DELIVERING
FOR QUEENSLAND

ENERGY ROADMAP

Improving our energy assets while building what we need for the future

Queensland Government

Acknowledgement

Queensland Treasury acknowledges Aboriginal peoples and Torres Strait Islander peoples as the Traditional Owners and custodians of the land. We recognise their connection to land, sea and community and pay our respects to Elders past, present and emerging.

Translating and interpreting assistance

The Queensland Government is committed to providing accessible services to Queenslanders from all cultural and linguistic backgrounds. If you have difficulty in understanding this publication, you can contact us on telephone (07) 3035 3503 and we will arrange an interpreter to effectively communicate the report to you.

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“A balanced energy plan means affordable, reliable and sustainable energy for all Queenslanders 

Minister's statement

Hon David Janetzki MP

Treasurer, Minister for Energy and Minister for Home Ownership

The Queensland Energy Roadmap 2025 is a pragmatic plan that improves the energy assets we have today, while we build what is needed for the future.

A sensible transition means affordable, reliable and sustainable energy for all Queenslanders.

It charts a pragmatic path to meet Queensland's energy needs over the next five years and beyond — founded on economics and engineering, not ideology and grounded in the realities of consumer needs, infrastructure costs and deliverability timeframes.

Central to the Roadmap are our commitments to leverage existing assets to put downward pressure on prices, optimise investments to respect taxpayer funds and boost private sector investment in new assets to ease pressure on the State's balance sheet.

By making the right choices now, we're preventing the average Queensland household paying $1,035 a year extra in energy costs — helping to support family budgets.

State-owned coal assets will continue operating for as long as needed in Queensland's electricity system and supported by the market. Delivering on this commitment, the Roadmap resets indicative operating timeframes for state-owned coal assets at least to technical lives, with options to further extend into the future where needed. Going forward, decisions will be evaluated on system need, asset integrity and economic viability — a clear and credible decision matrix for the market.

Our $1.6 billion Electricity Maintenance Guarantee is fundamental to the ongoing safe, reliable and efficient operation of state-owned coal, hydro and gas assets. It is an important confirmation to our generators that Queenslanders are relying on them to ensure affordable and reliable electricity supply, with an appropriate level of transparency and accountability for asset performance.

Leveraging existing coal assets is an economic solution, with Queensland's state-owned generators underpinned by competitive coal supply arrangements, enabling the supply of low-cost energy into the market, placing downward pressure on prices for Queenslanders.

While those conditions persist, the benefits of lower prices from baseload coal-fired generation are spread across all customers — industry, business, and households.

Into the future, Queensland will need coal generation, more wind and solar and additional dispatchable supply including gas turbines, pumped hydro and batteries for firming and storage. We also need to ensure a resilient transmission network to drive economic growth, which is why we are delivering CopperString in North and North West Queensland and the Gladstone Project in Central Queensland.

The Roadmap makes clear the role for private sector investment to deliver the new infrastructure needs of Queensland's energy system. That's why we're providing $400 million to drive investment in renewables, like solar and hydro, and batteries to better store the energy we generate.

Acknowledging this, any plan for the energy system must be credible. Ambitious Government-led energy capital programs and initiatives have been demonstrated as undeliverable and costly — exacerbating supply chain constraints, driving cost escalation and stretching project timeframes — while creating policy uncertainty and crowding out the private sector.

The Queensland Energy Roadmap 2025 is a fresh start for Queensland. It delivers what Queenslanders need with a pragmatic focus on the affordability and reliability of our State's energy system to enhance quality of life, fuel economic growth and ensure longer-term sustainability to net zero by 2050.

This is the Queensland way.

Overview

The Queensland Government is delivering affordable, reliable and sustainable energy for all Queenslanders.

The Queensland Energy Roadmap 2025 is a pragmatic plan for the energy system delivering for investors, industry, communities and consumers. It improves Queensland's energy assets, while supporting what is needed for the future. The Roadmap presents a whole of system outlook with a focus on attracting private sector capital to meet the new infrastructure needs of the State and help grow the Queensland economy, supported by enabling actions of Government and state-owned entities.

A sensible transition means affordable, reliable, and sustainable energy for all Queenslanders

AFFORDABILITY

Making the right choices now prevents the average Queensland household paying $1,035 a year extra in energy costs — helping to support family budgets

RELIABILITY

Delivering the $1.6 billion Electricity Maintenance Guarantee improves current energy assets, ensuring energy supply reliability

SUSTAINABILITY

Providing $400 million to drive investment in renewables, gas and storage

Over the next five years — with signposts for energy infrastructure investment along the way — the commitment to affordability and reliability sets the foundation for a long-term sustainable energy system.

The Roadmap reinforces this commitment by:

- **Leveraging existing assets through the $1.6 billion Electricity Maintenance Guarantee** to ensure state-owned generators have direct responsibility and accountability to prioritise the efficient and reliable operation of power plants through a commitment to asset maintenance. Coal will continue to operate for as long as needed in Queensland's energy system and supported by the market.
- **Providing certainty to market with a realistic system outlook and credible strategy for the operation of state-owned coal assets.** The Roadmap confirms future Government actions will be informed by a clear decision-making framework on announced operating timeframes for state-owned coal assets based on system need, asset integrity and economic viability. Queensland's state-owned coal assets are critical to the entire National Electricity Market (NEM) for which Queensland is a consistent net exporter of electricity and critical source of gas supply.
- **Attracting private sector investment into new energy infrastructure** to meet rising energy demand by unlocking capital, improving productivity and driving economic growth. By 2030, the Roadmap forecasts new operational capacity of up to 0.6 gigawatts (GW) of gas-fired generation, up to 6.8 GW of wind and large-scale solar and up to 3.8 GW of storage.

- **Outlining a clear and predictable role of Government and Government Owned Corporations** (GOCs) to underpin investor and market confidence. The role of GOCs in maintaining system reliability cannot be understated — these entities must remain focused on core responsibilities including to ensure Queenslanders have access to affordable and reliable energy when they need it.
- **Clarifying policy settings** to provide certainty for investors, industry, workers and communities on the legislative frameworks to underpin strategic infrastructure investment by the State, expectations around social licence and future opportunities.

The Roadmap is underpinned by robust electricity system modelling and analysis and grounded in the realities of infrastructure costs, deliverability timeframes and economics. It is well informed by extensive consultation with investors, industry and stakeholder advocates.

The Queensland Government acknowledges the continuous evolution of the market, needs and preferences of consumers and technological advancement into the future. The road to 2030 and beyond will be dynamic and good energy policy is responsive.

In that context, the Roadmap identifies 'no regrets' Government-led investments to be delivered under any scenario including sustaining capital into existing state-owned coal assets, new gas-fired generation capacity, the Gladstone Project for system security and CopperString for North and North West Queensland.

There are other investments which, depending on the responsiveness of the market and evolving requirements of the system, will be delivered over the medium to long term, such as major transmission augmentation south and north of Central Queensland and deep storage options at strategic locations across the State.

In every case, the Queensland Government is committed to ensure social licence is maintained.

The Roadmap is set out as follows:

Section 1 offers insights to the state of the energy market including challenges and opportunities.

Section 2 outlines Queensland's energy system outlook to 2030 and beyond, considering a range of potential pathways for coal-fired generation and new investment.

Section 3 defines policy settings to deliver affordable, reliable and sustainable energy.

Importantly, the Roadmap sets a clear baseline for work going forward. As a system plan for the next five years and beyond, it has a supply focus to provide certainty for market with clear policy and investment settings. Work will continue on both supply-side and demand-side considerations for Queensland's energy sector into the future — across industry, investors, communities and consumers.

QUEENSLAND ENERGY ROADMAP 2025

Improving our energy assets while building what we need for the future

THE ROAD AHEAD	SIGNPOSTS

PRIVATE SECTOR will have a pivotal role in Queensland's energy system, to deliver new infrastructure and investment needs over the next five years and beyond, supported by enabling actions of Government and GOCs.

By 2030, the Roadmap estimates new capacity of up to 0.6 GW of gas-fired generation, up to 6.8 GW of wind and large-scale solar and up to 3.8 GW of storage in operation in Queensland.

ENERGY GOCs will focus on existing assets and core business to supply affordable and reliable energy and build a sustainable longer-term portfolio.

GOCs will partner with the private sector on new investment opportunities that meet portfolio need and deliver commercial value.

1. QIC Investor Gateway for new energy investment

The Queensland Government is establishing the Investor Gateway to leverage QIC's infrastructure expertise and capital market connections.

The Investor Gateway provides QIC with a clear mandate to:

- **Attract private sector capital** to meet the new energy infrastructure and investment requirements of the State and help grow the Queensland economy
- **Match investor interest with energy GOC portfolio needs and market demand,** including through project partnerships and contracting opportunities
- **Develop innovative approaches to blend finance** and maximise whole-of-State outcomes.

2. $400 million Queensland Energy Investment Fund

QIC will bring Queensland energy supply and firming projects from origination to operations through the $400 million Queensland Energy Investment Fund, inviting collaboration from the private sector and GOCs. As fund manager, QIC's role will be to identify, filter, negotiate, execute and **oversee direct and indirect investment** — leveraging private sector capital — into new generation and storage assets located in Queensland.

COAL will operate to underpin affordable and reliable energy supply for as long as needed in the system and supported by the market.

In 2025, there is around 8 GW of coal-fired generation capacity owned and operated by GOCs and the private sector in Queensland, supplying more than 60 per cent of total output.

The energy market outlook for Queensland confirms state-owned coal assets will continue to play an important role in balancing supply and demand and stabilising the system.

