency which delivers broader network benefits.

Public transport access and mode share

Public transport as a mode share in Australian cities is low compared to international cities where sustainable modes of transport, including public transport, are much higher, such as Paris, Hong Kong, Singapore and London. London has a target of 80% of all trips to be made by foot, cycle or public transport by 2041.[85] Although Australian cities have different urban forms and lower population densities than other global cities, an ambition for similar levels of public transport connectivity in Australia will support housing and liveability outcomes, including net zero.

Australians living in high-growth areas in middle and outer suburbs are significantly underserved by public transport. Residents more than 10 km away from Australia's largest city centres often lack convenient, frequent and reliable access to public transport services. Areas in major cities most underserved by public transport have been identified by the Climate Council as:

- Blue Mountains, Penrith and Campbelltown in Sydney
- Cardinia, Mornington Peninsula and Fawkner in Melbourne
- Onkaparinga, Playford and Port Adelaide in Adelaide
- Kwinana, Mandurah and Armadale in Perth
- Hills District, Browns Plains and Beenleigh in Brisbane.[86]

In addition to continued investments in high capacity transport networks, governments should continue to implement initiatives to improve the attractiveness of public transport options. This includes ensuring efficient, frequent services and that bus feeder services and active transport infrastructure adequately support access to mass transit systems. Infrastructure that makes use of high capacity transport networks easy and as friction free as possible, such as smart ticketing systems that operate across modes, should also be considered.

The *National Road Transport Technology Strategy* identifies how intelligent transport systems can improve the reliability and attractiveness of mass transit through the use of technology such as signal priority and Mobility as a Service, where a journey across multiple modes and stages can be booked and paid for on a single platform. In addition, AI has potential to contribute to reducing fuel use and emissions by optimising transport infrastructure systems.[87]

Alongside heavy and light rail networks, bus rapid transit and bus priority networks can significantly improve urban mobility. These systems are quicker to implement and come at a lower cost than rail infrastructure and can therefore be used to support rapidly growing areas. Infrastructure Victoria estimates bus rapid transit[xi] has the potential to return around $2.20 for every dollar invested, including benefits from public transport user travel time savings and land value uplift around new bus rapid transit stations.[88]

xi Includes rapid transit lanes but not signals or bus jumps.

Any investments in public transport systems need to ensure increased resilience is considered in the face of increasing climate risks.[89] Opportunities provided by new and emerging technologies and mobility models should also be considered to support enhanced service delivery and increase patronage where latent capacity exists.

Recognising the benefits of mass-transit infrastructure, the Australian Government has made significant investments in public transport projects. Examples of major projects with Australian Government funding include METRONET in Perth, Sydney Metro, Suburban Rail Loop East in Melbourne, Melbourne Metro, Gold Coast Light Rail and Canberra Light Rail.

The Australian Government has partnered with Brisbane City Council in collaboration with the Queensland Government to deliver the Brisbane Metro, a high-capacity transit service connecting the Brisbane CBD to key education and health infrastructure and surrounding areas, with further funding provided to explore expansion opportunities.

The Australian Government has made commitments to planning for the Belconnen Transitway in the Australian Capital Territory, the Adelaide and Regional Rail Network Extension project, South West Sydney Rail Planning and South West Sydney Rail Extension – Bradfield to Leppington and Macarthur Corridor preservation projects and the Next Generation Rapid Transport for Melbourne's Southeast project.

10-year national priorities

Investment in high capacity transport infrastructure is needed to service growing populations in Australian cities, support reduced transport emissions and enable economic and housing priorities. This includes continued targeted investment across multiple modes including heavy rail, light rail and bus infrastructure. Road upgrades that support middle and outer suburbs access, new housing growth, bus priority, new employment precincts and regional connectivity remain important to complement major public transport investments.

Expanding high-capacity public transport networks is a national priority. This includes investment in rail and other modes of public transport across Australia's capitals and other major cities. Rail proposals should consider implementation and application of high capacity signalling to ensure compliance with ETCS standards where metropolitan networks interface with, or provide access to, the NNI. The 2026 Infrastructure Priority List identifies multiple proposals that are priorities for investment over the next 10 years, including:

- ***Melbourne Suburban Rail Loop East*** – the first stage of the Suburban Rail Loop (SRL) is identified as an immediate priority for delivery investment to support a rail connection between Cheltenham and Box Hill. This will reduce travel times, facilitate new housing and connect major employment, health, education and retail areas in Melbourne's east and southeastern suburbs.
- ***Melbourne Suburban Rail Loop – Future stages*** – includes SRL North and SRL West, which incorporates the *Melbourne Airport Rail* proposal (see *Ports Capacity and Connectivity* section). The proposal for future stages of SRL is a future investment opportunity in the 5-10 year pipeline that would provide improved connectivity to Melbourne Airport and support housing and employment centre development across the middle and outer suburbs of Melbourne.
- ***Sydney rail connections from Bradfield to Leppington and Macarthur*** – includes connections between the Sydney Metro Western Sydney Airport line and existing rail links in South West Sydney. The proposal is a priority for future investment in the 2-4 year pipeline to provide high-capacity public transport services connecting to the Western Sydney Airport and Aerotropolis, guiding land-use planning within key corridors. The Australian Government has committed $1 billion towards securing rail corridors for this proposal.

- ***Sydney rail connection between Tallawong and St Marys*** – identified as a future investment opportunity in the 2-4 year pipeline to provide a high-capacity rail connection between the Sydney Metro Western Sydney Airport line and the Sydney Metro North West line, via Schofields and Marsden Park. The New South Wales Government protected a preferred corridor from Tallawong through to Marsden Park for future transport infrastructure, which may support a staged approach to the proposal.
- ***Perth rail network planning (East Wanneroo Rail Link, Perth metropolitan orbital rail route)*** – identified as a priority for future investment in the 5-10 year pipeline to investigate the expansion of the heavy rail network to support projected population growth.
- ***The Wave (Sunshine Coast mass transit)*** – provides a new passenger rail line between Beerwah and Birtinya, and a proposed future bus rapid transit route connecting the new rail line with the Sunshine Coast Airport. This proposal is identified as an immediate priority for delivery investment to provide high-capacity public transport services within fast-growing suburbs on the Sunshine Coast. The Wave, together with upgrades to Mooloolah River Interchange – considered an enabler of the bus rapid transit connection – will reduce congestion, improve network efficiency and support continued housing development. The proposal will also support delivery of the Brisbane 2032 Olympic and Paralympic Games.
- ***Ipswich to Springfield transport capacity (South East Queensland)*** – identified as a future investment opportunity in the 5-10 year pipeline to deliver a new high-capacity transport service between Ipswich and Springfield, which would create a connection between existing rail lines. This connection would improve access to public transport, reduce travel times and support continued housing development and economic growth within South East Queensland.
- ***Salisbury to Beaudesert rail connection (South East Queensland)*** – identified as a priority for future investment in the 2-4 year pipeline to progress planning undertaken by the Australian and Queensland governments for a new rail corridor between Salisbury and Beaudesert. Services within this corridor would support rapid population growth in outer urban areas with limited public transport access and provide connections to the Brisbane passenger rail network and interstate rail services. The proposal also provides an opportunity to improve freight rail connections.

- ***Brisbane Metro expansions*** – extensions to Brisbane Metro services, including connections to Brisbane Airport, will increase access to public transport and ease congestion, while also supporting housing development and preparation for the Brisbane 2032 Olympic and Paralympic Games. The proposal is identified as a priority for future investment in the 2-4 year pipeline, with the Australian Government previously committing $50 million to the development of a business case and some early and enabling works. Proposal planning will be led by the Brisbane City Council in partnership with the Queensland and Australian governments.
- ***Gold Coast public transport capacity and access*** – public transport improvements to north-south and east-west travel on the Gold Coast as part of a broader integrated transport strategy. This proposal is a priority for future investment in the 2-4 year pipeline to provide capacity to meet high growth in forecast demand, which is being driven by rapid population growth within Australia's sixth largest city. Improved access to public transport will increase liveability and reduce reliance on private vehicles.
- ***Adelaide public transport improvements*** – seeks to expand and electrify major passenger rail lines, including rail extensions to key growth areas in the north, northwest, and south of Adelaide. The proposal also includes electrification of the Outer Habor and Belair rail lines and upgrades to address capacity constraints within the Adelaide CBD, particularly around Adelaide Railway Station. This proposal is identified as a future investment opportunity in the 2-4 year pipeline to facilitate a shift to public transport and support increased housing density.
- ***Canberra public transport improvements*** – new public transport corridors across Canberra, including future light rail routes, are identified as a future investment opportunity in the 2-4 year pipeline. The proposal will support improved access to public transport and connections to heavy rail and Canberra Airport. New corridors will also provide capacity to meet forecast population growth in identified growth areas, while also supporting increased urban in-fill and new housing development.

Optimising and upgrading existing public transport assets and networks

Better utilisation of existing public transport networks is a key opportunity for managing growth and improving efficiency. As outlined in our *2024 Annual Budget Statement*, optimising current assets and networks can be a more cost-effective method of meeting current and future needs than constructing new assets that increase pressure on the market's capacity to deliver and add to the growing whole-of-life costs of asset portfolios.

Optimising existing assets and networks can include signalling upgrades, new rolling stock, and bus rapid transit lanes, through to system changes such as improved ticketing or timetable changes. Ease of optimisation can also depend on the mode. For example, buses can be more flexible in their ability to respond to increased demand through increased service frequencies or bus-priority infrastructure.

In addition to being more flexible, bus infrastructure can be a lower cost option to other public transport modes – both in terms of cost of infrastructure and operation. However, when sharing the road network with private vehicles, buses can be susceptible to delays from congestion, impacting their reliability and attractiveness to commuters. Prioritisation of road space for high capacity transport such as rapid transit lanes, priority signalling and interchange infrastructure supports timely, consistent bus services.

Public transport will also play a critical role in supporting Australia's net zero targets. Passenger cars and light commercial vehicles are the single largest source of transport emissions, comprising 59%[90] and accounting for more than 10% of total emissions.[91]

Shifting car use to public transport ridership is a meaningful strategy to reduce greenhouse gas emissions in the transport sector. Further discussion and analysis on the potential of zero emissions buses is outlined in the *Delivering Net Zero and a Clean Energy Economy* section.

Current planning and reform activity

Several jurisdictions have undertaken significant reviews into bus networks and infrastructure. One of the recommendations of the *Bus Industry Taskforce Second Report* in New South Wales was the development of a State-wide Medium Term Bus Plan, which is being developed by Transport for New South Wales with a focus on 10 high-quality rapid routes, 27 frequent routes and other improvements to local services.

In Queensland, the *100 Day Review of Brisbane 2032 Olympic and Paralympic Games Infrastructure* identified that upgrades to Brisbane public transport are required to support successful delivery of the Games. This includes improvements to the Eastern and Northern corridors and Brisbane High Frequency Bus Network as well as investigating connections to the airport. The review also recommended improvements to the East-West bus priority corridor and High Frequency Bus Network in the Gold Coast, the Sunshine Coast High Frequency Bus Network and depot upgrades in South East Queensland.

The Victorian Government released *Victoria's Bus Plan in 2021* with six priority actions to make the bus system more attractive and useful for residents. The Northern Territory Government has committed to a review of bus network infrastructure as part of their Bus Safety Reform Strategy and recognised bus and rapid transit corridors as a key infrastructure priority over a 5 year horizon through the Northern Territory Infrastructure Audit 2023.[92]

Infrastructure Australia supports strategic, long-term planning to identify prioritised programs of work to improve bus infrastructure networks and encourages consideration of identified proposals for investment.

Legacy public transport that is unable to integrate with technological advancements will reduce efficiencies, network utilisation and capacity. Coordinated upgrades of legacy assets alongside the adoption of new technologies is needed to ensure the interoperability of future public transport system that can support the transition to net zero. Upgrades to rolling stock, signalling and train control can require necessary upgrades to rail corridors, stations and platforms. For example, more than one third of Victoria's regional train station platforms are too short for the six-carriage V/line VLocity trains– the fastest train in V/line's fleet – preventing higher capacity services to run on these train lines.[93]

Where appropriate, High Capacity Signalling (HCS) systems should be standardised nationally to support interoperability and skills transfer for businesses and employees in the industry. Current investments in signalling upgrades include automated train protection signals upgrades on the Seaford Line in South Australia, and HCS on METRONET in Western Australia.

Investments in projects providing upgrades to existing infrastructure include extensions to train platforms and future electrification of the Melton Line and upgrades from South Geelong to Waurn Ponds in Victoria, and the relocation of Loganlea Station in Queensland. Continued targeted investment in the renewal and upgrades of existing public transport infrastructure networks is likely to be required to support efficient operation and support emission reduction initiatives.

10-year national priorities

Better utilisation of existing public transport networks is needed given increasing pressure on current capacity from population growth and long lead times for delivering new infrastructure. Technological advancements are providing new opportunities to maximise the performance and utilisation of existing networks.

Future investment in HCS will support increased efficiency and reliability of public transport networks in major cities. Replacing existing assets, signalling, and train control systems with modern technologies will optimise passenger rail networks by enabling more frequent train services, reducing crowding, and shortening travel times on public transport.

The 2026 Infrastructure Priority List includes the following priorities:

- ***High Capacity Signalling – Perth (METRONET)*** – this proposal is identified as a priority for future investment in the 2-4 year pipeline to support the implementation of a HCS system (Communication Based Train Control) on Perth's urban passenger network. This will support optimisation of the network and align with significant Australian Government investment in METRONET projects. Any future signalling upgrades on the NNI (including for Westport) will include ETCS technology. The Australian Government has previously committed $300 million to delivery of program components, including a purpose-built Public Transport Operations Control Centre.
- ***High Capacity Signalling – Sydney (Digital Systems Program)*** – this proposal is identified as a priority for future investment in the 2-4 year pipeline to support implementation of ETCS across additional sections of the Sydney network, including the City Circle and Central to Redfern. This includes implementation of a Traffic Management System to support recovery from disruptions and improve the overall resilience and efficiency of the network. Planning for wider HCS implementation should consider how this system will integrate with ETCS on the NNI within Sydney.
- ***High Capacity Signalling – South East Queensland (ETCS)*** – this proposal is identified as a priority for future investment in the 2-4 year pipeline to support ETCS implementation across additional sections of the South East Queensland rail network. These sections will support integration with other major projects that incorporate ETCS upgrades, in particular Logan and Gold Coast Faster Rail and The Wave. Installing ETCS across the network will provide capacity to meet future demand forecast for the Brisbane 2032 Olympic and Paralympic Games and beyond. Planning for wider HCS implementation should consider how this system will integrate with ETCS on the NNI within South East Queensland.

- ***High Capacity Signalling – Melbourne*** – this proposal is identified as a priority for future investment in the 2-4 year pipeline to support implementation of HCS systems across the Melbourne network. A Communication Based Train Control system has been implemented across sections of the Cranbourne, Pakenham and Sunbury lines as part of the Metro Tunnel project. Planning for wider HCS implementation should consider how this system will integrate with ETCS on the NNI within Melbourne.

In addition to signalling infrastructure, investment is also needed in stations and rail lines to increase the capacity of networks. The 2026 Infrastructure Priority List includes ***Perth rail lines capacity*** (also referred to as the Platform and Signalling Upgrade Program), as a future investment opportunity in the 2-4 year pipeline. Lengthening of platforms on Perth's heritage lines (Armadale, Midland and Fremantle) will enable the use of new higher capacity rolling stock. The signalling upgrades included as part of this program are required to replace assets reaching end-of-life ahead of implementation of the High Capacity Signalling program.

The 2026 Infrastructure Priority List also includes the ***Melbourne rail upgrade program – North*** and ***Melbourne rail upgrade program – West*** proposals as priorities for future investment in the 2-4 year pipeline. These programs include line upgrades and electrification, as well as station delivery and upgrades across the northern and western sections of the Melbourne passenger rail network.

In addition to optimising rail infrastructure, investment is also required for wider improvements to public transport networks to support integration of modes and improved access to public transport. The 2026 Infrastructure Priority List identifies the ***Hobart transport network improvements*** proposal as an opportunity for future investment in the 2-4 year pipeline. This proposal involves implementation of a program of works incorporating upgrades to multiple transport modes (including active transport) and optimisation of freight movements through Hobart.

Intercity public transport networks

Strengthening intercity passenger rail connectivity

Australia's population is highly concentrated in coastal regions, with around 73% of people living in major cities, 25% in regional areas, and less than 2% in remote zones.[94] Approximately 60% of the population is concentrated on the east coast, between Melbourne and Brisbane. The highest population density along this corridor is between Newcastle, the Central Coast and Sydney, at 624 people per square kilometre.[95] This pattern of population growth guides intercity infrastructure planning and delivery, and connectivity across regions.

Intercity connectivity is provided via road, rail, coach and air services. Typically, long-distance (over four hours) passenger trains have uncompetitive transit times compared to air and road travel.[96] As a result, Australia has some of the busiest air routes in the world, with the Sydney-Melbourne route the fifth busiest domestic route globally in 2024.[97] This is reflected in **Table 13**, which highlights that train travel times between Australia's largest cities on the east coast remain long, with air travel holding the majority share of travel across all modes.

Table 13: Volume of intercity travel by air, and comparison of travel time by mode

Trips between certain capitals	Air passenger travel (2023-24)[15]	Share of air travel compared to all other modes[15]	Indicative flight time^	Indicative bus time[98]	Indicative train time[6]	Indicative car time[99]
	'000 passenger movements	%	hours	hours	hours	hours
Sydney – Melbourne	7,405	77	1.5	11.2	10.8	9
Sydney – Brisbane	4,325	67	1.5	13	14.2	9.5
Sydney – Canberra	618	5	1	3.5	4.15	3
Adelaide – Melbourne	2,332	64	1.3	10.7	10.4	8.3
Melbourne – Brisbane	3,389	89	2.2	37	33	18.3

^Flight times are based on available information provided on flight operators' websites.