Over time, the reliance on coal to meet the majority of Queensland's electricity demand requirements will be influenced by ongoing system need, asset integrity and economic viability, including the pace of private sector investment into new system capacity.

LOWER SYSTEM INVESTMENT COST by running state-owned coal assets to technical life compared to an accelerated closure schedule. The reduction of around $26 billion to 2035 translates to an annual avoided cost of $1,035 per household.

3. Operating timeframes for state-owned coal assets

Based on the current state of the Queensland energy market and system outlook, coal-fired generation will remain critical for affordable and reliable energy supply.

Delivering on this commitment, **the Roadmap resets operating timeframes** for state-owned coal assets at least to technical lives, with options to further extend into the future.

4. Decision matrix for state-owned coal assets

The Queensland Government commits to a clear framework for decisions on announced operating timeframes for state-owned coal assets.

This decision matrix triangulates system need, asset integrity, and economic viability of state-owned coal units.

Over the next five years and beyond, the Queensland Government will continue to work with GOCs to review the condition of state-owned coal units and consider options for operating timeframes, including potential to extend operation beyond technical lives.

5. Electricity Maintenance Guarantee

Over the next five years, the Queensland Government is **delivering a $1.6 billion investment into state-owned coal, hydro and gas assets** through the Electricity Maintenance Guarantee.

The Guarantee delivers the investment required to maintain state-owned coal assets and ensure they can operate as needed into the future. It also establishes a performance and accountability framework for GOCs in respect of maintenance, personal safety, process safety and plant performance.

THE ROAD AHEAD	SIGNPOSTS
GAS has emerged as a critical technology for system reliability and firming as the generation mix changes over time. In 2025, there is around 3.5 GW of combined and open-cycle gas turbine capacity operational across Queensland's energy system. By 2030, the system is expected to support up to 4.1 GW of gas-fired generation and by 2035, between 6.1 – 8.3 GW. The need for new gas capacity is universal across all market outlooks to de-risk the energy system as it transitions over time.	**6. Government-led gas projects** Queensland's state-owned generators will continue to progress options to deliver new gas-fired generation including CS Energy's Brigalow Gas Peaker, Stanwell's Lockyer Energy Project and CleanCo's investigation of a new open-cycle gas turbine at Swanbank. Together, these investments could **deliver over 700 megawatts (MW)** of new gas fired generation capacity by the start of the next decade, in partnership with the private sector. **7. Central Queensland Gas Power Tender** Through the Investor Gateway, QIC will undertake market sounding to partner with the private sector and GOCs to deliver an **additional 400 MW** of gas-fired generation capacity in Central Queensland as a critical insurance for long-term system security and reliability. Central Queensland is a critical region for Queensland's energy system, hosting the largest concentration of coal-fired generation capacity and industrial load across the State.
STORAGE is essential to firm variable renewable energy and manage minimum system load, supporting coal unit reliability. Over the next five years, investment growth in short-duration storage will continue to rise then plateau as alternative, longer duration storage options enter the market. By 2030, Queensland's energy system is expected to host at least 3.1 GW of short duration batteries or 2.4 GW more than in 2025 and by 2035, an additional 1.6 – 3.4 GW of medium-duration storage compared to 2025.	**8. Coordinated Pumped Hydro Energy Storage (PHES) assessment** The QIC Investor Gateway will lead future investigation and investment partnerships with the private sector on all prospective **smaller, more manageable PHES projects** for the Queensland Government and GOCs. In addition to its ongoing review of Borumba PHES, QIC will take responsibility for assessment of the Mt Rawdon, Big T and Capricornia PHES on behalf of the State's interest in those projects, including project delivery through to any potential final investment decisions. This will ensure a consistent approach to assessment, applying a clear value framework to PHES which considers system needs — while enabling CleanCo, Stanwell and CS Energy to focus on core business. **9. Community batteries** The Government will commit **$10 million to catalyse further investment** into community batteries across the distribution network, working with Energy Queensland and the private sector to help manage minimum system load during the day, when rooftop solar generation is high and grid demand is low. Stored energy can be released during evening peaks, reducing reliance on peaking generators, easing network stress and improving overall market efficiency.

THE ROAD AHEAD	SIGNPOSTS

TRANSMISSION will keep pace with demand growth and decentralisation of the network as new generation and storage capacity connects to the electricity grid.

While expansive development may be warranted in the future if conditions change — across electricity demand, new connection capacity and timing, and/or transmission costs relative to other options — the case for a multi-line 500-kilovolt (kV) transmission 'backbone' is not established at this time.

Instead, early strategic works across the network will be undertaken to preserve optionality while ensuring timely transmission infrastructure delivery.

In the short term, this will include supporting industrial loads in north and central Queensland to source affordable, reliable and sustainable energy.

Queensland is committed to the Priority Transmission Investment framework and Regional Energy Hubs to progress critical transmission infrastructure in an efficient and effective manner.

10. CopperString

QIC will deliver the **Eastern Link** of CopperString with major construction commencing by 2028 and commercial operations by 2032 (subject to approvals). This line — to be built at a 330kV specification as originally proposed, and now recommended by QIC — will catalyse new generation and storage investment in North and North West Queensland to help meet future demand in the region and across the State.

QIC is also beginning work to deliver the **Western Link**.

11. Hughenden Hub

As part of CopperString, on-the-ground works will commence at the **$225 million Flinders Substation** in 2025-26 which will feed new generation across the Flinders Shire into the Eastern Link of CopperString, connecting to the National Electricity Market.

12. North West Energy Fund

In the immediate term, QIC will work with generators, developers, investors, industry and communities to open up the North West with affordable and reliable energy — paying forward the benefits of CopperString to regional communities west of Hughenden to Mt Isa.

The **$200 million North West Energy Fund** will support local generation and storage solutions — in partnership with the private sector — across Mt Isa, Cloncurry, Julia Creek and Richmond. This will deliver improved reliability and lower energy prices by increasing supply across those regions.

13. Gladstone Project

Powerlink is advancing the Gladstone Project to deliver essential network upgrades and reinforcements in Central Queensland **to maintain system security and reliability.**

Due to the age and increasing reliability risk of Gladstone Power Station — and recent notification of its potential retirement in 2029 — construction and commissioning of critical new transmission is progressing for delivery by 2029.

14. Priority Transmission Investment

In an efficient and effective manner, the Priority Transmission Investment framework enables **critical investment in transmission network infrastructure** to ensure reliability and security of supply and meet system needs.

RENEWABLES will continue to be built in a responsible manner across the State to support demand growth.

From 1 GW of wind and 3.2 GW of large-scale solar generation operational across Queensland's energy system in 2025, up to 6.8 GW of additional wind and solar is anticipated to become operational by 2030 and a further 4.4 GW by 2035.

The pace and scale of investment will be determined by market dynamics and the outcomes of community engagement.

15. Regional Energy Hubs

To deliver the uplift in supply and storage capacity as well as facilitate private sector investment, the Government is putting downward pressure on development costs by supporting **cost-efficient, shared transmission connections** for new energy generation.

A legislated framework to coordinate new energy investment in regions will be maintained. The Government will be responsive to industry and community by ensuring Hub declarations are market-led, based on private sector interest and development activity and aligned with community expectations.

A balanced approach will ensure efficient investment and system outcomes.

16. Code of Conduct

A new code for renewable energy developers is being progressed to **guide responsible behaviour and set expectations** around best industry practice, complementing recent planning changes.

Market insights

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Market insights

- Queensland is one of five regions in the National Energy Market (NEM), Australia's largest interconnected power system and wholesale electricity market and where electricity demand and supply is balanced and traded in real-time.
- Over the last decade, the energy mix across the NEM has diversified towards variable renewable energy (i.e. wind and solar) and firming technologies like large-scale batteries.
- Constraints on interconnector capacity mean Queensland must continue to plan for self-reliance and grid resilience, while also acting as a critical energy exporter to underpin reliability across the broader NEM.
- As at June 2025, Queensland hosted around 8 GW of coal-fired generation capacity, 3.5 GW of gas, 1.3 GW storage, 1 GW of wind, 3.2 GW of large-scale solar and close to 7 GW of rooftop solar (PV) — the highest uptake of any Australian state.
- Rooftop PV has influenced how the NEM balances real-time grid demand and supply, its growth is now material for wholesale electricity price dynamics, operation of grid-connected generation (including coal and large-scale solar) and complex management of the distribution network.
- Stable annual average demand masks underlying variability in average intraday demand. Queensland recorded a new record minimum demand level of 2,790 MW in August 2025 and a new record maximum demand level of 11,144 MW in January 2025.
- Intraday wholesale price volatility has also increased with excess supply and negative prices becoming more common in the middle of the day due to growth in large-scale solar and rooftop PV.
- While the real cost of large-scale solar and batteries have declined by up to 22 per cent since 2020, other major generation technologies and transmission have experienced real cost increases — notably the new build cost of onshore wind has escalated by almost 50 per cent over the same period.
- Rising capital and financing costs are impacting the economics of new energy and firming projects, alongside market dynamics. Project bankability hinges on factors including strong offtake agreements, favourable grid access arrangements and timely project approvals to drive revenue certainty.

SYSTEM

The energy supply chain includes generation, transmission, distribution and retail

Queensland produces electricity from various technologies including coal (64 per cent), large-scale solar and rooftop PV (22 per cent), gas (7 per cent), wind (4 per cent), hydro (2 per cent), batteries, biomass, diesel and other sources (1 per cent).[1] Queensland's three state-owned generators have consistently supplied a substantial share of that output.

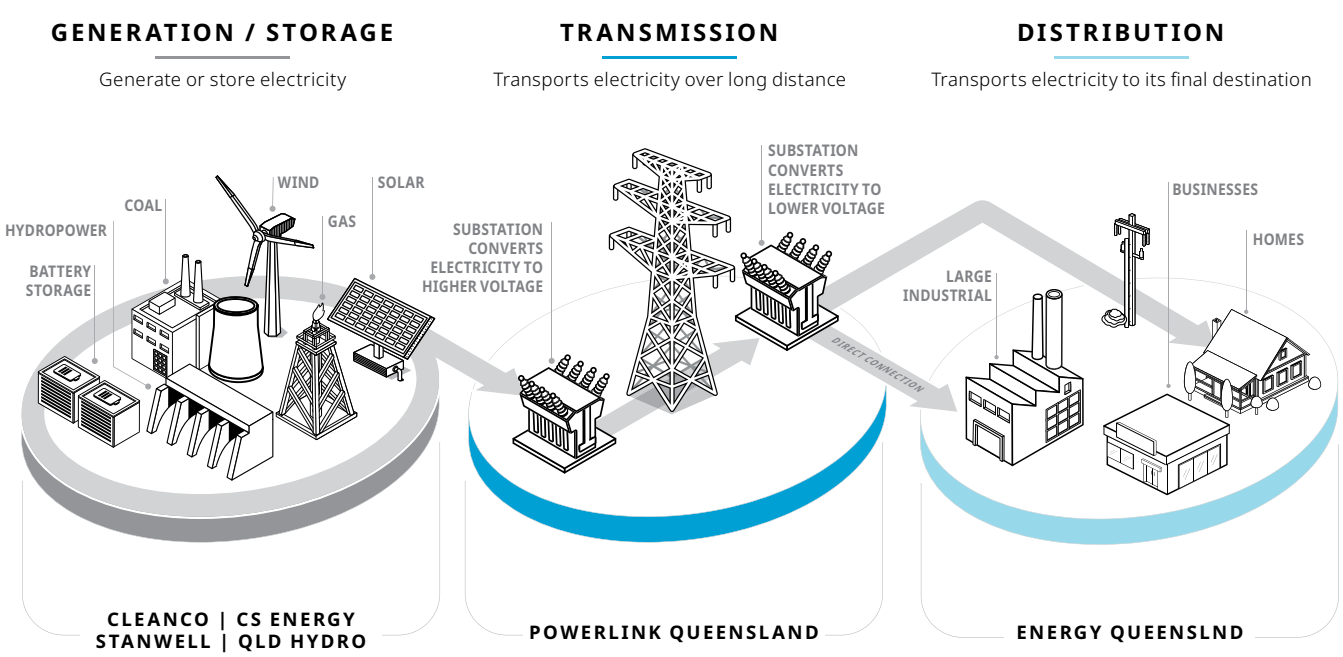
The high-voltage transmission network is owned and operated by Powerlink, while Energy Queensland (including Energex in South East Queensland and Ergon Energy in regional Queensland) operates and maintains the State's distribution networks. Ergon Energy also owns and operates 33 isolated power stations in regional and remote communities which are not connected to the NEM.

There are around 38 retailers servicing residential customers in Queensland, with many operating in South East Queensland and other NEM jurisdictions.[2] Ergon Energy Retail is the primary retailer in regional Queensland.

Queensland's energy system is more geographically dispersed than other NEM jurisdictions because of its larger land area, population spread and distributed industrial and regional mining footprint.

- State ownership across Queensland's energy system means the Government has an important role in delivering affordable, reliable and sustainable energy.
- The Queensland Government's Uniform Tariff Policy ensures customers pay a similar price for electricity no matter where they are in Queensland.
- Managing costs and driving productivity across the energy supply chain will support electricity price outcomes for all customers over the long term.

Figure 1.1: Queensland's energy supply chain



[1] AER, State of the Energy Market 2025.

[2] AER, Retail energy market performance update for Quarter 3 2024–25.

DEMAND

System demand dynamics have shifted over time

In 2024-25, electricity grid (operational) demand in Queensland was 54,189 GWh.[3] Large businesses and industrial users account for most consumption, followed by residential customers and small businesses.[4] In line with population, Queensland energy demand is dispersed across the State, with around 60 per cent in the south, 25 per cent in central and 15 per cent in the north.[5]

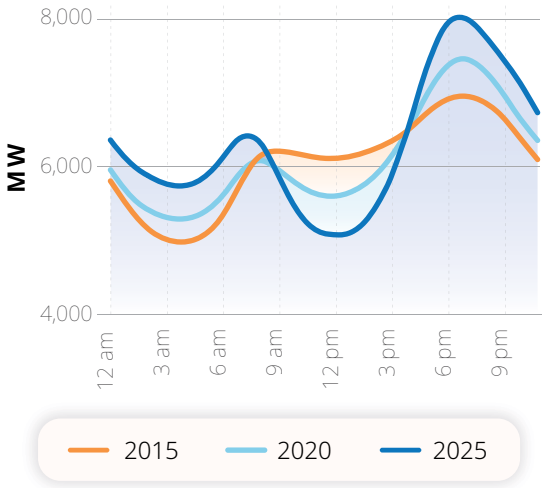
Structural drivers of system demand include weather, population growth, industrial load and economic activity. Consistent with other mainland NEM states, there has been a decline in Queensland operational demand over recent years, mainly driven by an uptake of rooftop PV offsetting the need for additional grid connected generation. As at July 2025, more than 40 per cent of Queensland households have rooftop PV and the highest number of solar PV installations of any Australian state.[6]

Stable annual average operational demand masks significant underlying variability in real-time demand, with the shape of average intraday demand changing over time. This dynamic has driven new Queensland records on maximum and minimum demand including a new peak demand record of 11,144 MW on 22 January 2025 (the fourth consecutive year of records). Conversely, minimum demand has been steadily falling — to a new record low of 2,790 MW on 31 August 2025 — mainly due to uptake of rooftop PV. Relative to Queensland, intraday variability is even more pronounced in South Australia and Victoria and similar in New South Wales.[7]

Solar is mitigating the requirement for other generation in the middle of the day, reducing daytime prices and incentivising other plant (including coal) to adjust their operating profiles.

When system demand is low, coal generation drops to technical minimum levels and AEMO often curtails generation from grid renewables to balance the system — highlighting the importance of batteries and other firming technologies.

Figure 1.2: Queensland average system demand by time of day[8]



- Generation no longer sits exclusively at the end of a 'linear' energy supply chain, with small customers exporting more electricity into the network.
- Intraday demand volatility has implications for generators and networks. Some generation assets have technical limitations around operations, and transmission and distribution service operators face complexity in addressing minimum system load challenges.

[3] AEMO (data). As defined, operational demand excludes non-scheduled non-intermittent generating units, non-scheduled intermittent generating units of aggregate capacity < 30 MW, exempt generation (e.g. rooftop solar, gas tri-generation, very small wind farms, etc) and demand of local scheduled loads.

[4] AEMO, 2025 Electricity Statement of Opportunities.

[5] Powerlink, 2024 Transmission Annual Planning Report. Based on annual transmission delivered and native energy by zone.

[6] AEMO, Distributed Energy Resource Register (July 2025). Based on 2.2 million Queensland households.

[7] AER, 2025 State of the Energy Market.

[8] AEMO (data).

SUPPLY

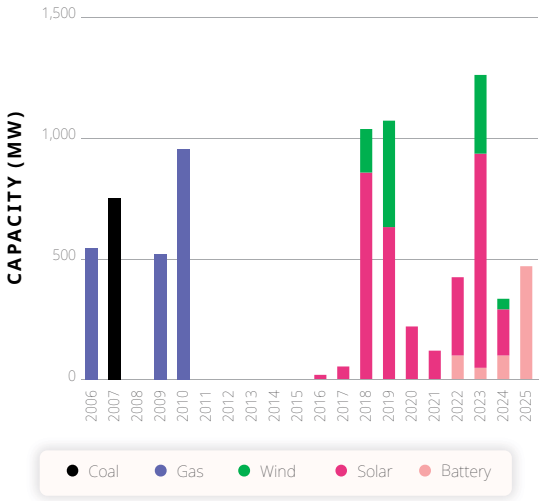
The generation mix is as dynamic as demand

As at June 2025, Queensland's installed generation and storage capacity comprised over 12 GW of dispatchable capacity (including coal, gas, batteries and PHES), complementing more than 11 GW of renewables. Several other projects are being commissioned, under construction, or anticipated.[10]

Of the current mix, Queensland's state-owned generators — Stanwell, CS Energy and CleanCo — own and operate around 5.2 GW of coal, 385 MW of gas, 570 MW of PHES, 300 MW / 600 MWh of large scale batteries and 160 MW of conventional hydro and contract around 320 MW of wind and 770 MW of large-scale solar.[11]

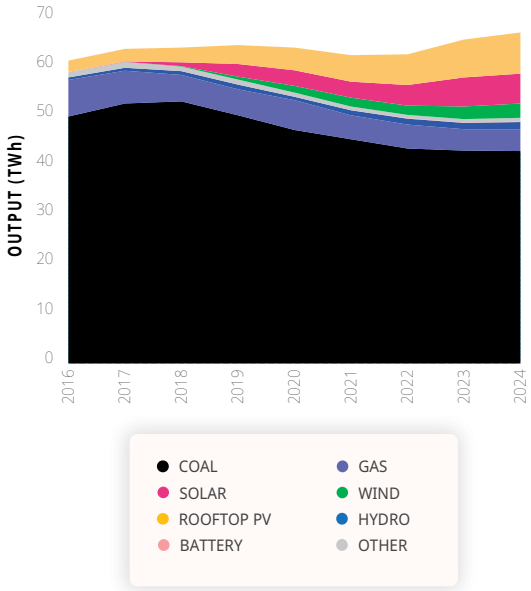
Over the last two decades, around 8 GW of new generation and storage capacity has been brought online, with new coal and gas being commissioned up to 2010, followed by a shift towards large-scale solar, wind and batteries. Of the 4.2 GW of wind and large-scale solar capacity, around one-third is underpinned by direct government support including through offtake arrangements with GOCs (includes generator and network interests).