As highlighted in the *Australian Infrastructure Audit 2019*, Australia's reliance on air travel for long-distance domestic journeys poses continuity risks given the external influences that can affect air operations such as climate events and fluctuating fuel prices. There is also increasing congestion in and around airports in major cities, with the Bureau of Infrastructure Transport Research Economics (BITRE) projections showing domestic passenger numbers through Australian airports will increase approximately 116% under a baseline scenario between 2022-23 to 2049-50.[100]

The Australian Government is currently investigating a high capacity high-speed rail link between Sydney and Newcastle, as a first stage to a national network, with the long-term vision to connect Brisbane, Sydney, Canberra and Melbourne. The National High Speed Rail network is proposed to be delivered in stages to meet the distinct needs of intercity and regional customers across the east coast and will also require integration with local and regional transport networks. Linking major Australian cities on the east coast with consistent, high capacity trains would provide an alternative to air travel and has the potential to provide significant benefits and economic opportunities along the route.

High-speed rail services can reduce congestion on other modes, such as road and air, provide environmental benefits through lower emissions and can increase access to jobs and businesses for regional communities along the route. World Bank analysis of high-speed rail in China found that it changed patterns of urban development in many cities and led to substantial increases in tourism. High-speed rail also promoted regional economic and macroeconomic development.[101]

Better connections between regions and cities will support future population growth and unlock economic opportunities. Research by the Australian Housing and Urban Research Institute (AHURI) in 2021 highlighted that connectivity is vital for the economic prospects of regional cities. Metropolitan links, ports, and airports are essential for economic growth, while faster rail connections can provide access to expanded labour markets and stronger business networks. Improvements in regional airport infrastructure, such as Toowoomba's Wellcamp Airport (Queensland) and Bendigo's (Victoria) inclusion on Qantas routes, can also deliver tangible benefits.[102]

In its *Infrastructure Policy Statement*, the Australian Government has flagged its intention to seek investments that ensure the planned development of cities, suburbs and regions, by linking strategic planning, population and employment growth, the supply and availability of housing, and land transport infrastructure investment. Australian Government investments in intercity networks include stage 1 of the *Direct Sunshine Coast Rail Line (The Wave)* project, *Beerburrum to Nambour Rail Upgrade* and *Logan and Gold Coast Faster Rail* in Queensland.

In Victoria, the Australian Government is providing funding to the *Western Highway Corridor,* the *Shepparton Rail Line Upgrades* and the recently completed *Gippsland Rail Line Upgrade*. These investments improve the speed, reliability and capacity of intercity passenger services, strengthen labour market catchments, support regional population growth and reduce pressure on metropolitan transport networks.

The Government has also funded planning and/or investigations on projects such as the *Perth to Bunbury Faster Rail* in Western Australia, *M1 Pacific Motorway – Tweed Heads and Byron Bay Network Improvements* in New South Wales, and the *Ipswich-Springfield* business case in South East Queensland. Early planning ensures future intercity corridors can support projected population growth, preserve critical transport options and safeguard the land needed for long-term network expansion.

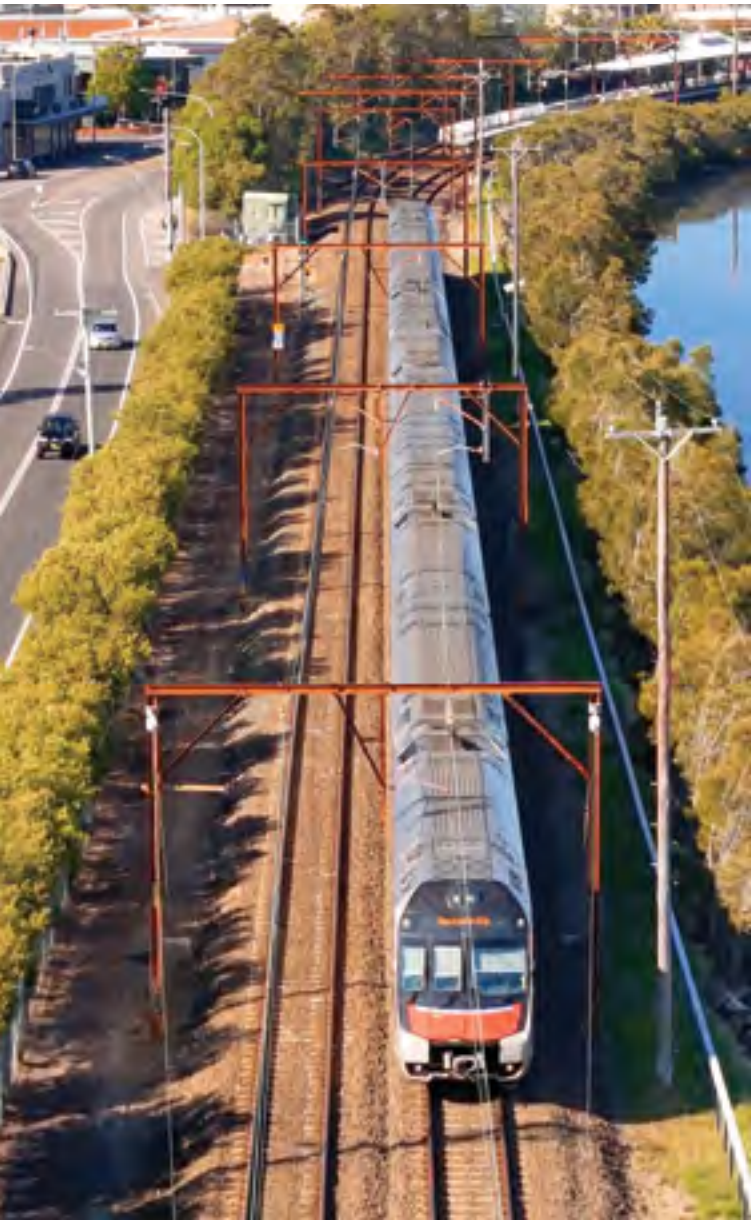
Capital cities are expected to continue to house most of Australia's forecast population growth. However, regional centres close to capitals have also experienced strong population growth. **Table 14** contains the top 12 fastest growing non-capital significant urban areas over the past 10 years to 2024, most of which are close to the respective capital city. The table highlights that Geelong, the Sunshine Coast, the Gold Coast, Tweed Heads, and Ballarat are the fastest growing areas, with over 20% growth over the last decade. Of these cities, the Sunshine Coast and Ballarat are over 100 km from the nearest capital city, highlighting the need for intercity connections.

Ensuring strong connectivity between these regional centres and capital cities is important to support and sustain this population growth. Appropriate planning for housing, social infrastructure and digital connectivity will also be critical to supporting liveability in these areas.

Table 14 – Significant Urban Areas above 100,000 people with the largest population growth over the last 10 years, ordered by highest population growth

Significant Urban Area	Jurisdiction	Estimated resident population (2024)	Population growth since 2014	Distance from nearest capital city
			(%)	(km)
Geelong	VIC	308,900	28.0	75
Sunshine Coast	QLD	418,000	27.9	110
Gold Coast – Tweed Heads	QLD, NSW	751,000	22.0	71
Ballarat	VIC	119,300	21.6	115
Toowoomba	QLD	152,100	15.8	127
Albury – Wodonga	NSW, VIC	101,400	15.2	323
Bendigo	VIC	106,000	14.7	153
Newcastle – Maitland	NSW	534,000	14.2	160
Cairns	QLD	163,200	11.5	1,703
Wollongong	NSW	318,300	10.2	94
Townsville	QLD	189,400	7.7	1,356
Central Coast	NSW	351,200	7.4	91

Source: Australian Bureau of Statistics (2023-24), Regional Population



10-year national priorities

As Australia's population continues to grow in our major cities and regions, intercity connectivity improvements are needed to provide competitive alternatives to air travel and support the efficient movement of people and freight. Targeted investment will improve productivity through better integration of economies and markets, greater competition, and improved access to employment and labour supply. It also aligns with national net zero targets by providing more sustainable transport solutions.

Enhancing intercity rail connections between rapidly growing regional cities and nearby capitals, and between major capital cities, is a national priority. The 2026 Infrastructure Priority List includes the following proposals:

- ***High Speed Rail – Newcastle to Sydney*** – the proposal for the high-speed rail connection between Newcastle and Sydney is an immediate priority for planning investment to support further analysis of housing objectives, investigations into funding strategies, and improved certainty of costs and benefits. This proposal aims to address connectivity challenges, rapid population growth, and housing pressures through one of Australia's busiest regional corridors. The proposal is the first stage of a future national high speed rail network.
- ***High Speed Rail – East Coast future stages*** – the proposal for future high-speed rail inter-city connections on the east coast is identified as a future investment opportunity in the 2-4 year pipeline. These connections would provide a competitive alternative to air travel over some of the world's busiest flight routes. The proposal supports improved access to housing and labour markets within both regional and metropolitan areas.
- ***Sydney-Canberra rail connectivity*** – the proposal to improve rail services between Sydney and Canberra is a priority for future investment in the 2-4 year pipeline. Upgrades to the rail connection will improve travel-time reliability for passengers and reduce pressure on the air and road corridor and should integrate with proposed high-speed rail services.

Summary: Infrastructure response and investment priorities

Commuter and freight traffic is expected to grow substantially over coming decades, placing increasing pressure on Australia's transport networks. Supporting this growth will require new and expanded high capacity public transport, alongside targeted road upgrades that enable access to new housing and freight corridors. Investments in rail, light rail, rapid bus and zero-emissions bus fleets will be needed to improve productivity, support liveability and meet national housing and net zero emissions commitments.

Table 15 identifies the **highest priority proposals for *High Capacity Transport for Growing Cities*** to provide targeted solutions to address identified infrastructure constraints.

Table 15 – High-Capacity Transport for Growing Cities: 2026 Infrastructure Priority List proposals

10-year national priorities	Location	Investment timing
Expanding public transport to encourage mode shift		
Expanding high capacity public transport networks		
Adelaide public transport improvements	SA	2-4 year pipeline
Brisbane Metro expansions	QLD	2-4 year pipeline
Canberra public transport improvements	ACT	2-4 year pipeline
Gold Coast public transport capacity and access	QLD	2-4 year pipeline
Ipswich to Springfield transport capacity (South East Queensland)	QLD	5-10 year pipeline
Perth rail network planning (East Wanneroo Rail Link, Perth metropolitan orbital rail route)	WA	5-10 year pipeline
Salisbury to Beaudesert rail connection (South East Queensland)	QLD	2-4 year pipeline
Sydney rail connection between Tallawong and St Marys	NSW	2-4 year pipeline

10-year national priorities	Location	Investment timing
Expanding high capacity public transport networks		
Melbourne Suburban Rail Loop East	VIC	Investment-ready for Delivery
Melbourne Suburban Rail Loop – Future stages	VIC	5-10 year pipeline
Sydney rail connections from Bradfield to Leppington and Macarthur	NSW	2-4 year pipeline
The Wave (Sunshine Coast mass transit)	QLD	Investment-ready for Delivery
Optimising and upgrading existing public transport assets and networks		
High Capacity Signalling – Melbourne	VIC	2-4 year pipeline
High Capacity Signalling – Perth (METRONET)	WA	2-4 year pipeline
High Capacity Signalling – South East Queensland (ETCS)	QLD	2-4 year pipeline
High Capacity Signalling – Sydney (Digital Systems Program)	NSW	2-4 year pipeline
Hobart transport network improvements	TAS	2-4 year pipeline
Melbourne rail upgrade program – North	VIC	2-4 year pipeline
Melbourne rail upgrade program – West	VIC	2-4 year pipeline
Perth rail lines capacity	WA	2-4 year pipeline
Strengthening intercity passenger rail connectivity		
High Speed Rail – Newcastle to Sydney	NSW	Investment-ready for Planning
High Speed Rail – East Coast future stages	QLD, NSW, ACT, VIC	2-4 year pipeline
Sydney-Canberra rail connectivity and capacity	NSW, ACT	2-4 year pipeline

Secure, Sustainable Water for Growth

Australia’s growing population, expanding industries, shifting climate and ageing water assets are increasing pressure on urban, regional and remote water systems, requiring sustained investment in secure, reliable and climate resilient water infrastructure.

Australia is the driest inhabited continent and has the highest per capita surface water storage capacity of any country in the world.[103]

Population growth is increasing demand for urban water, resulting in a need to maintain existing and develop new water supply options.[104] While across Australia there are different water supply mixes, many sources are climate-dependent, meaning they are influenced by rates of rainfall and temperature. This includes surface water in rivers and dams, as well as groundwater, which is affected by recharge rates.

Secure, sustainable and climate-independent water sources and services, such as desalination and recycled water, are critical to meet growing and competing needs. While costly, these sources address the declining supply and reliability of surface and groundwater resources.

Increasing demands from agriculture and other established water-dependent industries, such as energy, mining, manufacturing and tourism, is being added to by emerging industries including hydrogen, critical minerals, advanced manufacturing and data centres. Water demand for data centres is expected to grow and increase pressure on already constrained water availability.[105] Significant investment in water supply options will be needed to cater to this demand.

Water and wastewater infrastructure services Australia through a complex network of assets for production, storage, treatment and distribution. Population growth, climate change, evolving user expectations and ageing infrastructure are increasing pressure on the performance of this network and increasing the risk of system failures, non-compliance and service disruptions.[106,107] Digital technologies will continue to play a critical role in addressing these challenges by enabling network optimisation, enhancing scenario planning and improving operational efficiency. Modern and well-maintained water and wastewater infrastructure assets and networks are key to meeting Australia's water needs, now and in the future.

Once finalised, the Australian Government's new *National Water Agreement* seeks to guide a coordinated approach to water resource management to make sure Australia can effectively address current and future water challenges, including those associated with climate change and increasing demand. Parties to the agreement will develop action plans to detail what they will do to achieve the agreement's objectives, although states and territories will continue to be responsible for the regulation, planning, management and allocation of water resources, including the development and maintenance of water infrastructure.

Water supply

Increasing demand for water across Australia is driven by many factors, including population growth, changing land use, densification and the reliability and security of existing sources.[103] At the same time as demand for water is increasing, Australia's rainfall (a key source of Australia's water supply) pattern is changing, and supply has been less reliable in some areas.[108] Rising temperatures and severe heat events also lead to higher evaporation losses.[109] Rainfall-dependent water is the dominant source for all states and territories (Table 17).[110]

This is driving the need for additional supply- and demand-side interventions to secure water supply, requiring a step change in infrastructure investment to expand capacity, alongside increased investment in technology to improve productivity, efficiency, security and resilience to meet future needs.

The increasing variability in water-resource availability reinforces the need for the Australian Government to maintain up-to-date strategies and planning documents that reflect current conditions and data. For example, Perth and Adelaide's long-term water strategies date back to 2009, while Canberra's was last updated in 2014.

Diversifying urban water supply

Australia's increasing population, particularly in our capital cities, will increase overall demand for urban water. It has been estimated, based on current population projections, that there will be an extra +195 gigalitres[111] of water demanded by households across Australia by 2032, representing approximately a 10% increase on current demand.[112]

Table 16 provides a summary of the projected urban water supply outlook for each capital city, which has been sourced from each jurisdiction. As highlighted in the table, Darwin's forecast water demand is expected to more than double by 2056, which is the greatest increase of all capital cities. It is anticipated that the additional supply provided by the Darwin region water supply (Adelaide River Off-Stream Water Storage) proposal will largely address this demand.[113] It is expected that Adelaide will be able to meet its forecast increase in water demand through an increase in water efficiency, use of recycled stormwater and wastewater and desalination.[114] Perth's projected supply shortfall, the largest of all capital cities, is likely to be worsened by ongoing climate change impacts in Southwest Australia, including persistent drying and decreased rainfall availability emphasising the need for further diversification.[115]

Table 16: Projected water supply outlook

	2023-2024 Water Demand	Forecast Water Demand	Percentage increase	Projected Supply Shortfall
	(GL/year)[116]	(GL/year)	(%)	(GL/year)
Sydney[117]	604	790 by 2060	31	254 by 2060
South East Queensland[118]	382	500 by 2050	31	70 by 2050
Melbourne[119]	526	620 by 2050	18	115 by 2050
Adelaide[120]	203	360 by 2050	77	0 by 2050
Darwin[121]	45	94 by 2056	109	0 by 2056**
Perth[122]	349	530 by 2060	52	365 by 2060
Canberra[123]	51	57 by 2060	12	10 by 2060
Tasmania*[123]	84[124]	87 by 2060	4	3 by 2060

^Figures approximated to the nearest GL
*TasWater figures for the whole state, not just Hobart
**Shortfall met by Adelaide River Off-Stream Water Storage proposal[125]
Note: The highlighted cells show the greatest increase in forecast water demand, and greatest supply shortfall, across all capital cities.

Australian governments may consider investing in a diverse portfolio of water supply options, due to decreased reliability of rainfall-dependent supply such as dams and groundwater systems. Infrastructure Australia previously highlighted the need for diversification of water sources to improve *water security in Australia's towns and cities*. All potential supply and demand options must be considered based on their full merits. These alternative water sources (not supplied by surface water or groundwater) are valuable sources of sustainable water and include harvested rainwater and greywater, stormwater, recycled water, captured condensate and desalinated water. Utilities and bulk water authorities across Australia are investing in alternative supply sources,[103] especially climate-independent sources such as recycled and desalinated water. Exploring new opportunities and technologies to develop and use alternative water sources to increase water security will continue to be an important area of focus in the future.