Figure 1.3: New installed capacity (2006 – 2025)[12]



The supply mix has diversified with the entry of large-scale solar, rooftop PV and wind generation, while coal and gas continue to meet the majority of output.

Figure 1.4: Generation output by technology type in Queensland[13]



- Over the past two decades, investment has cycled from new coal and gas to large-scale solar, wind and batteries. In the past, those assets have been able to connect to the existing transmission and distribution network without substantial augmentation.
- Project economics for new energy and firming projects are impacted by a range of factors including grid capacity and access, wholesale market dynamics, offtake agreements and project approvals.
- Across the NEM, Government support including through GOC offtakes in Queensland has facilitated growth in renewables and storage.

[9] AEMO (data).

[10] As at June 2025, projects in commissioning included the Aldoga Solar Farm and MacIntyre and Clarke Creek Wind Farms.

[11] AEMO (data); Queensland Treasury. Information subject to change. Includes CS Energy's 50 per cent interest in the Callide C Power Station Joint Venture, excludes CS Energy's trading rights to the Gladstone Power Station and other projects in commissioning.

[12] AEMO (data), Queensland Treasury. Dates may reflect commissioning year or commercial operations date.

[13] AER, 2025 State of the Energy Market.

INTERCONNECTION

Queensland's connection to the NEM is by two transmission interconnectors with New South Wales: the Queensland–NSW Interconnector (QNI) and the Terranora (Directlink) Interconnector. Together, these interconnectors can transfer up to 1,610 MW southward and 957 MW northward — relatively small compared to Queensland's average daily peak demand exceeding 8,000 MW.[14]

While interconnector capacity can supplement supply and help to balance prices across the NEM, it is not a substitute for own-source generation and Queensland must maintain enough local capacity to meet its own demand under a range of conditions.

Moreover, Queensland is typically a net exporter of electricity into the NEM, particularly during periods of high coal and renewables output. Over the last five years, Queensland exported electricity to NSW and the NEM more than 75 per cent of the time at an average of 294 MW.[15]

- Given interconnector capacity, Queensland must plan for self-reliance, while also acting as a critical energy exporter to underpin reliability across the broader NEM.

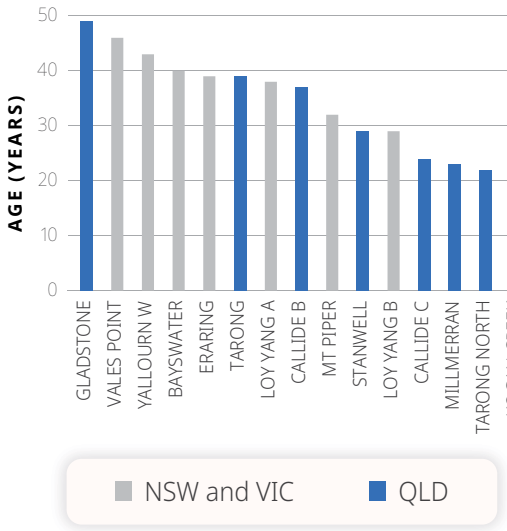
COAL

Coal supplies over 60 per cent of Queensland's electricity consumption needs

Queensland hosts 8.2 GW of coal-fired generation capacity, representing almost two-thirds of Queensland's dispatchable capacity but only one-third of total installed capacity (including rooftop PV).[16] Relative to other NEM regions, Queensland is supplied by some of the youngest coal-fired power plants.

Coal plant reliability is essential for system security and wholesale price outcomes. In recent years, Queensland coal assets at Stanwell and Tarong have achieved some of the highest reliability levels in the NEM while others have not performed as well including Callide C. Notably, the oldest coal assets also rank among the lowest in terms of availability.

Figure 1.5: Age of the NEM coal fleet[17]



[14] AEMO, Interconnector Capabilities (September 2025).
[15] AEMO (data).
[16] AER, State of the Energy Market 2025.
[17] Queensland Treasury. Based on year of the most recent coal unit commissioned by power station.

PRICES

Sufficient supply during peak periods is critical to put downward pressure on prices

Wholesale prices are driven by a range of factors including geopolitical events, fuel prices, plant availability, weather, renewable output, seasonal demand and capital cost escalation of new energy infrastructure.

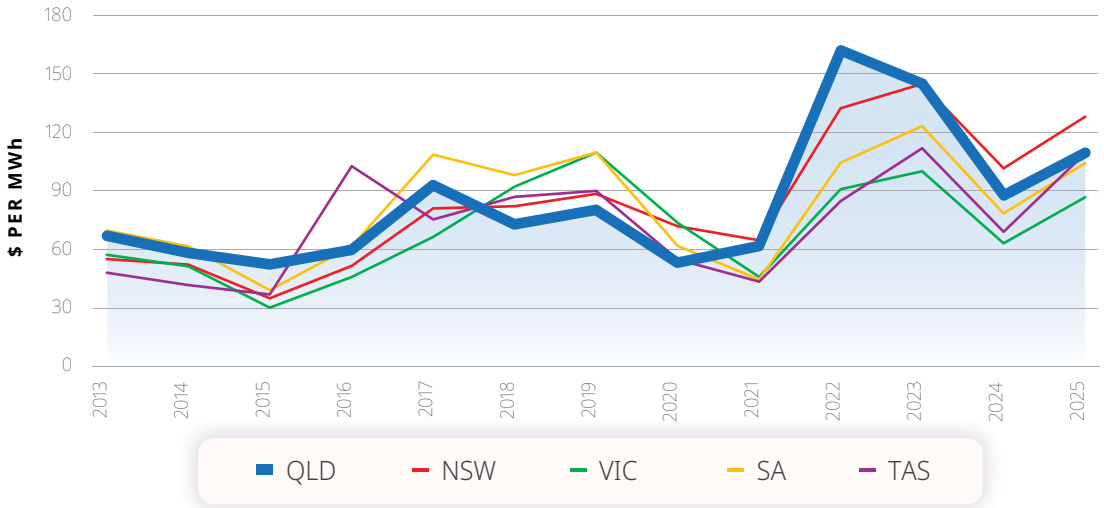
Over the last decade, wholesale prices have increased across the NEM and are highly correlated between regions. At $162.06 per MWh in 2021-22, Queensland recorded the highest average annual price of all NEM regions and years. When NEM prices peaked in late-2022, interventions sought to stabilise the market, however, they have not returned to pre-2022 levels due to structural changes (e.g. higher average fuel costs and embedded cost escalation on new build technologies).

As well as macroeconomic factors influencing price trends, intraday price volatility is also sensitive to underlying supply and demand dynamics including the 'duck curve' effect. In 2024, 86 per cent of days in Queensland recorded negative price events compared to less than one per cent of days in 2015, with the number of high overnight price events (i.e. over $300 per MWh) also increasing over time.[19]

Apart from the wholesale spot market, retailers and generators also transact in the contract market to achieve longer-term price certainty. This includes exchange-traded derivatives through the Australian Securities Exchange or over-the-counter contracts. As noted by the AER, coal has underpinned the sale of standard (base) contracts due to its steady output, while renewables are variable and weather-dependent. While tailored (peak) contracts continue to be introduced to the market, baseload contracts remain the dominant-traded derivative to support risk management.[20]

- Prices are signals for new investment including batteries to soak up excess solar in the middle of the day at low or negative prices, or responsive gas to add supply in the evening peak.
- Coal will remain important for contract liquidity and price discovery of base futures (as a long-term predictor of future wholesale prices).
- Downward pressure on energy prices comes from efficiently balancing supply and demand — leveraging existing assets while adding cost-effective new supply and storage.

Figure 1.6: Average NEM wholesale electricity prices[18]



[18] AEMO (data).
[19] AEMO (data).
[20] AER, 2025 State of the Energy Market.

NETWORKS

Transmission and distribution is adapting to evolving supply and demand

Queensland's transmission network was designed around a centralised electricity generation system, linking large (mainly coal) dispatchable generation sources to loads and handling relatively consistent power flows in well-established patterns, allowing high levels of utilisation and predictability.

For new projects, which will increasingly require connection far from the existing transmission network, there will be a need for more coordinated design (to ensure system strength and reliability) and/or new transmission infrastructure which can add to connection timelines and project costs.

It also means the value of synchronous generation for system security and reliability will also increase, emphasising the criticality of coal assets and specialised equipment like synchronous condensers and grid-forming invertors to provide system strength. These are important for normal operations as well as additional buffers which can support timely recovery from events like lightning strikes, equipment failure or load trips.

Given increasing integration of consumer energy resources (CER), managing the distribution network has also become more complex with new technologies like smart meters and time-of-use tariffs aiming to lower peak demand and mitigate minimum system load issues.

- Network service providers need to manage an increasingly complex system.
- Coal and gas generation has an ongoing role in the provision of critical reliability and inertia, particularly for a system with increasing variable renewable energy.

CAPITAL COSTS

Build costs have escalated across the supply chain

Most technologies have experienced real cost escalation in recent years, owing to supply chain constraints in capital equipment and labour, environmental assessment processes at the national level, social licence considerations and grid connection timeframes.

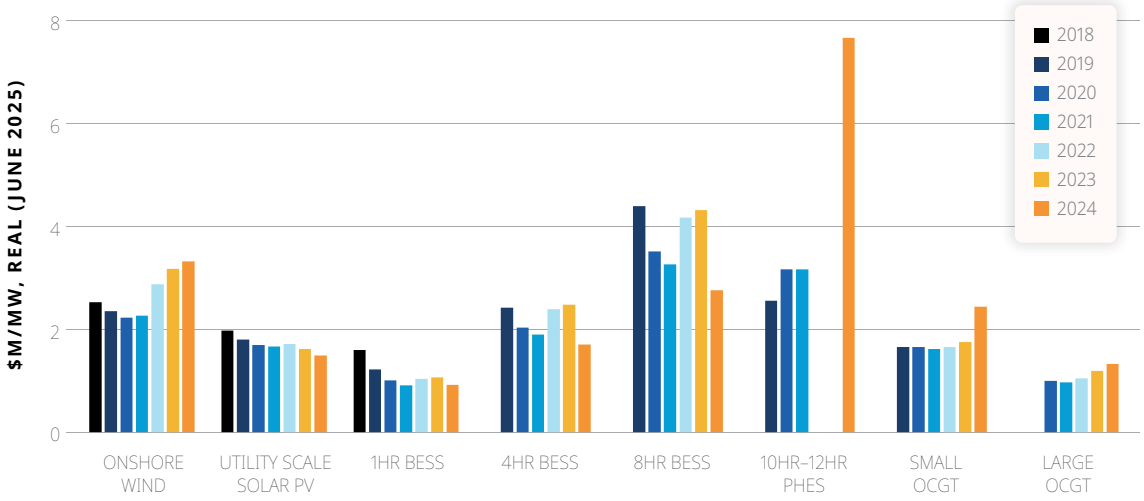
Onshore wind costs have increased by almost 50 per cent in the last three years, small open cycle gas turbines (OCGT) increasing by a similar percentage and large OCGT by around one-third over the same period. The CSIRO attributes these changes to supply chain constraints following COVID-19 increasing freight and raw material costs.[21]

PHES build cost estimates have also risen, driven by higher construction, land and other development costs. Estimates of early stage build costs and development timeframes have proven to be optimistic, with geotechnical risk impactful on costs and schedule (e.g. Snowy 2.0 and Kidston). Applying a standard economic assessment to PHES projects is tested under current market settings. Noting PHES has distinct characteristics relative to other storage technologies, the ability to attract traditional forms of finance remains challenging at this time.

Transmission has also faced similar cost escalation, including domestic and global supply chain (labour and capital) disruptions. Other contributing factors include extreme minimum and maximum demand, variable renewable energy supply, and new connections. Concurrent development of major transmission projects across the NEM has also intensified competition for delivery resources. Examples of material transmission cost escalation include Project EnergyConnect (South Australia – New South Wales), Marinus Link (Tasmania – Victoria) and Humelink (NSW).

- While the real cost of large-scale solar and batteries has declined by more than 20 per cent since 2020, cost increases have occurred across other major generation technologies and transmission. The new build cost of onshore wind has escalated by nearly 50 per cent over the last three years.
- Rising capital and financing costs are impacting the bankability of renewable energy projects, among other factors.

Figure 1.7: Generation and storage new build cost[22]



[21] Graham, P., Hayward, J. and Foster J. 2025, GenCost 2024-25: Final report, CSIRO, Australia.

[22] Derived from historical CSIRO GenCost Reports, Aurecon and GHD Cost and Technical Parameter Reviews.

Making the right choices now prevents the average Queensland household paying $1,035 a year extra in energy costs – helping to support family budgets 

Investment outlook

02

02

Investment outlook

- Energy system modelling underpinning the Roadmap considered a broad set of scenarios and sensitivities to optimise future requirements for Queensland's energy system at lowest cost.
- Under every scenario, significant investment in new supply and storage is required to ensure system reliability before any changes to operating timeframes of state-owned coal assets can be made.
- By 2030, Queensland's energy generation and storage mix is expected to comprise around 3.4 GW wind and at least 4.2 GW large-scale solar, 3.1 GW short-duration storage, 0.8 GW medium-duration storage and 3.9 GW of gas-fired generation.
- By 2035, the fan of potential outcomes is broader depending on market dynamics — wind capacity could reach 4.7 – 7.8 GW, large scale solar up to 7.6 GW, short and medium duration storage up to 4.3 GW and 4.0 GW, respectively, and gas-fired generation between 6.1 – 8.3 GW.
- Over the long term to 2050, end-state system outcomes are reasonably similar across scenarios. Changes in the operation of coal assets over time drive a reduction in Queensland electricity sector emissions, consistent with the Government's commitment to net zero by 2050.
- The pace of new investment is material to overall system cost. Scenarios allowing for longer-term operation of coal-fired generation deliver a lower system investment cost over the next 10 years. Operating state-owned coal assets to technical life is estimated to reduce system costs by around $26 billion to 2035, compared to accelerated closures.
- A flexible approach supports leveraging existing assets, smoothing capital outlays, uplifting market capacity and deliverability, and capturing efficiency gains from technological advancements.
- To provide certainty for industry, investors, workers and the community, the Government commits to a clear framework for decisions on the operation of state-owned coal assets based on system need, asset integrity and economic viability. In applying this 'decision matrix', the Roadmap resets operating timeframes for state-owned coal assets to technical lives, with options to extend if needed.
- Going forward, Queensland's energy system needs more energy and storage capacity to balance supply and demand, with opportunities to catalyse new investment and economic activity.
- The Roadmap identifies 'no regrets' Government-led investments to be delivered over the next five years under any scenario, including sustaining capital into existing state-owned coal assets, new gas-fired generation capacity, coordinated project assessment of PHES options, the Gladstone Project for system security, and CopperString for North and North West Queensland.
- There are other investments which, depending on the responsiveness of market and evolving requirements of the system, will be delivered over the medium to long term, such as transmission augmentation south and north of Central Queensland and deep storage options at strategic locations across the State.
- A new QIC Investor Gateway will be established to drive private sector investment in additional gas-fired generation in Central Queensland; bring efficiencies to the assessment and advancement of smaller, more manageable pumped hydros on behalf of the State; and seek out opportunities to match buyers and sellers of renewable energy and storage including GOCs and the private sector.
- Social licence is an important consideration for all investment across the energy supply chain.

MODELLING APPROACH

Overview

Energy system modelling was undertaken for a broad set of scenarios and sensitivities to assess the potential range, timing and technology mix of electricity infrastructure investment required into the future.[23]

This scenario-based approach, with a focus on system reliability, recognises the future electricity system is highly complex and uncertain, evolving in response to global and domestic economic conditions, market dynamics, new investment, consumer preferences and technological advancement.

Key modelling insights (discussed in further detail below) include the requirement for coal-fired generation until sufficient new capacity is operational, the critical importance of flexible gas for reliability and security of the system, an increasing role for longer duration energy storage by 2035 and coordination of the CER helping to offset the need for additional supply-side investment.

Baseline assumptions

AEMO's Draft 2025 Inputs, Assumptions and Scenarios Report (IASR) has formed the basis of input assumptions, noting numerous material changes from the 2023 IASR (informing AEMO's 2024 ISP).[24]

COAL PATHWAYS

A range of coal operating pathways were modelled to consider Queensland's energy system outlook (Table 2.1 and Figure 2.1). Long-term coal operating decisions will be informed by the Government's whole-of-system decision-making criteria for state-owned coal assets in response to changing circumstances — considering system need, asset integrity and economic viability (see Figure 2.3).

Table 2.1: Queensland coal-fired generation operating pathways

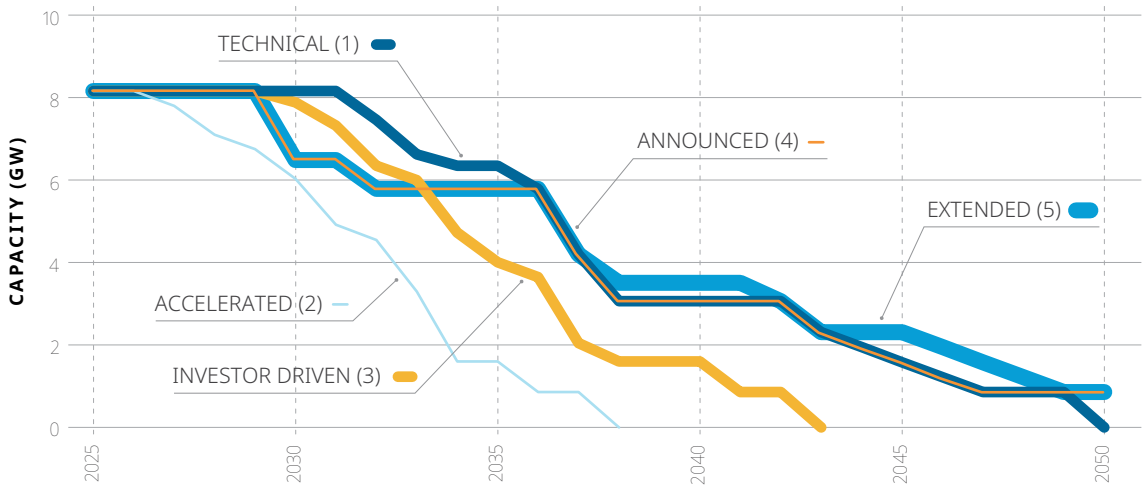
PATHWAY	NAME	DESCRIPTION
1	**Technical**	Broadly consistent with AEMO's announced coal operating timeframes (July 2025) while allowing for a staged closure of Gladstone Power Station from 2032 – 2035. This pathway provides for state-owned coal assets to underpin baseload power requirements for Queensland through the 2030s and 2040s. For Gladstone Power Station, asset condition, age, ownership and contractual commitments may be relevant factors in any decision to extend beyond 2029.[25]
2	**Accelerated**	Matches coal unit operating timeframes assumed by the 2022 Queensland Energy and Jobs Plan, identified at that time to achieve renewable energy targets of 50 per cent by 2030, 70 per cent by 2032 and 80 per cent by 2035. This scenario requires a highly ambitious project delivery schedule for substantial new generation and firming over the next decade for all coal assets to withdraw from the system before 2038 (including state-owned coal assets by 2035).
3	**Investor Driven**	Represents a scenario where the operation of coal assets responds to a stronger level of private sector investment in new generation and storage. This scenario sees earlier changes to the operation of coal assets in the 2030s, as compared to Technical Pathway.
4	**Announced**	As per AEMO's announced coal operating timeframes (July 2025) including a potential retirement year of 2029 for Gladstone Power Station. An alternative specification with Gladstone Power Station exiting the system up to 2035 has been considered under the Technical Pathway.
5	**Extended**	Allows for the extension of some state-owned coal assets into the late-2030s and mid-2040s providing for a more gradual decline in generation capacity of Queensland's coal fleet over time.