Table 17 provides a breakdown of current water sources for each major urban centre. The data highlights that most Australian capital cities are still reliant on rainfall-dependent water sources. All capital cities except for Perth source a low proportion of water from recycled water and desalination sources emphasising the need for diversification across all cities.

Table 17: Water sourced (by type) in major cities, 2023-24

Major urban centre	Total surface water	Total ground-water	Total de-salinated marine water	Total recycled water	Total volume of water sourced
	(%)	(%)	(%)	(%)	(GL)
Adelaide	84.3	-	2.4*	13.3	203
Canberra	99.9	-	-	0.06	51
Darwin	90.5	9.5	-	-	45
Melbourne	89.8	0.02	-*	10.2	526
Perth	16.9	42.4	34.2*	6.5	349
South East Queensland	90.3	3.4	2.5*	3.8	382
Sydney	87.5	-	5.8*	6.7	604

Source: Infrastructure Australia analysis of BOM 2025, National performance report 2023–24: urban water utilities data (p28) *National performance report 2023–24: urban water utilities, part A*
*Desalination water was not provided to their full capacity due to sufficient availability of other sources in 2023-24
Note: Percentages may not add up to 100% due to rounding.

Recycled water

Recycled water provides a sustainable fit-for-purpose alternative water source for various end uses, including irrigation and industrial demand. Use of recycled water also helps manage wastewater more efficiently, lowering discharge into waterways and minimising pollution risks. By closing the water loop, recycled water supports resilience against droughts and climate variability and plays a critical role in meeting future urban water demand in Australia.

Two full scale purified recycled water schemes using wastewater have been constructed in Australia. These are the *Groundwater Replenishment Scheme* in Perth and the *Western Corridor Recycled Water Scheme* in South-East Queensland.[126] Perth's Groundwater Replenishment Scheme is the only operational recycled water for drinking scheme operating in Australia. The scheme utilises Managed Aquifer Recharge, which is the process of adding a water source (such as recycled water) to aquifers under controlled conditions for withdrawal later. One of the key reasons for the success of Perth's Groundwater Replenishment Scheme was the investment of almost 20 years in scientific and social research, community engagement, and collaboration with regulators.

The New South Wales Government is planning to expand purified recycled water across the state, noting that in the future purified recycled water could be used to supplement drinking water, providing up to 25% of Sydney's water needs by 2056.[127] Infrastructure Victoria has recommended that the Victorian Government should pilot a recycled drinking water facility as a pathway to boost water security.[128] To-date, recycled water networks have been established to varying degrees in all Australian capital cities except Darwin. Research by the Water Services Association of Australia has mapped out the future of purified recycled water worldwide,[129] illustrating that recycled water projects represent a priority for investment by governments and a viable option for providing reliable water supply.

Desalination

In Australia's capital cities, desalination plants have been providing a climate-independent source of water reliably for over a decade (**Table 18**).[130]

Table 18: Existing desalination capacities in major Australian cities

City	Maximum desalination capacity (GL / year)
Adelaide	100[131]
Brisbane / South East Queensland	43[132]
Canberra	-
Darwin	-
Hobart	-
Melbourne	150[133]
Perth	150[134]
Sydney	91[135]

Desalination provides water security in times of drought to ensure continuity of supply. For example, Adelaide's reservoirs are sitting at their lowest levels in more than twenty years and areas have been facing 'localised' water shortages, which has prompted the South Australian Government to restart the Adelaide Desalination Plant at Lonsdale to boost water supplies.[136] The plant can supply about half of Adelaide's current water needs.[137]

Beyond providing drought resilience, desalination is also being considered by many state governments as a means of increasing water supply to support growing communities and reduce dependence on rainfall. Desalination plants in Perth have the capacity to provide almost half of the city's water needs and construction of a new desalination plant is underway to address increasing demand and declining rainfall.[138] Sydney Desalination Plant supplies 15% of the city's drinking water and was constructed with an expectation to double its current capacity in future.[139] Proposed expansions to the Gold Coast Desalination Plant are progressing through business case stages.[131] Infrastructure Victoria has also recommended the Victorian Government start planning to expand Victoria's desalination capacity.[127]

The Australian Government invests in water infrastructure, including desalination, through the National Water Grid Fund (NWGF). The primary intent of the NWGF is to co-fund projects to ensure financial viability, enabling delivery of critical infrastructure where states, territories or industry partners could not proceed alone. The fund is administered by the Department of Climate Change, Energy, the Environment and Water (DCCEEW) and projects must meet all the National Water Grid's *Investment Framework* eligibility criteria. For example, eligible projects must increase the security, quality and/or availability of water for regional and remote communities, and/or productive use.

Urban water infrastructure for the sole benefit of residents in major cities is currently ineligible for the NWGF, as the National Water Grid *Investment Framework* considers these costs should be borne by utilities and rate payers. However, given the role of desalination in supporting growth and climate resilience across urban, regional and remote communities, and the high cost of this type of infrastructure – which can be cost-prohibitive for state governments alone – there may be a case for Australian Government involvement, within or separate to the NWGF.

10-year national priorities

Australia's water supplies are facing pressures from increasing demand as well as climate-related factors. Within urban areas, this is constraining population growth and housing development, particularly within fast-growing cities.

Diverse water supply, particularly climate-independent sources, provide sustainable and resilient water supplies for rapidly growing populations. The 2026 Infrastructure Priority List includes the ***Darwin region water supply (Adelaide River Off-Stream Water Storage)*** proposal as an immediate priority for planning investment. This proposal aims to provide additional water supply and storage capacity to the Darwin region over the long term, providing security for consumers, businesses and agricultural users.

While most major cities already have desalinated water supply, further investment is needed in desalination infrastructure to provide greater resilience and support population growth. The 2026 Infrastructure Priority List includes ***Perth and south-western coast water security*** as a priority for future investment in the 2-4 year pipeline. This proposal includes providing increased supply of potable and non-potable water for Perth and productive uses on the south-western coast. This could include a mix of more conventional water sources, as well as more innovative reuse and recovery options, to provide additional sources of climate-independent potable and non-potable water. This would support greater diversification in Perth's and the south-western coast region's water supply sources and increase their resilience to climate change impacts.[xii]

Melbourne, Sydney, and South East Queensland have a long-term pipeline of alternative water projects for planning and delivery, including desalination. However, a substantial investment is expected to be required to ensure these alternative water sources are delivered in time to support expected urban growth.

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xii Infrastructure Australia recognises that scope elements of the Perth and south-western coast water security proposal may not be eligible for Australian Government funding under the *National Water Grid Investment Framework* given they are focussed on urban water infrastructure for Perth, as a major city, and non-productive uses of water. Australian Government investment in this proposal may require the creation of a new funding pathway(s).

Improving regional and remote water security and quality

Regional and remote communities across Australia face persistent water security challenges, with variable climate conditions and limited infrastructure affecting reliability and community resilience. The Productivity Commission's Inquiry Report on *National Water Reform 2024* notes that some regional and remote areas still do not have access to safe drinking water supply. Research provides evidence of drinking water supplies in multiple communities regularly having levels of analytes (such as uranium, arsenic and nitrate) that exceeds Australian Drinking Water Guidelines.[140] One of the key objectives of the *National Water Grid Fund*, the Australian Government's infrastructure investment program to improve water access and security, is to provide safe and reliable water for regional and remote communities.

Regional and remote areas face considerable challenges, including reliance on a single source of supply, limited resources, a lack of scale and unreliable information on services.[141] Water treatment solutions that are used in cities are often not economically viable for regional and remote communities, and so tailored and innovative solutions require ongoing engagement and investment.[142] Regional water service providers also face distinct operational challenges, serving a highly dispersed population, and their water supply infrastructure may need to extend across comparatively large distances, meaning the costs are greater.[143]

First Nations peoples are disproportionately impacted by the shortfall in water services in remote areas[144] with issues relating to water and wastewater services compounding historical hardships and reinforcing disadvantage. Research indicates that water quality may be having severe health impacts for First Nations people.[145] Many remote communities report concerns related to the smell and taste of their water supplies as well as contamination. This is backed up by evidence from health and epidemiological studies, plus water quality reports from utilities and service providers, which reveal that water quality issues are persistent, and in some cases getting worse, in remote communities.[141] In addition, past approaches to address the problem have not always adequately considered the dynamics of these communities. These include cultural needs and preferences, the ongoing maintenance and reliability of infrastructure solutions, and the impacts of an extreme climate on infrastructure and user behaviour.[143]

Previous research into drinking water quality data from across Australia has shown that over 25,000 people in 99 small towns with populations below 1,000 accessed drinking water services that failed to meet health-based guidelines at least once in 2018-19 – of those locations, 40% were remote First Nations communities.[146] Water Services Association of Australia's 2022 report notes that there are over 500 remote communities without any water quality monitoring[139] and that there is no comprehensive national monitoring or reporting on water quality – the picture is incomplete within some state and territory jurisdictions, and non-existent at a national level.[141]

Investment in secure water supply infrastructure within regional and remote areas is a national priority. One option includes investment in water treatment to support the use of recycled water for drinking, or irrigation – this can enable redistribution of water across catchments for other purposes, including cultural uses by Traditional Owners. Victoria's *Werribee water system reconfiguration* proposal on the 2026 Infrastructure Priority List is an example of this – further details on this proposal are contained in the *Securing water for the economy* section.

Securing water for the economy

Long-term reliability and security of supply is a critical enabler of industry investment and growth for water-intensive industries across Australia. Increasing demands from water-dependent industries, such as agriculture,[111,147] mining and manufacturing,[148] is being added to by emerging industries including hydrogen,[149] critical minerals,[150] and data centres.[104]

Without investment in additional water infrastructure capacity can constrain economic growth, with some cities already experiencing challenges in meeting demand from the residential construction industry.[110] Identifying and planning for future investments in new or upgraded water supply, treatment, processing, storage and distribution infrastructure needs to be a future focus. Planning and delivering additional capacity will provide access to secure, reliable water where and when it is needed to support economic growth and industrial development opportunities. In addition, investment in existing and emerging technologies to improve water resource planning and network efficiency will enable greater utilisation of existing assets.

Dams play a critical role in providing irrigation for agriculture. Across Australia, water suppliers and asset operators continually assess, monitor and maintain dams to ensure these long-life assets meet engineering standards and safety requirements.[151] The Australian Government has made significant investment in the safety of water assets. This includes a commitment of $600 million to the Paradise Dam Improvement Project in Queensland.[152]

This is important given most suitable dam sites have already been developed and with climate change and population growth, there is limited ability for construction of new dams to support increasing water demands.

Total national water consumption by industry increased by 11.5% in 2023–24, reflecting higher irrigation demand and increased reliance on water utilities during drier conditions. The agriculture, forestry and fishing industry remains the dominant water user. Industry prices are also strongly influenced by agriculture, meaning industry price movements often track seasonal conditions and irrigation demand.[111]

Data centres are also influencing water demand. Data centres mainly use water for cooling and heat rejection, and while their consumption is currently modest compared to other industrial users, demand is concentrated in urban areas and is expected to grow in Australia over the coming years.[104]

Future facilities will be more powerful and need more cooling.[153] Data centres also have high reliability requirements, meaning a very low tolerance for water service interruptions.[154]

Estimates of data centre water use vary based on the size and growth rates of data centres themselves, and their ability to adopt water recycling technologies and cooling system innovations.

Table 19 shows estimated average data centre water consumption rates based on data centre size and assumed water use levels. Depending on Water Use Effectiveness (WUE), hyperscale data centres (around 250 MW) can consume up to the equivalent potable water of 5,000 to 35,000 households annually. Sydney Water forecasts 90 billion litres a year will be required the meet the demand of all proposed data centres by 2035, representing around 15-20% of current supply.[104]

Table 19: Data centre size, water use and equivalent household use numbers

Data centre size	Energy draw	Water Use Effectiveness (GL/year)	Equivalent household water use
Hyperscale	250 MW	0.88-5.5	5,500-34,400 homes
Average	100 MW	0.35-2.2	2,200-13,750 homes
Small	25 MW	0.09-0.66	560-4,150 homes

Source: Infrastructure Australia analysis based on maximum and minimum upper bound Water Usage Effectiveness levels (GL/year) reported in Water Services Association of Australia, 2025, "DATA CENTRES AND WATER IN AUSTRALIA: A resource for sustainable data centre development", Figure 16, and an average annual household water consumption of approximately 160 kilolitres (kL) per household (reflecting the 156–166 kL range reported for Victoria and NSW in *Water Account, Australia, 2023-24 financial year | Australian Bureau of Statistics*

While predicting future water use with certainty is difficult, increasing localised pressure on already constrained water systems reinforces the need for long-term supply planning and system modernisation. Circular economy initiatives such as heat recovery, water recycling and water positive design are opportunities for data centres to reduce their potable water use.[155] The data centre project in Marsden Park (New South Wales) proposes to achieve a WUE of 0.1 L of water per kWh of energy used, consuming an equivalent of around 275 households' annual water use.[xiii] Data centres are expected to invest between $500 million and $1.1 billion in recycled water infrastructure by 2030 in Australia.[156]

Water reuse, which involves reusing all types of water including stormwater and greywater, is playing a growing role in water security strategies, particularly during dry periods. However, despite this growth, water reuse remained a small share of total water consumption – less than 2% nationally – in 2023-24. Key users of reused water include agriculture, forestry and fishing, supporting irrigation during dry conditions.[111] Water reuse and adopting a fit-for-purpose approach to water consumption, instead of highly treated drinking water for all uses, will help to ensure water resources are conserved for essential needs. Future opportunities for circularity in water will be reinforced by the new *National Water Agreement*.[157]

10-year national priorities

Providing access to reliable water for agricultural and industrial uses, as well as the development of emerging industries, is a national priority. This will support economic growth and productivity uplift. The 2026 Infrastructure Priority List identifies the following proposals as priorities:

Ord-East Kimberley irrigation expansion – upgrades to infrastructure within the Ord River Irrigation Area would provide opportunities to unlock new land for agriculture. This proposal is identified as a priority for future investment in the 2-4 year pipeline to support economic growth and support jobs, including for local First Nations communities.

Northern South Australia productive water security – proposal to provide a new, climate-independent water source within South Australia's Upper Spencer Gulf and Far North regions is identified as a future investment opportunity. This proposal is identified as a future investment opportunity in the 2-4 year pipeline and would facilitate the development of mining and renewable industries, supporting economic growth and reducing environmental impacts of extraction from groundwater sources and the River Murray.

Werribee water system reconfiguration – includes proposed upgrades to assets within the Werribee water system in Victoria to support the use of recycled water within the catchment's irrigation districts. This proposal is an immediate priority for planning investment to support a secure, reliable and fit-for-purpose water supply.

Investment in existing water supply assets to ensure they remain safe and reliable should also be prioritised. The 2026 Infrastructure Priority List identifies the ***Paradise Dam improvement project*** in Queensland as an immediate priority for investment. Further investment in this proposal by the Australian Government, beyond the $600 million that has already been committed,[151] would ensure the dam complies with Queensland Government dam safety regulations and provides supply to meet growing demand for productive agricultural use.

xiii Infrastructure Australia estimate with data centre operating at full capacity 504 MW draw based on information from *Southern Hemisphere's biggest data centre gets the green light | NSW Government* and *CDC Data Centres Breaks Ground on New State-of-the-Art Data Centre Development in Marsden Park Industrial Precinct | CDC*

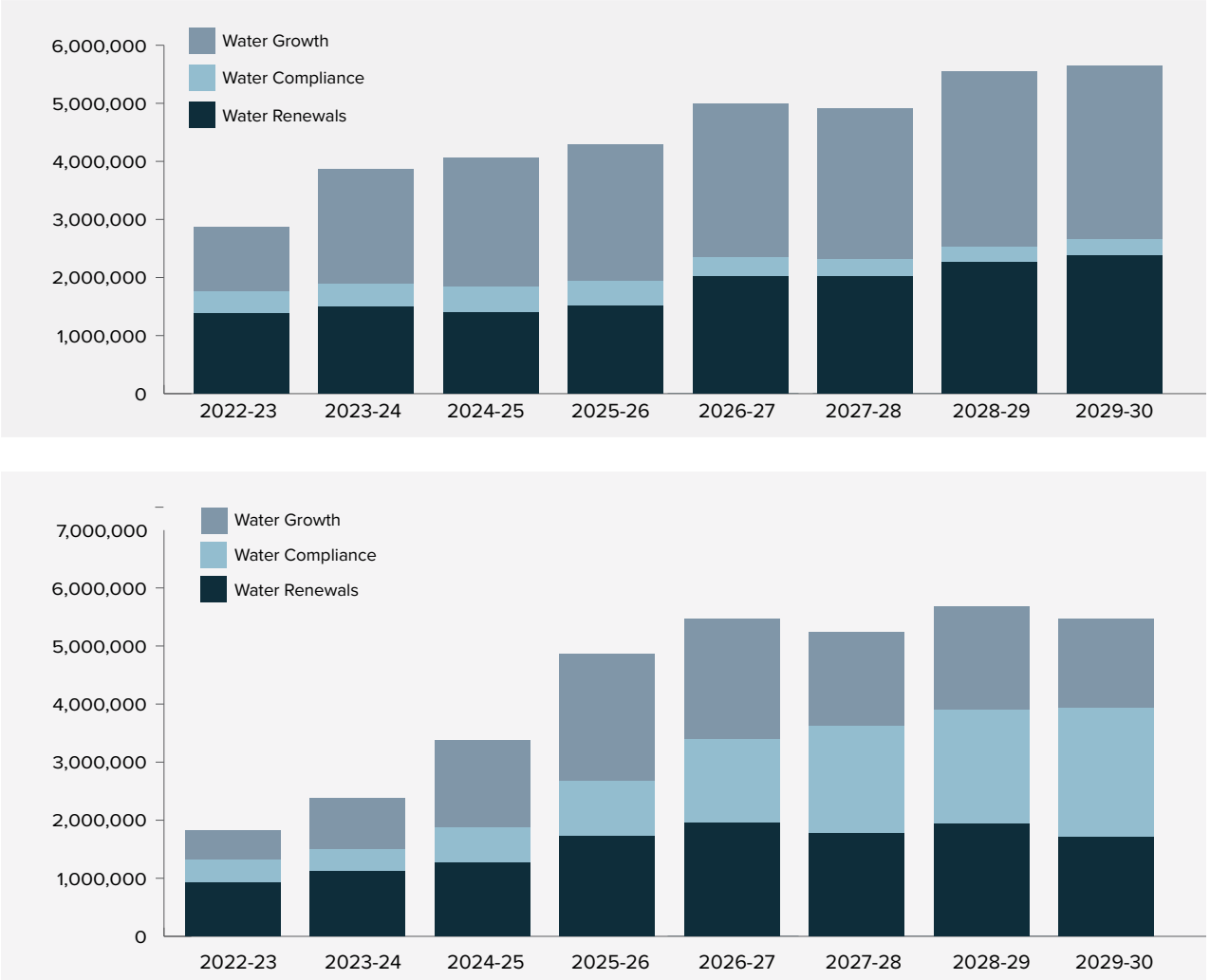
Wastewater

As Australia's water assets age and reach end of life, the services they provide may no longer meet health and environmental standards. Growing supply and demand pressures are placing increasing strain on existing ageing water systems, many of which are not equipped to meet long-term demand.[105] Supply systems in regional and remote areas are often old and/or poorly maintained – tanks, pumps, pipelines and treatment plants often reach failure and require frequent repairs.[158]

Significant proportions of water and wastewater networks across Australia are concurrently reaching the end of their useful life[159,160] and increased investment is likely to be required for asset renewals and upgrades over the coming decades (**Figure 1**). For example, it is anticipated that for South Australia alone, approximately $12.9 billion investment will be required for the renewal of water and wastewater assets over the next 30 years.[159] Ageing and poorly maintained wastewater and drinking water assets increase the likelihood of system failures, non-compliance and service disruptions, risking public health and environment protection outcomes. Continued investment in maintenance and upgrades of water and wastewater infrastructure is required[161] to meet Australia's water needs, now and in the future.

Figure 1 outlines the expected amounts of planned capital expenditure in wastewater and water capital expenditure into 2029-30, highlighting the increasing expenditure that is expected to be required on renewals, compliance and growth.

Figure 1: Capital expenditure (capex) in wastewater and water, 2022-23 to 2029-30



Source: Water Services Association of Australia, 2025 forecasts

Modernising wastewater treatment

Climate change, population growth, and ageing assets are placing unprecedented pressure on the capacity of wastewater treatment plants in Australia. Higher temperatures and extreme weather events increase variability of stormwater inflow and infiltration and nutrient loads, while droughts limit the dilution capacity in receiving waterways.[162] Population growth is driving higher sewage volumes, and expanding industrial and commercial sectors – such as food processing, manufacturing, and tourism – generate complex wastewater streams with higher contaminant loads.

Table 20 highlights the number of treatment plant assets across Australia that will require ongoing maintenance and upgrades to ensure service reliability under future conditions.[163]

Sewage discharges introduce nutrients, pathogens, pharmaceuticals, and contaminants into waterways, leading to ecological and public health impacts. High nutrient levels can trigger algal blooms harmful to aquatic life[164], while pathogen-rich effluent triggers beach closures and public health alerts. Emerging contaminants such as microplastics, Per- and poly-fluoroalkyl substances (PFAS) and other "forever chemicals" are also a growing challenge for wastewater systems and existing treatment processes. While some treatment technologies exist to reduce many of these contaminants, implementation of these can be high cost and energy intensive.[165]

Significant investment is likely to be required to ensure wastewater treatment plants can cater to a growing population while addressing these emerging challenges. For example, *TasWater's Master Plans* indicate that 70 of Tasmania's 110 sewerage treatment plants will require improvements or upgrades between now and 2050 to cater for population growth and meet water quality requirements for discharges to waterways. Upgrades to advanced technology and increased capacity of wastewater treatment plants will also unlock opportunities for recycled water use by enabling higher-quality water suitable for various end uses.

The National Water Grid Fund is not used to directly fund wastewater and stormwater projects, except where they include a productive economic element such as recycled water schemes. However, the Australian Government has committed funding to deliver sewerage network infrastructure through other mechanisms. For example, under the Launceston City Deal, the Australian Government, together with the Tasmanian Government and City of Launceston, committed $140 million to deliver infrastructure upgrades to reduce overflows from Launceston's combined waste and stormwater system.

Table 20: Urban wastewater treatment assets by region, 2023-24

Region	Number of wastewater treatment plants
ACT	4
NSW	188
NT	7
QLD	144
SA	34
TAS	110
VIC	216
WA	23
Total	726

Source: Infrastructure Australia analysis of BOM 2025, National performance report 2023–24: urban water utilities data *National performance report 2023–24: urban water utilities, part A*

10-year national priorities

Ageing wastewater infrastructure can have significant impacts to the health of communities and the environment. **Upgrades to wastewater infrastructure is a national priority to meet contemporary standards and support housing development.** The 2026 Infrastructure Priority List includes the following proposals as immediate priorities for planning investment:[xiv]

- ***Launceston Sewerage improvement program*** – this proposal includes detailed investigations for a consolidated sewerage plant to meet environmental standards. The proposal supports population growth and housing development in Launceston.
- ***Bolivar Wastewater Treatment Plant capacity*** – the proposal aims to increase the capacity of the treatment plant and increase use of recycled water to improve the security and sustainability of water supply in Adelaide's northern growth areas. The Australian Government previously committed $2.5 million in planning funding for a study that investigated options to augment the Bolivar Wastewater Treatment Plant, which led to subsequent investment in the related *Northern Adelaide Irrigation Scheme* project.

xiv Infrastructure Australia recognises that while Launceston Sewerage Improvement Program and Bolivar wastewater treatment plant capacity upgrades may support future adaptability to support water reuse, they are not eligible for Australian Government funding under the NWGF.

Summary: Infrastructure response and investment priorities

Australia's water systems face growing pressure from population growth, climate impacts, ageing assets and rising industrial water demands. Targeted investment over the next 10 years needs to focus on strengthening supply reliability, modernising critical water and wastewater infrastructure and improving water security for regional and remote communities.

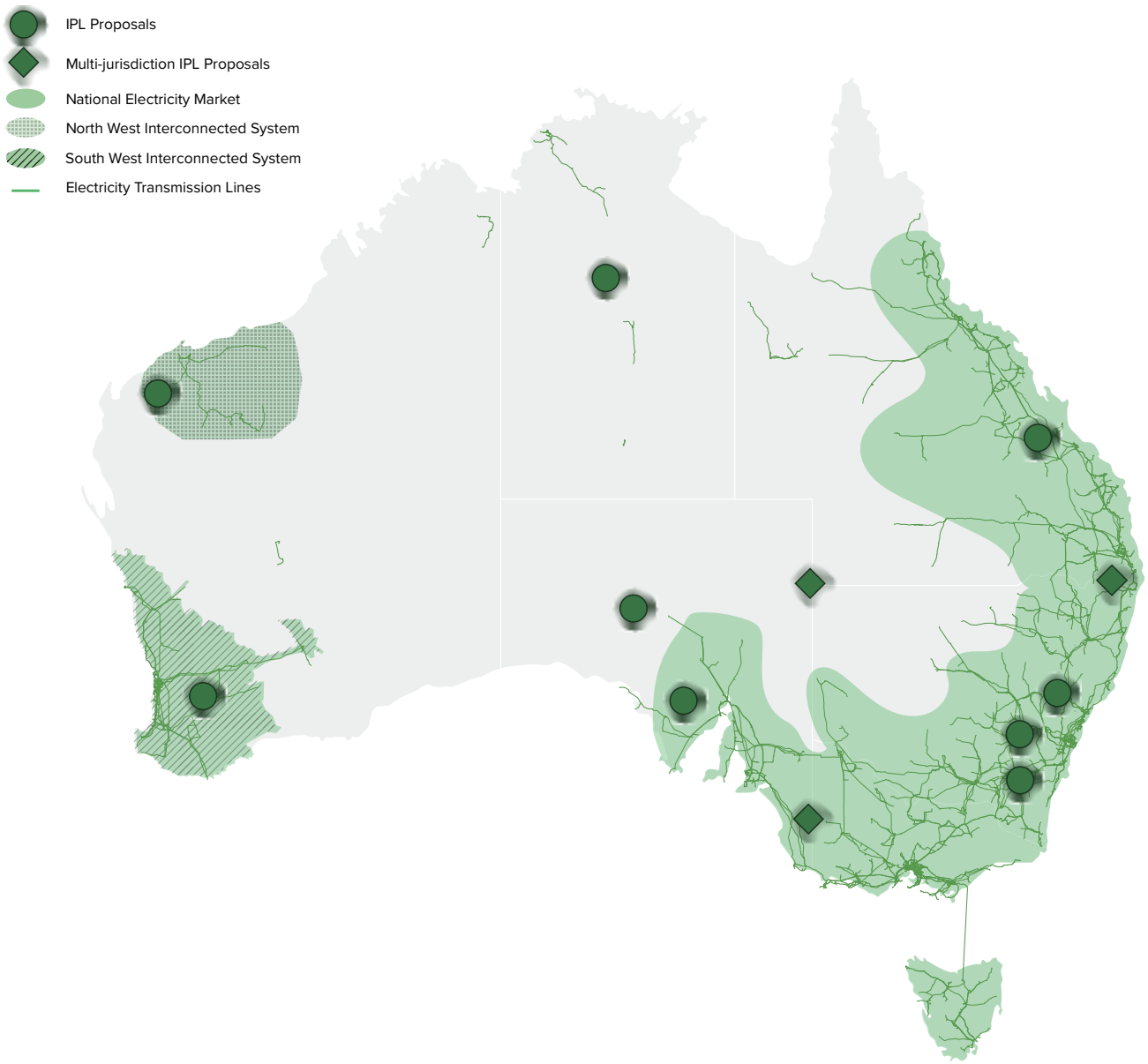
Table 21 identifies the **highest priority proposals for *Secure, Sustainable Water for Growth*** to provide targeted solutions to address identified infrastructure constraints.

Table 21: Secure, Sustainable Water for Growth: 2026 Infrastructure Priority List proposals

10-year national priorities	Location	Investment timing
Ensuring reliable and safe water services for all		
Diversifying urban water supply		
Darwin region water supply (Adelaide River Off-Stream Water Storage)	NT	Investment-ready for Planning
Perth and south-western coast water security	WA	2-4 year pipeline
Securing water for the economy		
Northern South Australia productive water security	SA	2-4 year pipeline
Ord-East Kimberley irrigation expansion	WA, NT	2-4 year pipeline
Paradise Dam improvement project	QLD	Investment-ready for Delivery
Werribee water system reconfiguration	VIC	Investment-ready for Planning
Modernising wastewater treatment		
Bolivar Wastewater Treatment Plant capacity	SA	Investment-ready for Planning
Launceston Sewerage improvement program	TAS	Investment-ready for Planning

Delivering Net Zero and a Clean Energy Economy

Australia's transition to net zero will require a rapid scale-up of renewable energy generation, transmission and storage, supported by enabling infrastructure and the decarbonisation of construction and transport.



By 2050, renewable energy is projected to supply 98% of electricity in the National Electricity Market (NEM).[xv] This renewable supply will be underpinned by a 422% increase in grid-scale wind and solar generation, around 6,000 km of new transmission lines and an 11-fold increase in battery storage.[xvi,166]

In Western Australia, the South West Interconnected System (SWIS) is expected to need almost 10 times current energy generation and storage capacity by 2042 (comprising 84% renewables, 8% storage and 8% gas) and over 4,000 km of new transmission lines.[167] The North West Interconnected System (NWIS) also requires generation, storage and transmission infrastructure to support decarbonisation of mining and heavy industry in the Pilbara, and transition from fragmented, private networks to common-use transmission to reduce duplication and system cost.[xvii]

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xv The NEM is a wholesale market through which generators and retailers trade electricity in Australia. It interconnects the six eastern and southern states and territories and delivers around 80% of all electricity consumption in Australia. This includes coordinated energy resources, generation or storage assets owned by consumers and installed behind-the-meter. These can include rooftop solar, batteries and electric vehicles.

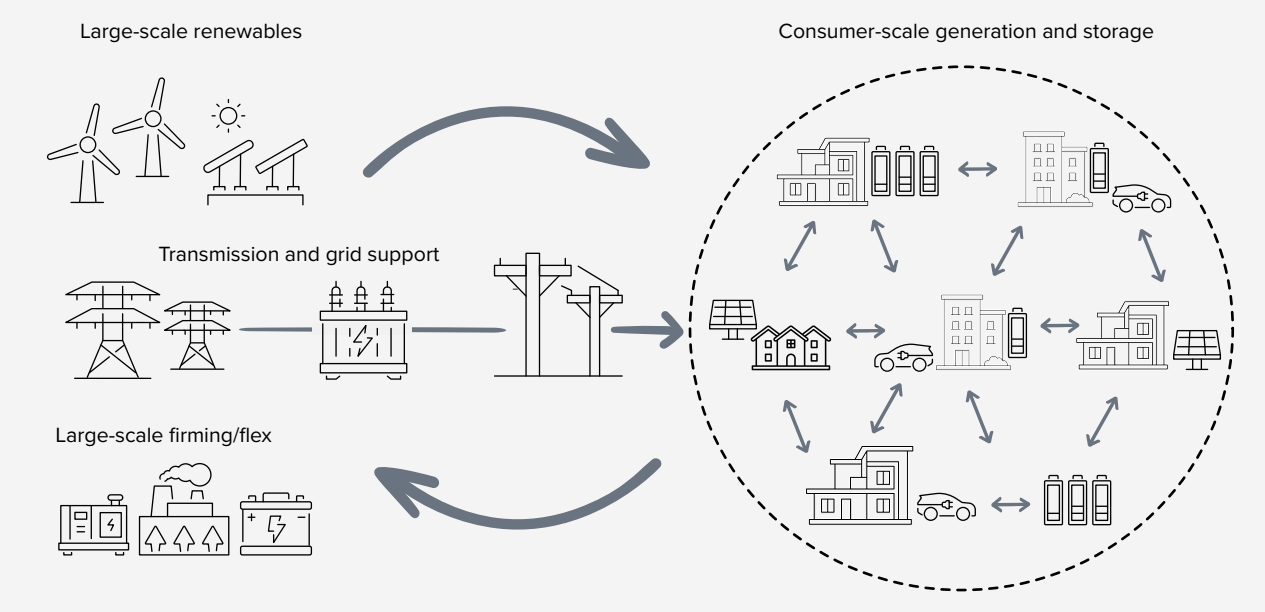
xvi 'Grid scale'refers to the capacity of electrical generation, transmission, and distribution systems that are large enough to supply power to a regional or national electricity grid.

xvii The NWIS comprises interconnected electricity networks with different owners, public and private. Transmission and distribution assets link the major towns of Port Hedland and Karratha via the Horizon Power network and extend inland through Rio Tinto's and Alinta's networks.

Accelerated delivery of renewable energy, storage and transmission infrastructure is vital to meet Australia's future need for clean, reliable and affordable energy, and to achieve national 2035 and 2050 emissions targets. In the NEM, two-thirds of aging coal-fired power stations will retire by 2035, in many cases earlier than publicly announced closure dates, with all others to retire by 2049.[165]
In the SWIS, state-owned coal generators will close by 2030.[166] In the NWIS, electricity generation is currently sourced predominantly from fossil fuels (around 98%), and will require a substantial shift to renewable energy to support emissions reduction.[168] Electricity consumption in the NEM is expected to nearly double by 2050 and increase 5-fold in the SWIS by 2042.

Renewables require supporting technologies to ensure grid stability and energy reliability. These include upgraded transmission and distribution networks, batteries and long-duration storage, flexible gas generation to provide back-up supply, and synchronous condensers[xviii] to keep the power system stable (by absorbing or injecting reactive power).[165] Governments have a role to play in planning transmission and battery storage, which requires a rethink of how electricity grids are currently organised around coal-fired power and one-way energy flows (refer **Figure 2**). New transmission infrastructure will be required to carry electricity from areas of renewable energy resources to consumers and businesses, and battery storage is required to ensure reliable energy supply and grid stability.

Figure 2: Australia's transition to a power system with large-scale and consumer-scale generation and storage



Source: Adapted from *National Consumer Energy Resources Roadmap*, DCCEEW, 2024, Figure 3

xviii Synchronous condensers are large rotating machines that help manage voltage and improve the stability of the power system, so that it is robust to withstand disturbances such as the sudden loss a generating unit or a transmission line. See: *https://www.transgrid.com.au/projects-innovation/system-strength-project/*

While the private sector is driving the development of grid-scale renewable generation and storage capacity, the public sector has a role in coordinating the energy transition by investing in technology risk, transmission, strategic battery storage and by alleviating any infrastructure bottlenecks that are impeding the rollout of renewables. Ensuring the timely delivery of all these elements of the energy transition will be important to maintaining future energy security. The Australian Government's *National Renewable Energy Priority List* identifies 56 priority projects nationally consisting of 24 transmission, and 32 generation and storage projects.

Analysis by Infrastructure Australia identified bottlenecks in transporting over-size, over-mass components for renewable projects, requiring complementary investment in enabling port and road infrastructure and a national, coordinated approach to deliver this freight task efficiently.