[23] Powerlink was commissioned for energy system market modelling.

[24] On 1 October 2025, the Gladstone Power Station (GPS) Joint Venture confirmed the formal notification to the Australian Energy Market Operator of the potential retirement of the Gladstone Power Station in March 2029, aligning with the expiry of existing supply and operational arrangements. Rio Tinto confirmed no final decision has been made to retire GPS, which has operated since 1976 and there is potential to extend the life of the power station should market and other factors allow.

[25] Technical asset life refers to a technical / useful life of assets based on available information to date, informed by design specifications, asset condition and long-term maintenance program, among other factors.

Figure 2.1: Queensland coal-fired generation operating pathways



All pathways were modelled against a common set of assumptions (2015 weather reference year, CER growth and inclusion of committed and anticipated projects), with further sensitivities applied for Technical and Investor Driven Pathways. The Technical Pathway is consistent with objectives of affordability, reliability and longer-term sustainability, while the Investor Driven Pathway considers earlier changes in coal operating timeframes as a higher level of new generation and firming capacity enters the system.

Across all pathways, changes in the operation of coal assets over time drive a reduction in Queensland electricity sector emissions, consistent with the Government's commitment to net zero by 2050. This includes a whole-of-economy approach to emissions reduction, leveraging opportunities for direct investment in lower emissions technologies and application of offsets where appropriate.

There is a range of uncertainties that may influence modelled pathways including the level of private sector investment in new generation and storage, the impact of weather on rooftop and grid scale solar/wind generation yield, the size and location of additional renewable energy projects and other factors on supply and demand (including CER orchestration and EV charging).

> A range of coal operating pathways were modelled to consider Queensland's energy system outlook

OTHER MODELLING ASSUMPTIONS AND KEY SENSITIVITIES

Demand assumptions have been held consistent across all pathways, applying the Step Change scenario from AEMO's Draft 2025 IASR. In summary:

- **Industrial electrification:** Minimal industrial electrification in the 2020s, with a steady uplift between 2030 and 2040 and a further uplift in the 2040s. AEMO's Draft 2025 IASR indicates electrification later than previously forecast in the 2024 ISP.
- **Demand from hydrogen production:** Substantially lower forecasts than the 2024 ISP with minimal demand before 2035 and a marginal increase from 2035 to 2050.
- **Transport electrification:** Slow increase in transport electrification / electric vehicle (EV) uptake to 2035 and then a steady increase from 2035 to 2050. Based on the Draft 2025 IASR, EV uptake has considerably moderated from the 2024 ISP.

Other key parameters include:

- **Weather reference year:** 2015 was applied as the base reference year with a sensitivity to 2011. 2015 represents a median supply outlook with slightly higher solar yield. 2011 represents a lower solar yield year and one that would likely require greater generation and firming to effectively meet the risk of these conditions occurring again in the future. Running these sensitivities in combination with reliability assessments is a prudent, risk-based approach to modelling energy system reliability requirements and outcomes.
- **Medium duration storage:** Includes medium-duration storage as 8-hour batteries and/or selection of smaller pumped hydro projects based off build costs aligned with AEMO's Draft 2025 IASR. A minimum allowance for 1.4 GW / 21-hour storage is assumed as operational from 2034 to support system reliability with changes in the operation of coal units over time.
- **Committed and anticipated energy projects**: For Queensland, committed projects substantially align with AEMO's NEM Generation Information as at July 2025, while anticipated projects include a set of prospective projects with development approval and/or identified by private proponents for development (e.g. announced energy contracts and successful projects from Rounds 1 and 2 of the Australian Government's Capacity Investment Scheme).
- **Deliverability constraints:** Constrained (1 GW new wind and 2 GW new solar per annum) build limits are applied to most pathways and unconstrained build limits are also applied to the Technical and Investor Driven Pathways. The historical build rate in Queensland is up to 0.5 GW of wind and 1 GW solar per annum. Modelling constraints are applied to ensure credible investment forecasts (notwithstanding the constrained case still represents an uplift on historical capability).
- **Emissions:** The model did not apply renewable energy targets, consistent with the Queensland Government's position. Emission reduction outcomes in this modelling are primarily driven by scenario-based operating timeframes for coal assets, rather than a carbon budget as per the ISP.
- **CER assumptions:** Distributed generation and storage assumptions are as per AEMO's Draft 2025 IASR, with additional sensitivities informed by actual uptake in Queensland.

CAPACITY MIX

Queensland's generation and storage mix currently comprises around 24 GW of coal, gas, renewables, batteries and pumped hydro energy storage (Figure 2.2).

Up to an additional 16 GW of new generation and storage capacity may enter the Queensland electricity system by 2030 including 0.6 GW of gas, 3.8 GW of short- and medium-duration storage, 2.4 GW of wind, 4.4 GW of large-scale solar and 4.3 GW of rooftop solar. By 2035, the overall mix diversifies further with additional gas, renewables and medium-duration storage, and assumed decline in overall coal-fired generation capacity.

Under all pathways and scenarios, the long-term system mix is reasonably consistent, with at least 87 GW of generation and storage capacity in Queensland by 2050 aligned with a least-cost objective. Distributed PV and orchestrated CER are expected to play a more significant role over time, displacing the need for some wind and large-scale solar.

SYSTEM COST

Across Queensland's energy system, the cumulative capital investment over time depends on a range of considerations including new build requirements by technology, locational factors and timing of investment. Total system costs are an outcome of modelled scenarios.

In recent years, capital cost escalation has been significant for wind, pumped hydro and transmission investment. For example, the industry wide capital investment of the old Queensland Energy and Jobs Plan to 2035 is now estimated at around $104 billion (in 2022 dollars) against an announced $62 billion at the time of its publication.

Since that time, long-term demand projections of AEMO's ISP have moderated (which is accounted for in this Roadmap). Even so, under an Accelerated Pathway, the estimated system investment cost to 2035 under moderated demand assumptions still stands at around $86 billion (in 2025 dollars) including costs of generation, storage and transmission.

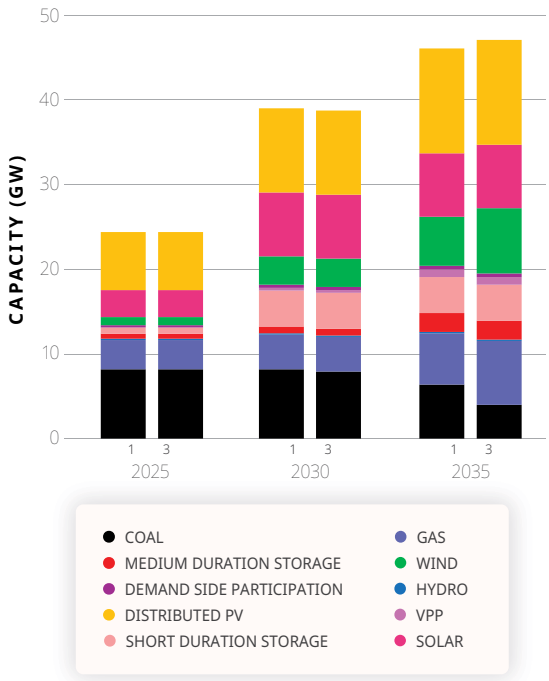
This contrasts with an estimated capital investment cost of around $60 billion under the Announced Pathway. This $26 billion difference translates to an annual avoided cost of $1,035 per household in real terms and accounting for population growth.[26]

This also considers investments into state-owned coal assets and targeted transmission infrastructure needed to keep pace with demand growth and network decentralisation, as new generation and storage capacity connects to the electricity grid.

In this way, the pace of new investment is material to overall energy system costs.

A flexible approach supports leveraging existing assets, smoothing capital outlays, uplifting market capacity and deliverability and capturing efficiency gains from technological advancements.

Figure 2.2: Generation and storage capacity mix under Technical (1) and Investor Driven (3) Pathways[27]



[26] Queensland Treasury analysis based on inputs and outcomes of energy system market modelling.

[27] Sensitivity assumes 2015 weather reference year, CER growth and inclusion of committed and anticipated projects.

COAL

System outlook

As the energy system evolves and new generation and firming enters the system, coal-fired generation will continue to play an important role in balancing supply and demand and stabilising the system.

At current levels of renewable energy, coal-fired generators are flexing output throughout the day, reducing output during periods of high variable generation (typically midday), and ramping up to meet evening peak demand. This operational pattern is expected to continue, and means assets will need to be carefully managed and monitored to ensure supply reliability while maintaining performance.