Beyond clean energy, achieving net zero requires cutting embodied carbon in infrastructure through modern methods of construction, decarbonising supply chains, and electrifying freight, public transport, and private vehicles. Digitalisation and artificial intelligence (AI) present both opportunities and challenges – Australia's growing data centre sector will significantly increase energy demand, accelerating investment in renewables, storage, and transmission, while enabling AI-driven optimisation of grid efficiency.

Globally, Australia is well-positioned to export clean energy and fuels, but success hinges on strategic government investments, harmonised frameworks across all levels of government, and strong public-private collaboration to drive innovation and private capital.

Renewable Generation

Around 90% of Australia's GHG emissions come from burning fossil fuels for electricity, heating and transport.[169] A significant transition in energy generation from fossil fuels to clean, renewable energy is required to achieve the 2035 target of a 62-70% reduction of GHG emissions below 2005 levels and net zero by 2050.

The Australian Government target of 82% renewable electricity by 2030 is a key milestone and the next five years are a critical timeframe. The nation's two largest electricity grids – the NEM and the SWIS – now source more than 40% of electricity from renewables.[170]

Under the Step Change Scenario in the *Australian Energy Market Operator's 2024 Integrated System Plan (ISP)*, coal was expected to exit the market completely by 2037-38.[xix] In the Draft 2026 ISP, the Step Change Scenario retains coal until 2048-49. This adjusted timeline reflects the direction of the *2025 Queensland Energy Roadmap*, as well as slower than previously planned closures of coal-fired power in New South Wales and Victoria. However, AEMO notes coal retirements may occur even faster than forecasted given higher operating and maintenance costs, more unplanned outages and greater renewable competition will challenge coal's financial viability.

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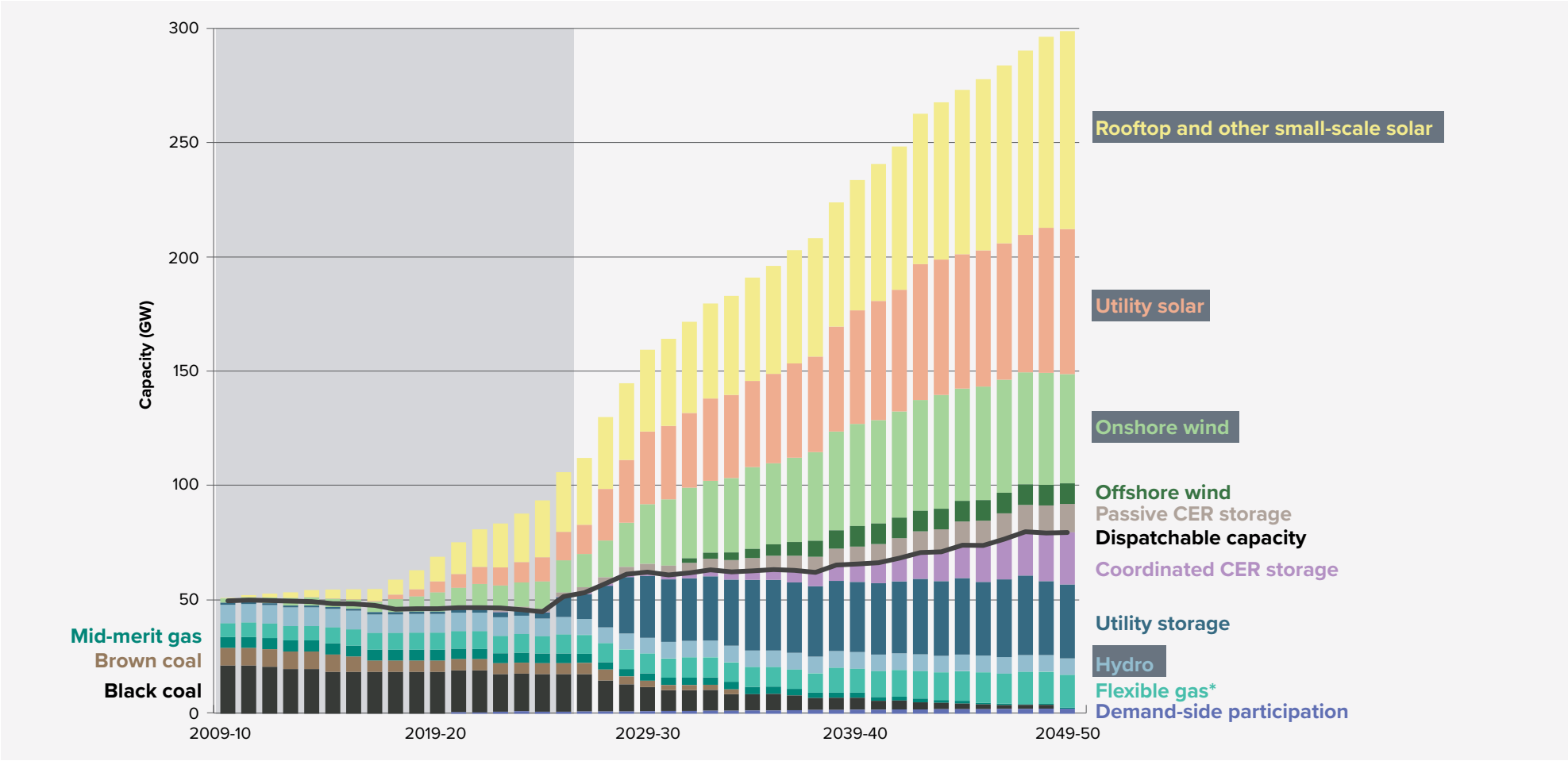
xix AEMO uses scenario planning to assess future investment needs in the energy system. Step Change Scenario reflects a pace of energy transition that supports Australia's contribution to limit global temperature rise to less than 2°C.

In **Figure 3**, under AEMO's Step Change Scenario, the NEM will require a 422% increase in grid-scale wind and solar renewable energy, from 23 gigawatt (GW) in 2025 to approximately 120 GW, by 2050. This will be bolstered by 33 GW of storage and 14 GW of gas-powered generation.[xx]

Figure 3: Capacity, NEM GW 2009-10 to 2049-50, Step Change Scenario



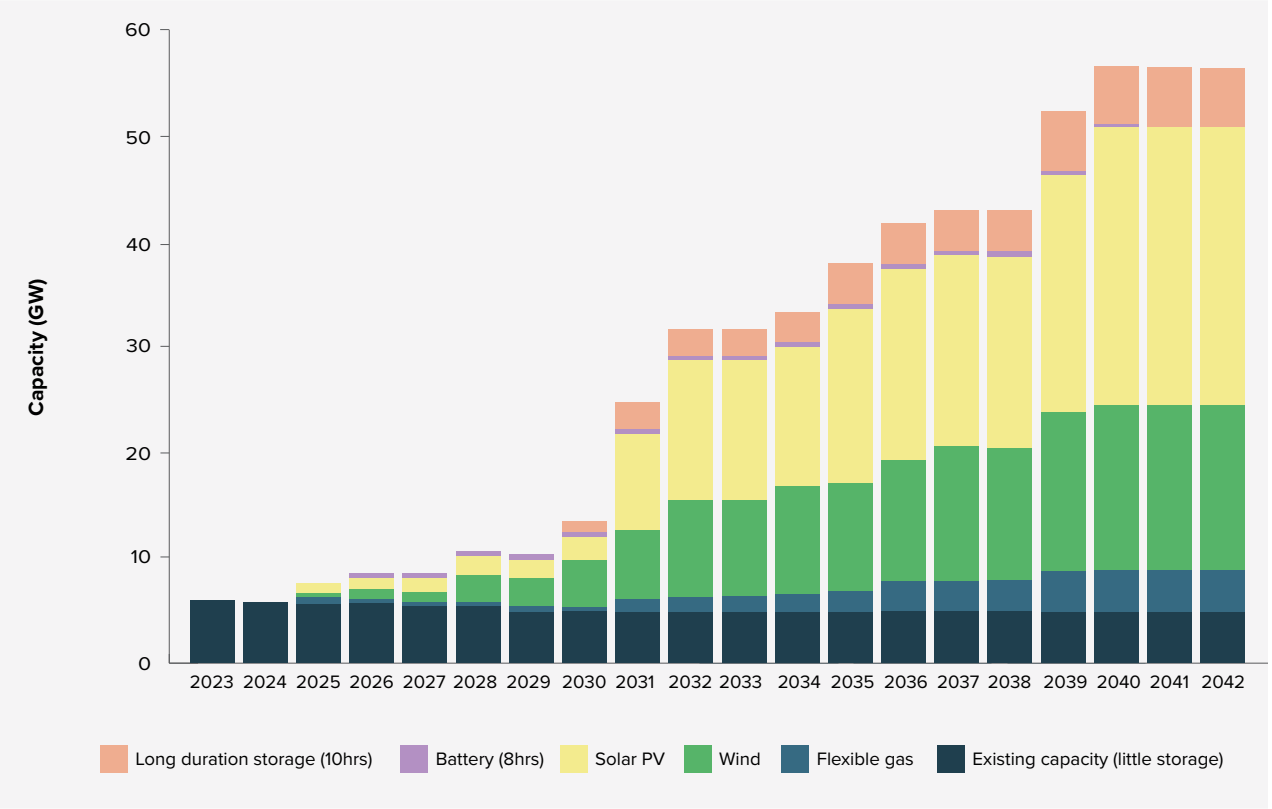
Source: AEMO, Draft 2026 Integrated System Plan, Figure 1. N.B. "Rooftop and other small solar" includes forecast residential and commercial rooftop photovoltaic (PV) systems as well as larger distributed PV systems referred to as PV non-scheduled generation (PVNSG) systems. "Utility solar" also includes other distributed PV systems, optimised through the ISP assessment process. "CER storage" means consumer energy resources such as batteries and electric vehicles. "Flexible gas" includes gas-powered generation and potential hydrogen capacity.

xx Firming refers to maintaining the output from an intermittent power source for a required length of time.

Similarly, the SWIS will require a 9-fold increase in wind and solar renewable energy, to approximately 42 GW, by 2042 (**Figure 4**). This will be firmed by approximately 5 GW of storage and 4 GW of gas-powered generation.

Infrastructure Australia's *2025 Market Capacity Report* shows that the unconstrained national pipeline of energy infrastructure, including transmission, solar, wind and pumped hydro projects is valued at $163 billion for the five years from 2024-25 to 2028-29, equivalent to 122 GW of potential new capacity. However, AEMO's Draft 2026 ISP notes that currently only 24 GW of solar and wind projects will be operational by 2030 – that is, by 2030, renewable energy would contribute 75% of NEM supply, missing the 82% national renewable energy target.[xxi] While development is expected to catch up to help meet the 2035 emission targets, project delivery is constrained by planning approvals, the supply chain, gaining social license, and construction challenges.

Figure 4: Capacity, SWIS GW 2023 to 2042



Source: Government of Western Australia, 2023, SWIS Demand Assessment 2023 to 2042.

xxi On average, solar and wind projects take four years from connection application to full output.

Storage for grid stability and energy reliability

Batteries, when paired with renewable energy, can store excess power during low-demand periods and release it during peak times. Their flexibility allows them to respond rapidly to demand, often within seconds. They can be deployed at various scales – from large grid-scale installations to smaller home systems. When aggregated, smaller batteries can form virtual power plants, enhancing grid stability.[xxii]

According to the Draft 2026 ISP, the NEM must expand its battery storage capacity from 3 GW to 33 GW by 2050 to meet net zero emissions targets. This includes 27 GW of grid-scale batteries and 6 GW of pumped hydro storage. Achieving this growth will require a diverse mix of storage technologies that can dispatch power over different timeframes (refer **Table 22**), including large-scale batteries, pumped hydro, and coordinated consumer energy resources (CER) such as home batteries and electric vehicles (EVs).

Table 22: Battery storage types

Storage Type	Dispatchable power	Description
Consumer energy resources (CER)	2 hours	Coordinated CER storage is managed as part of a virtual power plant, while passive CER storage is not. Includes rooftop solar, EVs, at-home batteries and community batteries.
Shallow	< 4 hours	Such as a utility-scale battery.
Medium	4-12 hours	Grid-scale batteries or pumped hydro. These are vital for managing daily peaks, especially in the morning and evening.
Deep	> 12 hours	Needed for covering extended periods of low solar and wind output and for seasonal energy shifting. These systems are often supported by gas powered generation.

xxii A virtual power plant is a network of small, distributed energy resources (like solar batteries) that are linked and controlled using smart software.

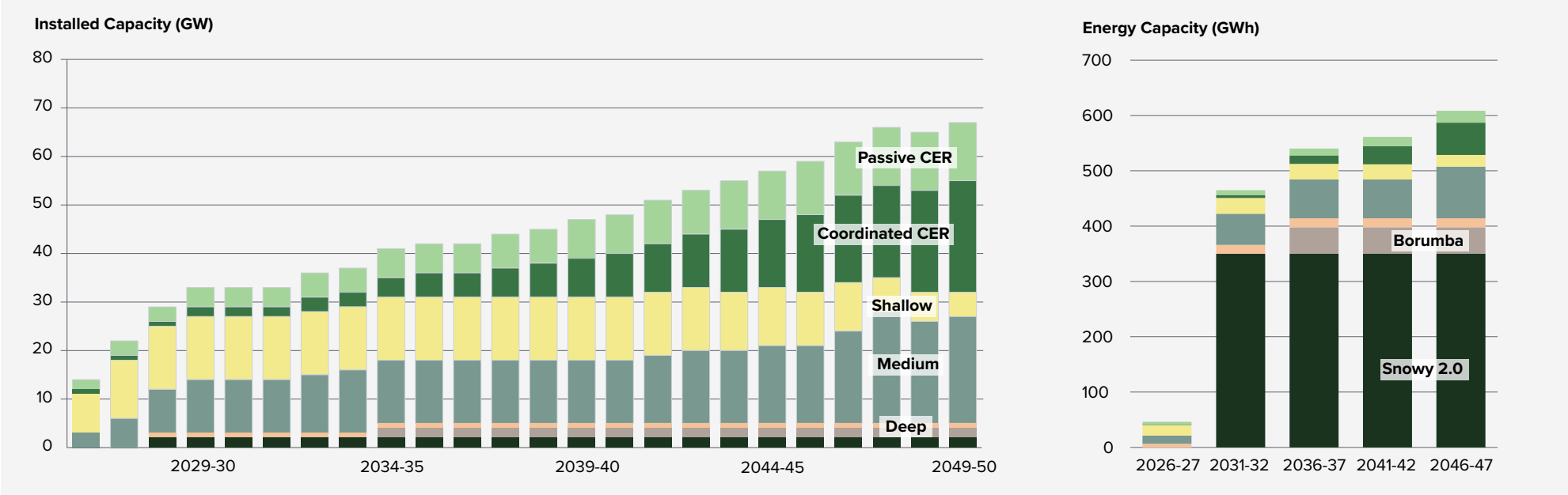
As shown in **Figure 5**, while shallow storage, including passive and coordinated CER, will account for 60% of the NEM's installed storage capacity (gigawatts) in the future, deep storage will underpin system reliability, accounting for between 70-80% of energy storage capacity (gigawatt hours) by 2030 and 2050. Energy storage capacity is the total amount of energy (gigawatt hours, GWh) a system can store and deliver over time.[xxiii]

Deep storage, including *Snowy 2.0* (New South Wales) and *Borumba* (Queensland), will be needed for covering prolonged periods of 'dark and still' conditions associated with renewable lulls.

Queensland's planned Borumba Pumped Hydro project is anticipated to add 48 GWh of storage capacity, while Snowy 2.0 would provide 350 GWh, which would be 1.3 and 9.5 times larger than all coordinated CER storage in 2050.

Such deep storage projects are critical. Currently, only three deep storage facilities – Temut 3 (New South Wales), Wivenhoe (Queensland), and Shoalhaven (New South Wales) – are operational, with Snowy 2.0 and Kidston Pumped Storage Hydro (Queensland), under construction.[171]

Figure 5: Storage installed capacity and energy storage capacity, NEM



Source: AEMO, 2026 Draft Integrated System Plan, figure 18

xxiii Installed capacity (GW) is the maximum instantaneous power a plant can produce, while energy capacity (GWh) is the total energy produced over time.

The Australian Government's *Capacity Investment Scheme* offers incentives for large dispatchable storage, as does South Australia's *Firm Energy Reliability Mechanism*, while New South Wales has a target of at least 16 GWh of storage by 2030.[165] The Australian Government is also supporting the uptake of consumer batteries with its $7.2 billion *Cheaper Home Batteries Program* which subsidises household and small business battery systems.

Though many shallow and medium sized batteries will be delivered by the private sector, government investment may still be necessary to ensure grid stability and security through the availability of strategic medium and deep storage. Infrastructure Australia has previously listed *National Electricity Market: dispatchable energy storage for firming capacity* on the Infrastructure Priority List, which identified investments in dispatchable energy storage to support growing renewable energy generation.

The Australian Government is investing in storage projects through the *Clean Energy Finance Corporation* (CEFC) and Australian Renewable Energy Agency (ARENA), and directly, including:

- $8.48 billion in financing to Snowy Hydro, an Australian Government Business Enterprise, to deliver Snowy 2.0.[xxiv]
- $650 million in concessional finance, and $65 million in grant funding for Hydro Tasmania's Tarraleah hydropower redevelopment, which will double the power station's capacity from 90 megawatt (MW) to 190 MW with 20 hours of storage.[172]

Additional deep storage/pumped hydro projects are in planning, including:

- Cethana Pumped Hydro in Tasmania under the Battery of the Nation initiative, with approximately 14.5 GWh of storage.
- Mount Rawdon Pumped Hydro, a private project located south-west of Bundaberg in Queensland proposing up to 20 GWh of storage capacity.
- Capricornia Energy Hub Pumped Hydro, a proposed private generation facility in Queensland, with a storage capacity of 12 GWh.
- Phoenix Pumped Hydro, a proposed private facility in the Central-West Orana Renewable Energy Zone (New South Wales) with a storage capacity of around 12 GWh.

Major battery projects in Australia include the 3 GWh Supernode (Queensland) and Eraring (New South Wales) battery projects, both medium storage projects being delivered by the private sector.

Transmission projects, which are discussed further in the following section, are intended to help enhance the NEM's access to these resources.

xxiv This figure includes $1.38 billion equity injection in Budget 2019-20, and additional $7.1 billion financing (loan and equity) in Budget 2024-25.

10-year national priorities

Australia has a range of renewable energy generation and storage needs to support the clean energy transition. Energy storage requirements range from short-duration to long-duration solutions.

In remote communities, renewable energy generation strengthens resilience, boosts local economies and supports better health outcomes. The 2026 Infrastructure Priority List includes the ***Northern Territory remote community power generation program*** proposal as a priority for future investment in the 2-4 year pipeline. Renewable energy generation can replace ageing diesel generators in 72 towns across the Northern Territory that supply electricity to remote and regional First Nations communities. This transition would lower operating costs and improve the resilience of energy infrastructure in remote communities often isolated during the wet season.

Batteries and deep storage are key to ensuring grid reliability and stability during periods of uncertain renewable supply. The 2026 Infrastructure Priority List includes the ***ACT renewable energy storage enhancement*** proposal as an immediate priority for planning to investigate Battery Energy Storage Systems in the Australian Capital Territory. Adding new firming capacity would help reduce the risk of power outages and rolling blackouts in the NEM, which can have detrimental impacts on network equipment, leading to potential security and reliability issues for those connected to the electricity grid.

Renewable Energy Zones

Australia's energy transition requires coordinated investment in high-quality, renewable energy resource areas where clusters of large-scale renewable projects can be efficiently developed and connected to energy markets. Resource areas are an important planning and coordination mechanism for clustering new generation, storage and transmission infrastructure projects to be developed using economies of scale. In the NEM, these resource areas are called Renewable Energy Zones (REZ), or Renewable Energy Hubs in Queensland. AEMO identifies REZs after engagement with government and transmission network service providers and economic consideration.[173] The Western Australian Government identifies key renewable energy resources in *The South West Interconnected System Transmission Plan* and the *Pilbara Energy Transition Plan*.

Delivering the scale of renewable generation required to support Australia's energy transition will depend on deploying new capacity as efficiently and cost-effectively as possible. This requires harnessing high-quality renewable resources, coordinating investment across generation, storage and transmission, and enabling timely connections to electricity networks. Concentrating development in areas with strong resource potential and shared infrastructure can help accelerate delivery, reduce system costs and manage impacts on communities and land use. Achieving this outcome relies on coordinated planning and sequencing of energy infrastructure projects across jurisdictions.

AEMO's draft 2026 ISP identifies potential REZs across the NEM as critical for the future energy system, with specific REZs designated by individual jurisdictions, such as the five declared in New South Wales and six proposed in Victoria. The Draft 2026 ISP identifies 44 potential REZs including 5 candidate offshore wind zones. AEMO considers REZs crucial for the transition to a renewable-powered grid, noting their development provides a way to efficiently connect new, low-cost renewable energy generation projects to the grid.

Key renewable resource areas in the SWIS of Western Australia are being developed, with major initiatives focused on the Mid West, Goldfield, and South West regions to support the state's transition away from coal by 2030. The Western Australian Government is establishing 'renewable generation hubs' in these areas to connect wind and solar resources.[174]

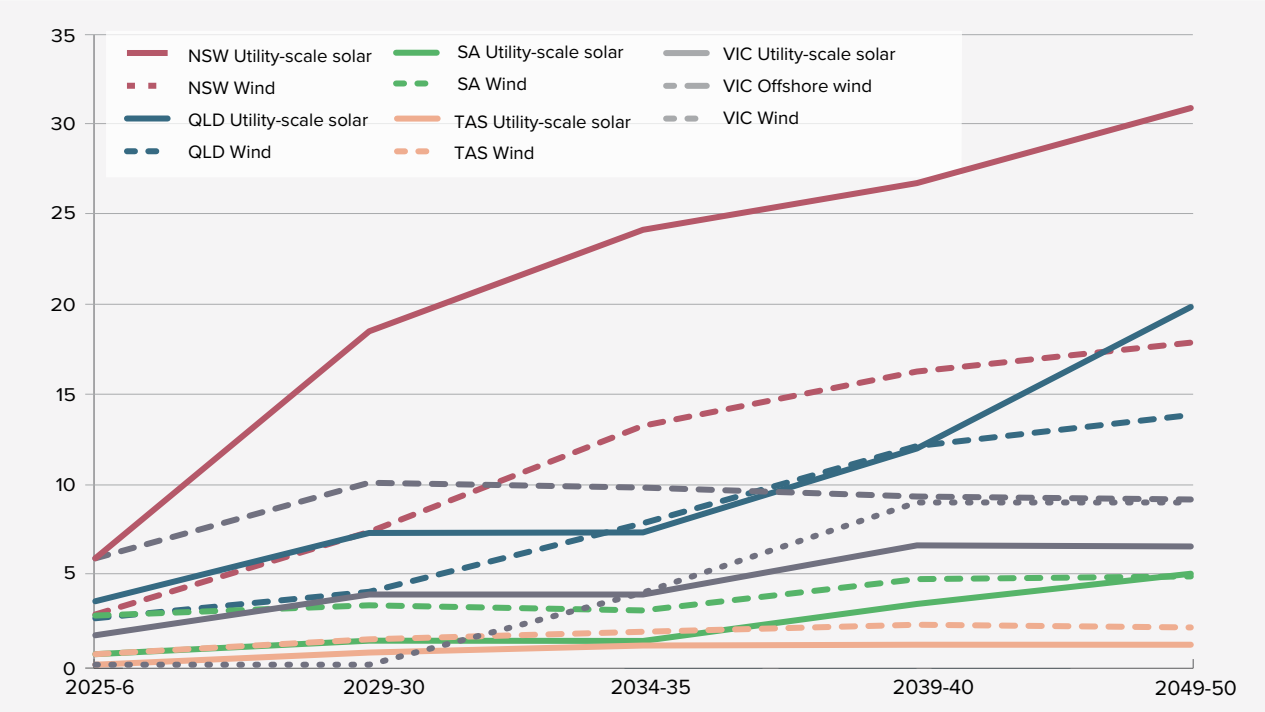
In the NWIS, the electricity grid supplying the Pilbara region, the Western Australian Government has identified four transmission corridors to connect high-quality areas of renewable energy to industrial users, mines and communities. The Pilbara accounts for more than 40% of Western Australia's emissions, primarily from major industrial producers, and utilises less than 2% renewable energy generation. Because of this, the Pilbara will play a central role in meeting Western Australia's emissions reductions targets. Decarbonising the Pilbara by expanding access to renewable energy is important for the long-term viability of key industries, as the Pilbara contributes nearly 20% of Western Australia's economic output.[175]

Efficient development of renewable energy resource areas relies on:

- coordination by the Australian and state/territory governments, including identifying and addressing infrastructure gaps
- new transmission infrastructure to connect these areas, to efficiently and reliably supply consumers.

Figure 6 shows that New South Wales and Queensland have the greatest projected increase to installed REZ generation capacity to 2050. Victorian offshore wind is a sector of generation capacity that is expected to grow from no current generation to 9 GW of installed capacity by 2040, which is over 500 MW of new capacity annually (enough power for 312,000 homes).

Figure 6: Forecast NEM installed REZ generation capacity (GW) 2026 to 2050, by jurisdiction and technology



Source: Infrastructure Australia, using data from AEMO, 2025, Draft 2026 ISP Results Workbook, "Installed Generator Capacity by Technology", CDP2 'Step Change – least cost' scenario

Enabling infrastructure for REZ development

A rapid expansion of renewable energy, particularly onshore wind projects, requires coordinated investments in enabling infrastructure such as ports, freight networks, and transport infrastructure, while managing complex logistics and community impacts.

AEMO's forecasts indicate that, of 58 GW of new utility-scale wind and solar capacity needed by 2030, 26 GW (45%) is onshore wind – delivery and scaling of onshore wind is therefore a priority over the next five years for Australia to reach its renewable energy targets.

Delivering onshore wind involves importing and transporting many oversized and/or overmass (OSOM) wind turbine components – such as turbine blades, tower sections and nacelles[xxv] – from ports to project sites. This places immediate pressure on port capacity, the road networks connecting ports to REZs, the broader logistics supply chain, and surrounding communities.

Infrastructure Australia analysed 56 onshore wind projects expected to start construction in the next five years, including all onshore wind projects on the *National Renewable Energy Priority List* and other more advanced projects within REZs in New South Wales, Victoria and Queensland. Together, these projects are expected to deliver up to 32 GW of planned capacity.

By 2030, delivering these projects will require importing around 4,600 wind turbines through Australia's ports and transporting more than 62,000 OSOM components to project sites (**Table 23**).

To support this task, more than 900 identified constraints on the road network may need to be addressed – nearly half of which are on national freight routes and interstate corridors – and ports will need sufficient handling and storage capacity, with some expecting demand of over 17 OSOM movements a day at peak delivery. Upgrades to key routes for OSOM movements will have benefits for other freight, including fuels and agriculture.

The high volume of OSOM movements needed every day, continuously over a period of years also demonstrates the potential for significant impacts on:

- **Local communities** – a major social licence challenge that governments and developers need to address to avoid delays and increased costs to delivery.[176]
- **Logistics supply chains** – the capacity of OSOM transport operators and police escorts required for many OSOM movements is likely to be quickly over-stretched, particularly when coordinating logistics and escort operations across state borders.
- **Freight network** – rail-road interfaces at level crossings are a constraint that presents coordination challenges, for example at Denman in New South Wales where the OSOM route to Central West-Orana crosses the ARTC Hunter coal-train network.

Infrastructure Australia has previously listed the *Lumsden Point development (Port of Port Hedland)* on the Infrastructure Priority List, which includes upgrades to enable the import of wind turbines and solar panels to support renewable energy and hydrogen projects for the NWIS in the Pilbara. The Australian Government has committed $565 million to the proposal.

Table 23: OSOM wind turbine movements by 2030, by jurisdiction, for wind projects analysed by Infrastructure Australia

Jurisdiction	NSW	QLD	SA	TAS	VIC	WA
Number of wind projects analysed	15	17	1	5	13	5
Total MW generation capacity to 2030	10,238	10,232	1,000	1,684	5,751	1,713
Total turbine count to 2030	1,624	1,495	135	211	876	244
Total OSOM movements to 2030	22,542	19,435	1,755	2,443	12,830	3,177

Source: Infrastructure Australia analysis

xxv The nacelle is the large housing on top of the wind turbine tower, behind the rotor blades, which holds all the key components that convert wind energy into electrical energy.

Transmission networks to connect renewable energy with consumers

Australia's NEM relies on over 40,000 km of existing electricity transmission infrastructure,[177] with a further 7,750 km of transmission lines in Western Australia's SWIS and 3,000 km of transmission infrastructure in the NWIS.[178,179]

Historically, Australia's transmission networks have been organised to deliver large amounts of base and peak time dispatchable power from coal-fired power stations. While some REZs are located near former coal zones (such as the Hunter-Central Coast REZ), others are not. This is because REZs are situated in areas of abundant renewable energy resources.

Not only do Australia's transmission highways need to be re-routed to carry electricity from new areas of grid-scale dispatchable generation to population centres, networks also need to be reshaped to take advantage of grid-scale storage and microscale grids where generation and storage is disaggregated and energy flows are two-way (for instance, rooftop solar, electric vehicle car parks, community batteries). For example, Queensland Supergrid South is a planned transmission project that will connect the Borumba Pumped Hydro project into the NEM, and Southern and Central Queensland with 430 km of high voltage lines.[180]

Major upgrade and expansion of electricity transmission networks is needed to underpin the energy transition. This requires a coordinated effort across multiple levels of government to ensure grid stability and energy reliability, particularly for manufacturing and industrial users who require predictable supply and cost.

Significant upgrades and expansions of existing transmission networks will be needed by 2050 to connect generation and storage to the grid.[165] The NEM is estimated to need 6,000 km of new transmission lines by 2050 and the SWIS over 4,000 km of new high-capacity transmission lines by 2042.[165,166]

The Australian Government has allocated $20 billion to the CEFC to help deliver *Rewiring the Nation*, an Australian Government program providing concessional finance to modernise the electricity grid, deliver new and upgraded transmission, and make clean energy more accessible and affordable. The program works with states and territories to support:

- Priority transmission projects identified by AEMO and other network authorities across the NEM and in Western Australia and the Northern Territory.
- Long-duration storage and enhanced electricity distribution networks.
- Measures to strengthen the security, reliability and affordability of the grid, including demand management resources.
- Enhancements to grid infrastructure to support a hydrogen hub or offshore electricity project.

The Draft 2026 ISP identifies 'actionable' projects that have been determined by AEMO as part of the optimal development path, that optimises the benefits for consumers (maintain system reliability and connect renewable generation and storage, at the least cost) if progressed within the next two to three years. The following transmission projects have reached financial close, and are expected to add around 1,700 km to the NEM's transmission network, and reach full capacity between 2027 and 2031:[xxvi]

- *EnergyConnect*: a 900 km project connecting the electricity grids of New South Wales, South Australia, and Victoria. CEFC is supporting the project with $295 million in financing.
- *HumeLink*: a new transmission line connecting the Hume region to the national grid and facilitating the integration of renewable energy sources. CEFC is supporting this project with $1.45 billion in financing.[181]
- *Central West Orana REZ Transmission Project*: a project to build the necessary transmission infrastructure for the Central West Orana REZ in New South Wales. CEFC is supporting the project with $750 million in funding.[182]
- *Marinus Link* (Stage 1): a proposed subsea electricity and telecommunications connector linking Tasmania with mainland Australia, which will have two undersea cables and is a major project supporting Tasmania's role in the national energy transition. Marinus Link will be delivered in two stages. Initially as a 750 MW project (Stage 1) with a second 750 MW link to follow at a later date (Stage 2). CEFC financing is expected to be $3.8 billion to support the project.[183]

xxvi The Optimal Development Path in the ISP is identified as the most optimal and robust pathway to future states of the world. The ODP contains actionable projects, future ISP projects and ISP development opportunities, and optimises costs and benefits of various options across a range of future ISP scenarios.

These projects will add around a quarterof the 6,000 km of new transmission lines expected to be needed for the NEM by 2050. The Draft 2026 ISP identifies other actionable transmission projects as, that are in the design and approvals phase and have not yet taken a final investment decision or reached financial close. These projects, which are expected to reach full capacity between 2028 and 2034, are also needed to strengthen the connections between jurisdictions, adding reliability and stability to electricity supply across the NEM. Other potential 'actionable' transmission projects for the NEM require ongoing analysis, and these will be confirmed in the final 2026 ISP.

The Western Australian Government's *South West Interconnected System Transmission Plan* outlines the transmission investments required to facilitate the renewable transition in the SWIS. As coal generation is phased out, the SWIS will need a 9-fold increase in wind and solar renewable energy to enable the decarbonisation and electrification of existing industries.

For the North West Interconnected System, the Western Australia Government has identified *four priority corridors* under the *Pilbara Energy Transition Plan* for new common-use transmission infrastructure. These corridors would connect renewable resource areas with ports, mines, and industrial hubs, allow multiple generators and loads to access shared infrastructure, and enable progressive expansion as demand and generation increase.

10-year national priorities

Australia's energy transition requires coordinated investment in high-quality, renewable energy resource areas where clusters of large-scale renewable projects can be efficiently developed and connected to energy markets such as the NEM, SWIS and NWIS.

Efficient development of renewable energy areas relies on:

- Efficient delivery of onshore wind by ensuring key ports and freight corridor infrastructure is fit for purpose to import and transport OSOM wind turbine components to project sites.
- New transmission infrastructure to efficiently and reliably connect renewable energy areas to consumers.

In the NEM, REZs are important to Australia's clean energy transition. Investment to remove infrastructure bottlenecks at ports and connecting roads is important to enable the rapid development of REZs. The 2026 Infrastructure Priority List identifies four proposals as priorities for future investment in the 2-4 year pipeline that will support this outcome:

- ***Enabling infrastructure for Renewable Energy Zones – Port of Newcastle to Central West Orana REZ***. The Port of Newcastle is positioning itself as a gateway for Australia's clean-energy exports and critical minerals supply chains. This will put significant pressure on berth and offloading capacity at the Port of Newcastle, requiring improvements to storage and road access at the port and upgrades to key freight corridors to enable OSOM vehicle movements between the Port of Newcastle and the Central West Orana REZ along the Golden Highway.
- ***Enabling infrastructure for Renewable Energy Zones – Ports of Newcastle/Brisbane to New England REZ***. High volumes of onshore wind projects are planned for construction in the New England REZ in New South Wales. Upgrades on the New England Highway are needed to address height, mass and width constraints, provision of sufficient pull-over bays and rest areas and appropriate bypass routes at key towns such as Muswellbrook and Tamworth to avoid constraints and manage impacts of OSOM movements on communities. Investigating the viability of an alternative OSOM route from the Port of Brisbane to New England REZ that could alleviate demand pressure at the Port of Newcastle is also needed.