Despite the operational complexities for coal-fired assets in a transitioning energy system, ensuring sufficient dispatchable and synchronous or grid-forming capacity (e.g. gas-fired generation) is critical for supply security and reliability. Other NEM regions have experienced issues balancing supply and demand, requiring the continued operation of coal (and gas) assets.

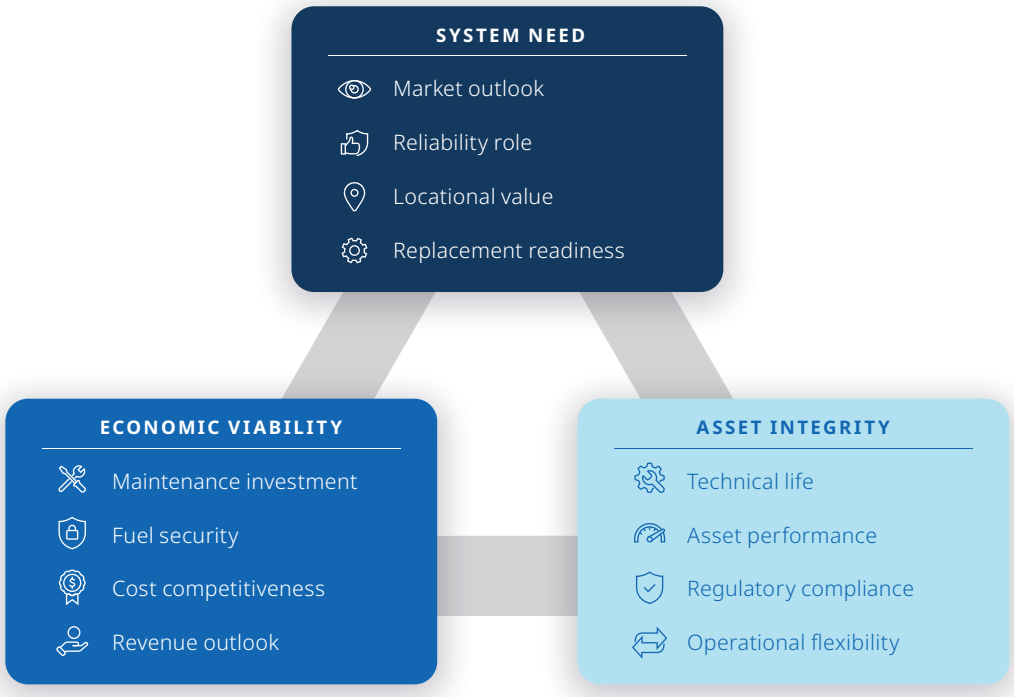
Under Extended, Announced and Technical Pathways, at least 70 per cent (or 5.8 GW) of current coal-fired generation capacity is expected to remain until 2035 and around 50 per cent (or 4 GW) under the Investor Driven Pathway. Under an Accelerated Pathway of coal closures per the Queensland Energy and Jobs Plan, all state-owned coal would be withdrawn by 2035 and all remaining coal, before 2038.

State-owned coal assets and decision matrix

While Queensland continues to operate some of the youngest and most efficient black coal-fired power plants in Australia, an ongoing and informed assessment of operating timeframes will continue.

For this reason, the Queensland Government has committed to a clear framework for decisions around operating timeframes for state-owned coal assets. The decision matrix at Figure 2.3 triangulates system need, asset integrity and economic viability of state-owned coal units.

Figure 2.3: Decision matrix for state-owned coal assets



Foremost consideration is system need for the ongoing operation of state-owned coal assets, with reference to Queensland's market outlook, system security and reliability requirements. Consequential impacts of operating changes for individual units on the system are also significant including energy supply adequacy and availability of critical ancillary services like frequency regulation, voltage control and spinning reserve capability. Locational value (i.e. strategic placement in the transmission network) is equally important.

Establishing system need considerations, asset integrity and economic viability then inform the optimal investment and operating decision for state-owned coal assets.

Asset integrity considerations include the technical life of individual units, safety and reliability of units in compliance with regulatory obligations, asset performance and operational flexibility.

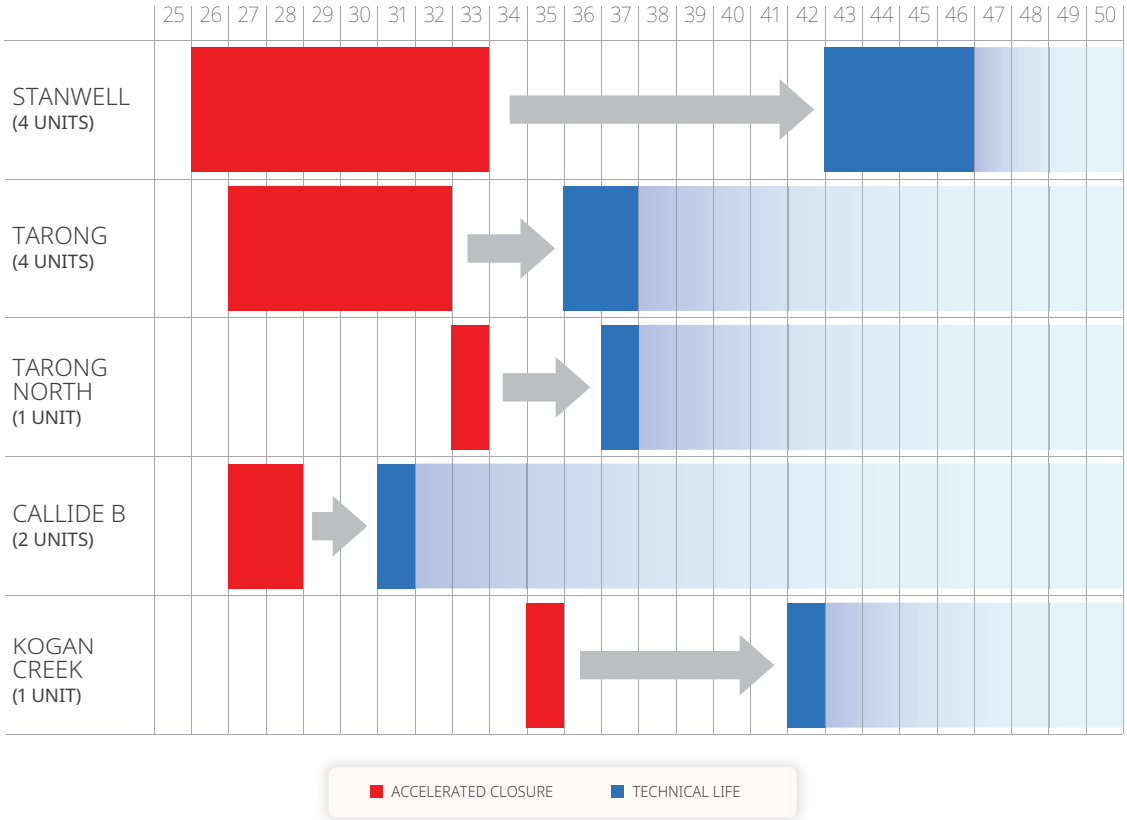
Economic viability considerations include asset maintenance investment requirements, fuel security, cost competitiveness and revenue outlook. In this context, the scale and timing of new generation and storage capacity entering the system are relevant considerations.

In applying this decision matrix, the Roadmap resets operating timeframes for state-owned coal assets to technical lives, with options to further extend into the future if needed (Figure 2.4).

Indicative timeframes for the operation of state-owned coal assets are based on the current state of the energy market and system outlook and the Government's commitment to delivering affordable and reliable energy for Queenslanders.

Figure 2.4 also shows the extension of state-owned coal assets, relative to the previous Government's position of accelerated closures, providing certainty for investors, industry, workers and communities.

Figure 2.4: Indicative operating timeframe of state-owned coal-fired assets



Updated operating timeframes reflect that Tarong, Tarong North and Stanwell remain among the most reliable sources of baseload generation in the NEM, while Callide B has been extended at least to 2031 (subject to adequate system and market outcomes). Operating decisions for Callide C, Millmerran and Gladstone will be made by their respective owners which could impact published timeframes.

Under clause 2.10.1 of the National Electricity Rules, generators must give at least 42 months' advance notice of closure, unless granted an exemption by the AER. The notice period can be extended at any time.

Electricity Maintenance Guarantee

Over the next five years, the Queensland Government is delivering a $1.6 billion investment into state-owned coal, hydro, and gas assets through the Electricity Maintenance Guarantee. This builds on a $450 million investment in 2024-25.

The Government has provided upfront approval of all investments required by state-owned generators, Stanwell, CS Energy and CleanCo, to implement five-year asset management plans. The Guarantee delivers all required overhaul and sustaining capital expenditure needed to ensure plant safety, statutory compliance, asset integrity and performance.

Under the Guarantee, GOCs are accountable for asset maintenance and performance including key performance indicators (KPIs) in respect of maintenance, personal safety, process safety and plant performance. An audited performance of KPIs will be published in annual reports to be tabled in Parliament by 30 September each year.

Longer-term investment planning

As an insurance policy and to provide optionality for the future, the Government is working with Stanwell and CS Energy on longer term investment plans for potential extended operations of the wholly state-owned Tarong, Tarong North, Stanwell and Kogan Creek Power Stations.

Over the next five years, Stanwell and CS Energy will continue to audit the condition of each generating unit to determine future replacement and refurbishment requirements to extend the useful lives of units beyond current technical lives and advice to AEMO. For Callide B Power Station, optionality of extension beyond 2031 will also be considered.