- ***Enabling infrastructure for Renewable Energy Zones – Ports of Adelaide/Geelong to South-West REZ***. Greater use of the ports of Adelaide and Geelong to deliver wind projects in New South Wales (including the South West REZ) and Victoria (such as the Western REZ) would enable more efficient delivery and reduce pressure on other ports. Upgrades along the Sturt Highway and routes from Geelong to the border with New South Wales will be needed to address constraints on OSOM movements, such as bridge height and mass restrictions, width constraints at intersections and level crossings, and ensure sufficient pull-over bays and rest areas. Height and width constraints on OSOM access out of the ports of Adelaide and Geelong (Victoria) will also need to be investigated. This proposal relates to *South Australian High Productivity Freight Vehicle Network - Future stages* which includes the Sturt Highway.
- ***Enabling infrastructure for Renewable Energy Zones – Port of Gladstone to Central Queensland***. The Port of Gladstone is important to support a high concentration of onshore wind development in Central Queensland. There is a need to secure capacity at the port for wind turbine imports, identify preferred OSOM haulage routes out of Gladstone to address key port access pinch points and reduce local community impacts, and investigate upgrades to address constraints on surrounding freight corridors, including bridge mass, height and width constraints on the Bruce, Dawson, Capricorn and Leichhardt Highways.

New transmission infrastructure that connects areas of abundant renewable energy to electricity grids is critical to transitioning to a net zero economy. The 2026 Infrastructure Priority List identifies three proposals as priorities for future investment in the 2-4 year pipeline that will support this outcome:

- ***National Electricity Market connectivity***. AEMO's Draft 2026 ISP identifies 'actionable' transmission investments in the NEM which should proceed to ensure grid reliability, security, and to meet renewable energy targets. This proposal includes transmission projects in design and approvals phases that are expected to reach full capacity between 2028 and 2034 and would enhance reliability and system stability across the NEM.
- ***South West Interconnected System connectivity***. The Western Australian Government's *South West Interconnected System Transmission Plan* outlines the transmission investments required to facilitate the renewable transition in the SWIS. This includes the Clean Energy Link Program, a series of transmission projects to connect renewable energy resources in south west Western Australia.

- ***North West Interconnected System connectivity.*** Decarbonising mining and industrial activity in the Pilbara by expanding access to renewable energy is crucial for the long-term viability of key export industries and achieving net zero. The North West Interconnected System currently includes the coastal network owned by Horizon Power (public), the inland network from Karratha to Tom Price owned by Rio Tinto (private), and extensive off-grid networks owned by BHP and APA (private). Major electricity customers in the NWIS include the port operations of BHP, FMG, Roy Hill and other miners, Rio Tinto's port operations and inland mines, and industrial, commercial and residential loads. New common-use transmission that connects high quality, renewable energy resource areas with industrial users and regional and remote communities is important for delivering the lowest-cost transition to renewable energy.

Fuels

Firming and transition fuels to support renewable generation

To support the transition to a net zero economy, gas-powered generation is needed to plug gaps in supply and meet peak loads to ensure grid stability. Hydrogen is poised to become an export commodity and fuel for industrial users if production technologies prove to be scalable, commercially viable and supported by abundant large-scale solar and wind power.

Domestic gas to firm renewable energy

Gas will remain a critical backup for renewables in the NEM, SWIS and NWIS, ensuring reliability and power system security as the energy transition accelerates. However, this role depends on timely and sufficient investment in gas supply, transport, and storage infrastructure.

After coal-fired generators retire, gas will increasingly be needed to back up renewable supply (during periods of renewable lulls and peak demand), as well as for system security services. The NEM will need 14 GW of flexible gas-powered generation by 2050, adding to and progressively replacing 12 GW of existing operations as they reach end of life.[165] The SWIS is forecast to require almost double its existing gas generation capacity, adding an additional 3.9 GW of new gas-powered generation by 2042.[166]

In the 2025 *Gas Statement of Opportunities*, AEMO forecasts potential supply gaps in 2028 and clear shortfalls in gas supply for southeastern states from 2029 under all future scenarios. There are also forecast supply gaps for the west coast from 2030.[184]

This will require gas supply infrastructure investments by industry to support production, transport, and storage to address supply risks.

Potential supply gaps in southern Australia emphasise an increasing reliance on northern producers to meet domestic gas needs and export obligations.[185] There is potential for increased gas production from Queensland and the Beetaloo Basin in the Northern Territory.

Upgraded infrastructure is required to ensure sufficient gas is available to support both direct-use gas consumers and gas-powered generation. Pipeline constraints, especially in southern states during winter, may restrict gas availability for electricity generation when both gas and electricity demand peaks.[165]

Australia's gas pipelines are privately owned, with a regulated network that includes 4,877 km of larger long-haul transmission pipelines and 75,054 km of urban and regional distribution networks.[186] With significant gas reserves remaining in Western Australia, Queensland and the Northern Territory, there is a long-term national need for gas pipeline and storage infrastructure capacity to improve links between northern gas supplies and consumers.[183]

Low Carbon Liquid Fuels for hard-to-abate sectors

Low Carbon Liquid Fuels (LCLF) offer a low carbon solution for hard-to-abate industries, such as long-distance transport, mining, agriculture and construction. LCLFs can be made from biogenic feedstocks (such as oilseeds, wastes, and biomass), or from non-biomass resources through chemical processes (for example, combining hydrogen and captured carbon dioxide).[187] Renewable diesel and sustainable aviation fuel are two examples of LCLF that can be used as drop-in replacements for fossil fuels, utilising existing engines and infrastructure.

The *Refined Ambitions: Exploring Australia's Low Carbon Liquid Fuel Potential* (2025) report, commissioned by the CEFC, finds that a domestic LCLF industry could deliver significant decarbonisation of Australia's hard-to-electrify sectors, with a cumulative 230 million tonnes of CO2e abated to 2050 in a central scenario, equivalent to more than half of Australia's annual greenhouse gas emissions in financial year 2025.

The Australian Government is positioning Australia to become a key regional LCLF producer through:

- $30 million of *ARENA funding* to support the development of a sustainable aviation fuel industry with production from renewable feedstocks
- $250 million of *Future Made in Australia* funding to accelerate a domestic LCLF industry, focusing on sustainable aviation fuel and renewable diesel
- $1.1 billion *Cleaner Fuels Program* to encourage domestic production of LCLF.

Hydrogen for hard-to-abate sectors

While scalability and cost will determine the role renewable hydrogen plays in fuelling Australia's energy mix, as a fuel it has broad appeal for industrial users and as an export commodity.

Hydrogen supports the renewable energy transition as it can help decarbonise hard-to-abate sectors such as heavy industry and long-distance transport. Unlike grey or blue hydrogen, which rely on fossil fuels for production, green hydrogen is produced through electrolysis – using renewable electricity to split water into hydrogen and oxygen – resulting in a zero-emissions fuel suitable for various applications. Technological innovations may prove other hydrogen production methods more cost-effective or viable, such as turquoise hydrogen which is produced through methane pyrolysis using gas as a feedstock and about 70% less electricity than electrolysis.[188]

Hydrogen plays three key roles in the energy transition:

- **New load:** electrolysis for hydrogen production requires dedicated or grid-connected electricity, adding significant load to energy markets. Its flexibility in energy generation means it can participate in demand response and frequency control to support grid stability.
- **Storage:** hydrogen can store energy by converting excess renewable power into hydrogen, later used for peak generation via fuel cells or gas turbines.
- **Fuel:** hydrogen can replace natural gas in high-temperature industrial processes (steel, cement) and power fuel cell vehicles, ships, and planes – ideal for hard-to-electrify sectors.

However, there are several challenges to scaling renewable hydrogen, including:

- **High investment:** Bloomberg estimates Australia needs $326 billion more or 1.8 times current renewable investment to become a global hydrogen exporter.[189]
- **Production costs:** green hydrogen costs between $US 5-6 per kg. To compete with fossil fuel-based hydrogen, cost should drop to around $US 2 per kg.[190,190]
- **Enabling infrastructure:** hydrogen's flammability and low density require specialised pipelines, retrofits and refuelling stations, particularly as a gas replacement.
- **Market uncertainty:** despite interest from Japan, South Korea and Germany, demand remains speculative.[191]

The Australian Government's 2024 *National Hydrogen Strategy* envisions Australia as a global leader in hydrogen production and outlines activities to support hydrogen development, including:[192]

- **Hydrogen Production Tax Incentive:** to encourage renewable hydrogen production by providing support to eligible hydrogen producers in the form of a tax offset of $2 per kg of hydrogen produced, from 2027 to 2040.
- **Hydrogen hubs:** support low-cost hydrogen production by concentrating delivery of new infrastructure in regional Australia. The Australian Government is investing more than $500 million to support the development of hydrogen hubs, with funding announced for projects in:
  - the Pilbara and Kwinana in Western Australia
  - the Hunter in New South Wales
  - Bell Bay in Tasmania
  - Gladstone and Townsville in Queensland
  - Port Bonython in South Australia.
- **Advancing Hydrogen Fund (CEFC):** which is providing $300 million in concessional finance to catalyse investment in large-scale hydrogen projects, which may support technology, construction, operating and revenue risks.[193]

Infrastructure Australia has previously listed *Enabling infrastructure for hydrogen production* on the Infrastructure Priority List, which identified opportunity to develop supply chains connected to Renewable Energy Zones in Australia to meet potential demand for green hydrogen in domestic and export markets.

Decarbonising infrastructure

Delivering infrastructure for economy-wide decarbonisation

Embodied carbon – GHG emissions associated with materials and construction processes over an asset's life – accounts for a significant and growing share of Australia's total emissions. As operational emissions decline through grid decarbonisation, embodied emissions are set to become the dominant climate impact of built infrastructure.[194]

Buildings and infrastructure are directly responsible for nearly one-third of Australia's total emissions and indirectly responsible for over half. In 2023, embodied carbon contributed 10% of national emissions, with upfront emissions alone accounting for 7% (i.e. emissions up to construction completion).[193]

Up to 23% of upfront carbon emissions from public infrastructure could be abated by 2027 through practical, like-for-like material substitutions and decarbonisation strategies, equating to a reduction of 9 million tonnes of greenhouse gas emissions – about 2% of Australia's total annual emissions.[193] In addition to like-for-like decarbonisation strategies, further significant emissions reductions would be achievable through design optimisation and build-less strategies.[193]

Emerging technologies will help infrastructure owners extend the life of existing assets by enabling optimisation of asset use (such as demand management, route planning, autonomous vehicles, coordinated CER etc), repurposing existing infrastructure (such as Origin Energy's Eraring battery, which leverages the retiring coal plant's infrastructure and network connections), and retrofitting legacy assets (for instance, converting coal power plants into thermal energy storage batteries).[195,196]

The majority (75%) of upfront embodied emissions arise from the manufacture of construction materials such as steel and cement, with the remainder from construction processes and transport. Decarbonising infrastructure not only relies on the development of mature supply chains for recycled and green building materials (which itself depends on complex

transitions in mining and manufacturing sectors) but also on new technologies and, importantly, incentives to support private sector innovation.

A key step towards infrastructure decarbonisation is the production of low-emission and green steel. Over the next five years, steel for the Major Public Infrastructure Pipeline[xxvii,197] will be responsible for about 40 million tonnes of greenhouse gas emissions, equivalent to around 33% of Australia's total domestic steel manufacturing emissions over the same period.[xxviii,198] Technologies such as Electric Arc Furnace and Hydrogen Direct Reduced Iron are needed to produce low-emissions steel, however these require large capital investments by private steelmakers in the face of higher production costs compared to traditional methods. Governments can support private investment by driving uptake of low-emissions steel through infrastructure procurement programs.

South Australia's *Green Iron and Steel Strategy* aims to make South Australia a global leader in producing low-emission iron and steel by leveraging its abundant magnetite, renewable energy, and growing hydrogen supply to build new industries, transform existing steelmakers (such as Whyalla Steelworks), and export green iron by 2030.

Other opportunities to reduce embodied emissions in built infrastructure include:

- linking new construction decisions to Net Zero 2035 and 2050 reduction targets
- at the earliest 'problem identification' stage of a project, using the decarbonisation hierarchy[xxix] to drive a clear strategy for reducing whole-life carbon
- applying lifecycle thinking to manage environmental and social impacts, minimise carbon footprints and avoid trade-offs.

Decarbonisation also calls for more flexible and responsive standards and guidelines for procuring and building infrastructure so new technologies can be adopted more easily. Australian jurisdictions are already progressing work in this area, including:

- The *Embodied Carbon Measurement for Infrastructure: Technical Guidance* which provides a consistent approach for measuring embodied carbon in infrastructure projects nationally by infrastructure delivery agencies, their advisors, delivery partners, and emissions tool vendors. This guidance supports consistency across all Australian jurisdictions by providing common methodology, assumptions and reporting approaches.
- The *National Sustainable Procurement in Infrastructure Guideline* is designed to support jurisdictions to reduce embodied emissions during procurement through to development and delivery of infrastructure projects. The guideline is targeted at transport agencies, infrastructure bodies, and other public officials responsible for delivering infrastructure and contracting with industry.

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xxvii Publicly funded infrastructure projects valued over $100 million in New South Wales, Victoria, Queensland and Western Australia, and over $50 million in South Australia, the Australian Capital Territory, the Northern Territory and Tasmania.

xxviii Noting from 2024–25 to 2028–29 the Major Public Infrastructure Pipeline (projects >$100m in size) will need 3.6 million tonnes of steel, steel has emissions factor of 2.2 kg per CO_2e /kg and that Australian steel production currently accounts for roughly 24 million tonnes (Mt) CO_2e annually.

xxix The hierarchy emphasises a step-by-step strategy: first avoid emissions, then reduce absolute emissions, substitute with renewable energy sources, neutralise or remove residual emissions through technological or biological methods, and finally compensate through high-quality carbon credits.

Operational and enabled emissions

Operational emissions are the GHG emissions produced during the use of an infrastructure asset after construction is complete and throughout its operational life. These include scope 1 and 2 emissions.[xxx] Operational emissions from buildings and infrastructure represented about 21% of Australia's national emissions in 2023.[193]

The share of operational emissions as a component of infrastructure asset emissions over their lifecycle is expected to decline as Australia's electricity grid transitions towards renewables and more efficient demand and storage technologies are adopted.

Enabled emissions are GHG emissions that are made possible by the existence of an infrastructure asset but are not directly produced by its construction or operation. For example, emissions from internal combustion vehicles using a motorway, or diesel trains on a rail line. Enabled emissions accounted for 26% of Australia's national emissions in 2023.[193]

Enabled emissions can be directly influenced by government investments in and support for electric trains, buses, cars and trucks, for example:

- EV and battery technology adoption, particularly for government fleet vehicles and road and rail freight
- electrification of public transport rolling stock (passenger trains and buses)
- EV charging networks
- active and public transport.

There is an opportunity for high capacity public transport proposals to consider battery-based options for new network investments and rolling stock. For example, South Australia already operates hybrid diesel-electric railcars on Adelaide Metro's non-electrified Outer Harbor, Grange, Belair and Port Dock lines. Battery, battery-electric or combined battery-diesel-electric railcars could reduce the need to install overhead power lines on rail extensions, potentially reducing the cost of passenger rail extensions while also helping to reduce public transport carbon emissions.

The *National Electric Vehicle Strategy* supports the increased uptake of EVs through the development of a Fuel Efficiency Standard for light vehicles, and notes existing State and Territory policies such as Queensland, Victoria and New South Wales governments' aim for 50% of new light vehicles sales to be EV by 2030-31 and for government fleet vehicles to transition to EVs. The Strategy notes that expanding charging infrastructure, particularly along national highways and in remote and regional areas, will support wider EV adoption.

The Australian Government is partnering with the NRMA to install a network of 117 fast chargers on national highways at an average interval of 150 km.[199] This will support the use of electric trucks on national freight routes, however, gaps in charging infrastructure for electric trucks may remain on key freight routes off national highways and in remote and regional areas.

Infrastructure Australia has previously listed *National highway electric vehicle fast charging* on the Infrastructure Priority List, which identifies the opportunity to develop a network of fast-charging stations on the national highway and policies and regulation to support charging technology adoption.

State governments are already progressing initiatives to reduce operational emissions in the freight sector. For example, New South Wales' *Towards Net Zero Emissions Freight Policy* and Western Australia's *Sectoral Emissions Reduction Strategy*, which specifically call out road freight emissions reduction. The 2026 Infrastructure Priority List includes Victoria's proposal *Enabling infrastructure for zero emissions and high productivity freight vehicles in Victoria*, discussed in the *High Productivity Freight Networks* section.

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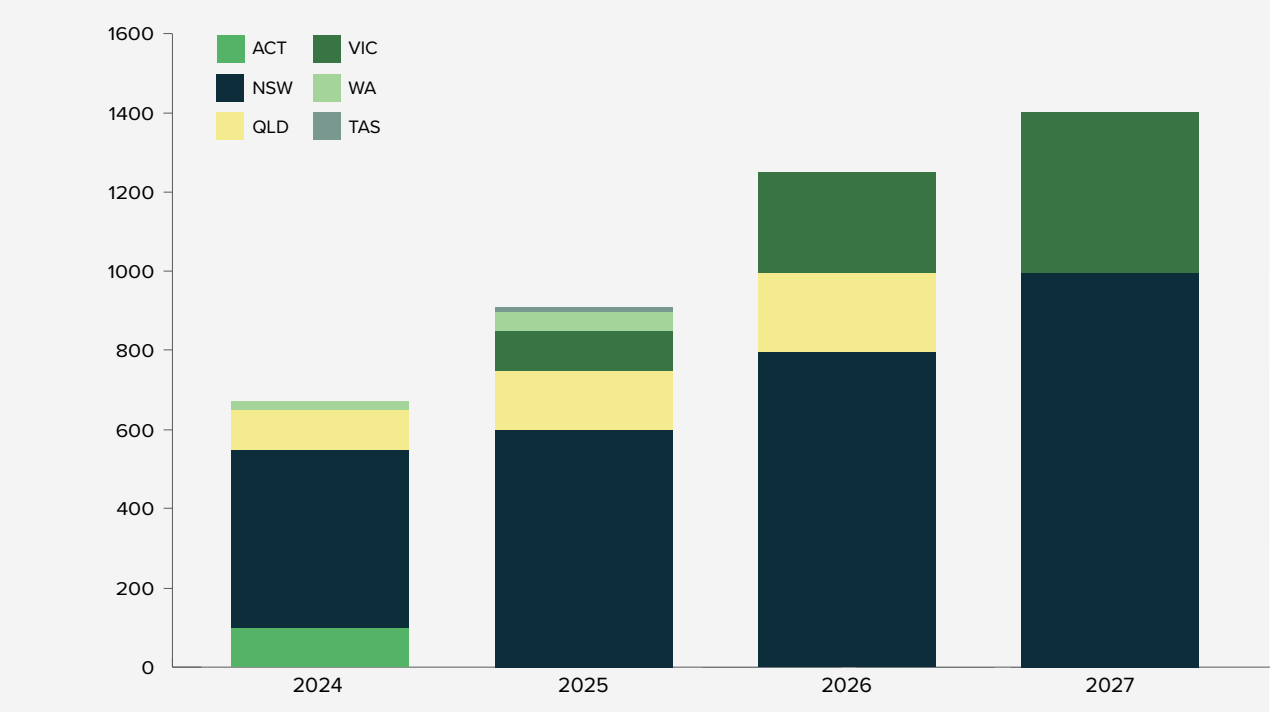
xxx Scope 1 refers to GHG emissions from sources directly owned or controlled by the infrastructure operator. Scope 2 covers indirect emissions from the generation of purchased energy that the infrastructure operator consumes.

Electrification of buses is a key near-term action to reduce transport emissions, forming part of the Australian Government's *Transport and Infrastructure Net Zero Road Map and Action Plan*.

New South Wales, Victoria, Queensland, South Australia, Western Australia and the Australian Capital Territory have all announced plans for zero-emissions buses, with targets set for purchasing or replacing bus fleets with zero-emission vehicles. With more than 20,000 public buses owned and operated by state and territory governments,[200] programs to transition fleets to hybrid and zero emissions buses will be significant and take many years to deliver. This creates opportunities for cross-jurisdictional collaboration on procurement, fleet rollout, and depot infrastructure upgrades.

Current procurement timelines (refer **Figure 7**) demonstrate that New South Wales makes up 67% of the forward pipeline of Zero Emissions Bus (ZEB) purchases, followed by Victoria (18%) and Queensland (11%). However, the pipeline will continue to grow, noting that current ZEB procurements cover just 21% of the existing public bus fleet.

Figure 7 – Planned or forecast Zero Emissions Bus procurements by year and jurisdiction



Source: Infrastructure Australia using dashboard data, see *Zero Emission Bus Procurement Pipeline*

Table 24 identifies where the Australian Government has committed funding for enabling infrastructure for ZEB programs through the Infrastructure Investment Program.

Table 24: Planning for low and zero emissions bus infrastructure by state/territory

Jurisdiction	Planned or underway	State / Territory Government actions and commitments	Australian Government Commitments
Australia Capital Territory	✓	*Zero Emissions Transition Plan for Transport Canberra 2024 Refresh* – procurement to buy and lease 106 battery electric buses and depot upgrades.[201]	
New South Wales	✓	*Zero Emissions Bus Transition Plan* – complete in Greater Sydney by 2035, in Outer Metropolitan regions by 2040, and in Regional NSW by 2047.[202]	$115 million to deliver a new purpose-built electric bus depot in Macquarie Park to house Zero Emission Buses. $100 million to deliver infrastructure for zero emission rapid bus services connecting Penrith, Liverpool, Campbelltown and Blacktown to the Western Sydney International Airport and Aerotropolis.
Northern Territory	✓	Investigations underway.[203]	
Queensland	✓	*Zero Emission Bus Program* with new buses for South East Queensland from 2025, with regional buses to follow.[204]	
South Australia	✓	60 new electric buses being delivered from 2025 with all buses and deports to be zero emission by 2050.[205]	$2.5 million for planning studies for design modifications required for depot infrastructure.
Tasmania	✓	Trial of battery electric buses and hydrogen electric buses underway.[206]	$8.5 million to undertake planning for depot upgrades, recharging equipment and electrical network upgrades.
Victoria	✓	*Zero Emission Bus Transition Plan* with commitment for all new public buses purchased from July 2025 to be zero emission.[207]	
Western Australia	✓	Electric buses currently being rolled out, with commitment for all depots to be upgraded by 2045.[208]	$125 million towards delivery of electric bus charging infrastructure.

Digitalisation is a growing source of new energy demand

Digital technologies like AI are changing the way we work and live. As demand for data storage and processing grows, the data centre sector will expand quickly. While data centres create challenges, they are also enablers of the clean-energy transition.

Data centres are a substantial new component of energy demand because they require a lot of energy and water to power and cool servers. As this load grows, renewable energy will need to scale up even faster.

AEMO now forecasts data centres as a standalone load. In 2024-25, data centres in the NEM accounted for approximately 2.2% of grid demand. Under the Draft 2026 ISP Step Change Scenario, consumption grows by about 25% per year to around 34 terawatt hours (TWh)[xxxi] or 12% of grid demand by 2049-50.[209] Data centre energy consumption could grow faster if data centre projects are completed faster to meet accelerated AI uptake.

Data centres also act as enabling infrastructure for the energy transition because they can finance new renewable capacity through Power Purchase Agreements (PPAs), operate flexibly to absorb surplus renewable energy, and accelerate digital tools that improve grid efficiency.

PPAs for new data centres help secure financing for wind, solar and storage projects, catalysing private investment and, in turn, accelerating the clean-energy transition. Data centres lead global corporate clean energy PPAs across sectors contracting around 17 GW of renewables in 2024.[210] In June 2025, Amazon announced $20 billion of Australian datacentre investments to 2029 and signed PPAs with European Energy for over 170 MW of energy from three solar farms (Victoria and Queensland) to help power those facilities.[211]

Although data centres increase energy demand, they also have demand-side flexibility, where data centre operators can schedule non-urgent computing tasks (such as AI model training or large data processing jobs) during periods of high wind or solar output.

Data centres also enable the computing power required by generators, market operators and consumers to vary their electricity feed-in and drawdown to and from the grid. Alenabled forecasting can improve grid efficiency and demand response management flexibility.

xxxi One terawatt hour is a unit of energy representing one trillion watt hours, or one million MWh.

10-year national priorities

Currently, buildings and infrastructure are directly responsible for almost one third of Australia's total GHG emissions, and indirectly responsible for over half of all emissions. Unlike operational emissions, which can be reduced by decarbonising the grid, embodied carbon emissions are locked in once the asset is complete. Reducing embodied GHG emissions generates significant and immediate abatement. Immediate reductions in embodied emissions can be achieved through like-for-like material substitutions, design optimisation, sweating assets and build-less strategies, and linking infrastructure at the earliest stages of delivery to emissions targets.

There is an opportunity for all states and territories to transition existing public bus fleets to zero emissions buses by upgrading bus depot infrastructure. The 2026 Infrastructure Priority List identifies:

- ***Enabling infrastructure for NSW Zero Emissions Buses – Future stages*** as an immediate priority for planning investment to define the infrastructure required to support the deployment of ZEBs across the state of New South Wales. The program involves upgrading existing depots, building new depots, and implementing smart technology to manage power draw from the grid.
- ***Enabling infrastructure for South Australia Zero Emissions Buses*** proposes upgrades to depot infrastructure to support the transition of more than 1,000 buses to zero-emissions technologies. This proposal is identified as a priority for future investment in the 2-4 year pipeline given the Australian Government has committed $2.5 million for planning studies for upgrades to depot infrastructure.

A key step towards infrastructure decarbonisation is developing domestic production of low-emissions and green steel. The 2026 Infrastructure Priority List includes the ***Whyalla industrial precinct enabling infrastructure*** proposal in South Australia as a future investment opportunity in the 2-4 year pipeline to investigate the transformation of Whyalla Steelworks into a commercially viable, low-emissions iron and steel facility. Key constraints include insufficient electricity grid capacity, limited gas supply via the Port Pirie Lateral Pipeline, constrained water supply, and aging port infrastructure.

Summary: Infrastructure response and investment priorities

By 2050, renewable energy is expected to supply 98% of electricity in the National Electricity Market, requiring an extensive scale-up of wind, solar, transmission, and battery storage. Over the next 10 years, governments should consider investing in transmission networks, renewable generation, storage systems, and enabling infrastructure to ensure reliable energy delivery.

Investments are also needed to decarbonise supply chains for building materials (such as steel and concrete), while supporting electrification of freight, public transport and private vehicles to reduce downstream emissions. Strong public-private cooperation and sustained investment over the next decade will be needed to secure clean, affordable energy and position Australia as a global leader in the net zero transition.

Table 25 identifies the **highest priority proposals for Delivering *Net Zero and a Clean Energy Economy*** to provide targeted solutions to address identified infrastructure constraints.

Table 25: Delivering Net Zero and a Clean Energy Economy: 2026 Infrastructure Priority List proposals

10-year national priorities	Location	Investment timing
Enabling net zero and the renewable energy transition		
Storage for grid stability and energy security and reliability		
ACT renewable energy storage enhancement	ACT	Investment-ready for Planning
Northern Territory remote community power generation program	NT	2-4 year pipeline
Enabling infrastructure for REZ development		
Enabling infrastructure for Renewable Energy Zones – Ports of Adelaide/Geelong to South-West REZ	SA, VIC, NSW	2-4 year pipeline
Enabling infrastructure for Renewable Energy Zones – Port of Gladstone to Central Queensland	QLD	2-4 year pipeline
Enabling infrastructure for Renewable Energy Zones – Ports of Newcastle/Brisbane to New England REZ	NSW, QLD	2-4 year pipeline
Enabling infrastructure for Renewable Energy Zones – Port of Newcastle to Central-West Orana REZ	NSW	2-4 year pipeline

10-year national priorities	Location	Investment timing
Enabling net zero and the renewable energy transition		
Transmission networks to connect renewable energy with consumers		
National Electricity Market connectivity	QLD, NSW, VIC, TAS	2-4 year pipeline
North West Interconnected System connectivity	WA	2-4 year pipeline
South West Interconnected System connectivity	WA	2-4 year pipeline
Delivering infrastructure for economy-wide decarbonisation		
Enabling infrastructure for NSW Zero Emissions Buses – Future stages	NSW	Investment-ready for Planning
Enabling infrastructure for South Australia Zero Emissions Buses	SA	2-4 year pipeline
Whyalla industrial precinct enabling infrastructure	SA	2-4 year pipeline

2026 Infrastructure Priority List: 10-year priorities (consolidated)

Table 26: 2026 Infrastructure Priority List proposals

High Productivity Freight Networks		
10-year national priorities	**Location**	**Investment timing**
Enhancing rail network connectivity and productivity through the National Network for Interoperability		
National interoperability of digital signalling and train control	WA, SA, VIC, NSW, QLD, NT	2-4 year pipeline
New South Wales Inland Rail interface improvements	NSW	2-4 year pipeline
Increasing intermodal capacity and connectivity		
Melbourne intermodal terminal capacity	VIC	5-10 year pipeline
Melbourne Outer Metropolitan Ring / E6 transport corridor	VIC	5-10 year pipeline
Northern Territory freight rail and logistics capacity improvements	NT	Investment-ready for Planning
South East Queensland intermodal terminal capacity	QLD	5-10 year pipeline
Western Sydney Freight Line and Intermodal Terminal	NSW	2-4 year pipeline

High Productivity Freight Networks		
10-year national priorities	**Location**	**Investment timing**
Improving productivity and reliability of road freight routes		
Bruce Highway upgrade	QLD	2-4 year pipeline
Burnie to Hobart freight corridor improvement	TAS	2-4 year pipeline
Enabling infrastructure for zero-emissions and high productivity freight vehicles in Victoria	VIC	2-4 year pipeline
Hume Highway (Sheahan Bridge) upgrade	NSW	2-4 year pipeline
Road access improvements for remote Western Australia communities	WA	Investment-ready for Planning
South Australia High Productivity Freight Vehicle Network – Future stages	SA	2-4 year pipeline
Strengthening resilience and safety on key road freight corridors		
Great Northern Highway improvements – Broome to Kununurra	WA	Investment-ready for Planning
Northern Territory road safety and connectivity improvements	NT	2-4 year pipeline
South Coast Highway improvements – Albany to Esperance	WA	2-4 year pipeline

Ports Capacity and Connectivity		
10-year national priorities	**Location**	**Investment timing**
Expanding port capacity		
Westport (Kwinana port development)	WA	2-4 year pipeline
Increasing port connectivity		
Melbourne Airport Rail	VIC	2-4 year pipeline
Port of Brisbane freight rail improvements	QLD	5-10 year pipeline
Western Sydney Airport fuel pipeline	NSW	2-4 year pipeline
Westport enabling infrastructure (Anketell Road upgrades)	WA	Investment-ready for Delivery
Transforming strategically significant ports and maritime precincts		
Common user infrastructure at the Middle Arm Precinct	NT	Investment-ready for Planning
Lefevre Peninsula growth infrastructure – Osborne Precinct	SA	Investment-ready for Planning
Port of Burnie capacity	TAS	2-4 year pipeline
Western Trade Coast enabling infrastructure – Henderson Precinct	WA	Investment-ready for Planning

High Capacity Transport for Growing Cities		
10-year national priorities	**Location**	**Investment timing**
Expanding high capacity public transport networks		
Adelaide public transport improvements	SA	2-4 year pipeline
Brisbane Metro expansions	QLD	2-4 year pipeline
Canberra public transport improvements	ACT	2-4 year pipeline
Gold Coast public transport capacity and access	QLD	2-4 year pipeline
Ipswich to Springfield transport capacity (South East Queensland)	QLD	5-10 year pipeline
Melbourne Suburban Rail Loop East	VIC	Investment-ready for Delivery
Melbourne Suburban Rail Loop – Future stages	VIC	5-10 year pipeline
Perth rail network planning (East Wanneroo Rail Link, Perth metropolitan orbital rail route)	WA	5-10 year pipeline
Salisbury to Beaudesert rail connection (South East Queensland)	QLD	2-4 year pipeline
Sydney rail connection between Tallawong and St Marys	NSW	2-4 year pipeline
Sydney rail connections from Bradfield to Leppington and Macarthur	NSW	2-4 year pipeline
The Wave (Sunshine Coast mass transit)	QLD	Investment-ready for Delivery
Optimising and upgrading existing public transport assets and networks		
High Capacity Signalling – Melbourne	VIC	2-4 year pipeline
High Capacity Signalling – Perth (METRONET)	WA	2-4 year pipeline

High Capacity Transport for Growing Cities		
10-year national priorities	**Location**	**Investment timing**
High Capacity Signalling – South East Queensland (ETCS)	QLD	2-4 year pipeline
High Capacity Signalling – Sydney (Digital Systems Program)	NSW	2-4 year pipeline
Hobart transport network improvements	TAS	2-4 year pipeline
Melbourne rail upgrade program – North	VIC	2-4 year pipeline
Melbourne rail upgrade program – West	VIC	2-4 year pipeline
Perth rail lines capacity	WA	2-4 year pipeline
Strengthening intercity passenger rail connectivity		
High Speed Rail – East Coast future stages	QLD, NSW, ACT, VIC	2-4 year pipeline
High Speed Rail – Newcastle to Sydney	NSW	Investment-ready for Planning
Sydney-Canberra rail connectivity and capacity	NSW, ACT	2-4 year pipeline

Secure, Sustainable Water for Growth		
10-year national priorities	**Location**	**Investment timing**
Diversifying urban water supply		
Darwin region water supply (Adelaide River Off-Stream Water Storage)	NT	Investment-ready for Planning
Perth and south-western coast water security	WA	2-4 year pipeline
Securing water for the economy		
Northern South Australia productive water security	SA	2-4 year pipeline
Ord-East Kimberley irrigation expansion	WA, NT	2-4 year pipeline
Paradise Dam improvement project	QLD	Investment-ready for Delivery
Werribee water system reconfiguration	VIC	Investment-ready for Planning
Modernising wastewater treatment		
Bolivar Wastewater Treatment Plant capacity	SA	Investment-ready for Planning
Launceston Sewerage improvement program	TAS	Investment-ready for Planning

Delivering Net Zero and a Clean Energy Economy		
10-year national priorities	**Location**	**Investment timing**
Storage for grid stability and energy security and reliability		
ACT renewable energy storage enhancement	ACT	Investment-ready for Planning
Northern Territory remote community power generation program	NT	2-4 year pipeline
Enabling infrastructure for REZ development		
Enabling infrastructure for Renewable Energy Zones – Ports of Adelaide/Geelong to South-West REZ	SA, VIC, NSW	2-4 year pipeline
Enabling infrastructure for Renewable Energy Zones – Port of Gladstone to Central Queensland	QLD	2-4 year pipeline
Enabling infrastructure for Renewable Energy Zones – Ports of Newcastle/Brisbane to New England REZ	NSW, QLD	2-4 year pipeline
Enabling infrastructure for Renewable Energy Zones – Port of Newcastle to Central-West Orana REZ	NSW	2-4 year pipeline
Transmission networks to connect renewable energy with consumers		
National Electricity Market connectivity	QLD, NSW, VIC, TAS	2-4 year pipeline
North West Interconnected System connectivity	WA	2-4 year pipeline
South West Interconnected System connectivity	WA	2-4 year pipeline
Delivering infrastructure for economy-wide decarbonisation		
Enabling infrastructure for NSW Zero Emissions Buses – Future stages	NSW	Investment-ready for Planning
Enabling infrastructure for South Australia Zero Emissions Buses	SA	2-4 year pipeline
Whyalla industrial precinct enabling infrastructure	SA	2-4 year pipeline

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