Based on the decision matrix for state-owned coal assets, feasibility and planning activities over the next five years will lay the foundation for potential new investment from the early 2030s, where there is a system need for some or all of these units to be extended. CleanCo will also examine possibilities for the Swanbank E Gas Peaker at Ipswich.

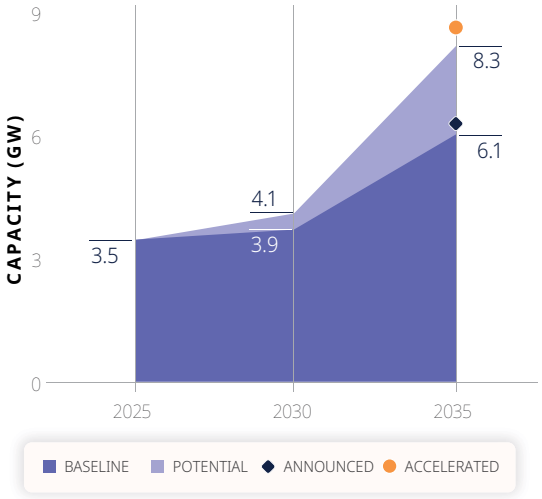
GAS

System outlook

Open-cycle gas turbine (OCGT) peaking plants can come online rapidly and operate flexibly to meet gaps in the electricity supply-demand balance. In an electricity system driven by weather-dependent supply and demand, this flexibility is highly valuable for addressing unpredictable energy shortages.

Modelling indicates Queensland may have up to 4.1 GW of gas-fired generation capacity by 2030, increasing to between 6.1 and 8.3 GW by 2035. This upper estimate would be an increase of 4.8 GW by 2035 compared to current open- and closed-cycle gas capacity across the State.[28]

Figure 2.5: Gas-fired generation in Queensland (2025 – 2035)



This forecast reflects Queensland's commitment to ensuring system reliability and supply shortfalls are met through additional dispatchable capacity. Gas provides a safety net for times of high demand, power outages, or extended periods of low renewable

[28] "Baseline" is minimum forecast capacity under modelled sensitivities for Technical and Investor Driven Pathways, while "Baseline" + "Potential" is the maximum forecast capacity. The "Announced" and "Accelerated" markers reflect 2035 forecast capacity assuming a 2015 weather reference year, CER growth per the 2025 Draft IASR and committed and anticipated projects reaching commercial operations.

energy production. However, if technologies like demand response or firmed renewables can effectively address supply gaps, the need for gas may be reduced.

Notwithstanding an increase in forecast capacity, estimated gas generation output is expected to remain reasonably steady over time, primarily used to meet rare but high demand periods. By 2030, peak daily gas use for generation is estimated at around 0.3 PJ, rising to 1.1 PJ by 2035. This highlights the importance of ensuring adequate gas supply, transportation and storage to handle occasional surges in demand.

Based on modelling outcomes across all scenarios and sensitivities, there is value in delivering gas-fired generation capacity as early as possible due to its ability to mitigate reliability risks (e.g. variability of renewable energy output; delays in the build out of other generation, storage and transmission; or changes in demand or supply availability).

GOC gas investments

With Queensland expected to host at least 6.1 GW of gas generation by 2035, the Government is taking proactive steps to ensure the energy system remains affordable, reliable and sustainable. Over the next five years, strategic investments through energy GOCs will deliver over 700 MW of new gas generation capacity.

- **Brigalow Peaking Project** – CS Energy is building a 400 MW OCGT adjacent to its Kogan Creek Power Station near Chinchilla in the Western Downs. The Government has allocated $479 million in 2025-26 to support the development of this project, which is expected to be operational by 2028. Once complete, it will provide enough power to meet peak demand of more than 150,000 homes.
- **Lockyer Energy Project** – Stanwell is expanding its firming portfolio with the acquisition of the Lockyer Energy Project. Located near Gatton in Southern Queensland, Stage 1 includes up to 120 MW of gas-fired generation, with potential for up to a further 850 MW of capacity in Stage 2.
- **Swanbank** – CleanCo is investigating the development of a new OCGT at its Swanbank Power Station, at up to 250MW, to complement its existing 385 MW combined cycle gas turbine on site.

While these projects represent strong progress, additional gas-fired generation capacity will be required to meet Queensland's forecast needs. With a requirement of at least 2.6 GW new gas generation by 2035, this represents a significant opportunity for new private sector investment.

Central Queensland Gas Power Tender

To ensure sufficient gas-fired generation capacity is operational by the early 2030s, the Queensland Government is acting to address supply chain constraints and accelerate private sector investment. There are a range of factors that impact the supply chain, with current market advice and stakeholder feedback indicating procurement and delivery of gas turbines can take up to around three years. Project construction and operations are estimated to take an additional two to three years, depending on workforce, materials and equipment availability and project management planning.

Recognising these lead times, the Government is leveraging the Investor Gateway to attract private sector investment into gas-fired generation capacity.

QIC will undertake market sounding to partner with the private sector to deliver an additional 400 MW gas-fired generation capacity in Central Queensland as a critical insurance for long term system security and reliability. More gas will be required, but this is an important signal of the Government's commitment to regional network security while encouraging private sector participation.

Central Queensland is a strategic location for new investment, as it hosts the State's largest concentration of coal-fired generation capacity and industrial demand. Its position within the network supports power flows both north and south, as well as directly into Gladstone, a key industrial hub.

More broadly, the Investor Gateway is open to market participants for engagement on other prospective gas-fired generation developments across Queensland.

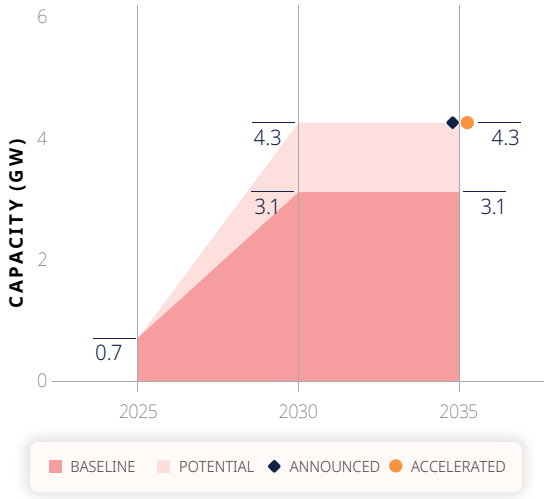
STORAGE

System outlook

In an increasingly variable energy system, a large amount of storage capacity will be required to shift energy from when it is produced to when it is required. This has material benefits on system efficiency, optimising generation and network investment requirements.

By 2030, up to 4.3 GW of short-duration storage may be operational, depending on the pace of investment. Beyond 2035, the need for additional short-duration storage is more limited. In practice, there are a range of factors that will impact investment decisions across short-duration storage assets – including broader energy portfolio integration and diversification.

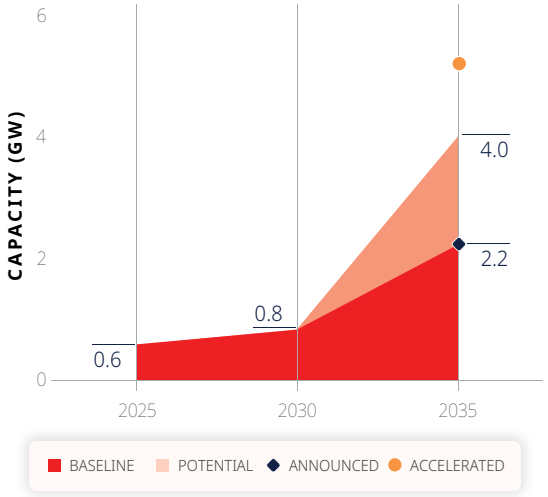
Figure 2.6: Short duration storage in Queensland (2025 – 2035)



The importance of medium-duration storage rises over time to support a least-cost system outcome.[29] Over the next five years, the 250 MW Kidston PHES will become operational to increase the State's total PHES capacity to 820 MW (including CleanCo's Wivenhoe PHES).

By 2035, Queensland may host up to 4 GW of medium-duration storage. This includes technologies like 8+ hour batteries and smaller, more manageable PHES, where supported by system need and economics.[30]

Figure 2.7: Medium duration storage in Queensland (2025 – 2035)



There is a trade-off between energy storage and dispatchable supply sources (such as gas) required for firming renewables. If there is insufficient storage, renewable output that would charge storage may spill, meaning more frequent gas dispatch to fill gaps in supply.

Short-duration storage investment

There are many options that could be called upon to meet Queensland's storage needs through both existing and emerging technologies including pumped hydro, conventional and flow batteries, smaller "community" batteries on the distribution network, and household scale batteries. Each have different costs, ideal use cases and commercial models.

[29] The duration of large-scale batteries continues to develop, with multiple 2-hour batteries in operation, 4-hour batteries under construction or proposed and potential for 8-hour batteries. Storage of different durations may also be imperfect substitutes, meaning the need for short- or medium-duration storage may not be mutually exclusive.

[30] On 16 September 2025, the Australian Government announced four 4-hour batteries (combined 1.095 GW) in Queensland were successful projects as part of the CIS Tender 3 – NEM dispatchable capacity.

In 2025–26, GOCs are investing $379 million in new large-scale batteries at existing power station sites and $135 million to install network-scale batteries across the distribution network. There is significant market interest and private sector investment in short- to medium-duration batteries in Queensland.

Going forward, battery energy storage investments are a key opportunity for the private sector including potential partnerships with GOCs where commercial value and portfolio need is demonstrated.

Coordinated PHES assessment

As part of the medium- and long-duration storage mix, the Queensland Government has been actively investigating multiple pumped hydro opportunities including Borumba, Mt Rawdon, Big T and Capricornia. These projects — some in partnership with the private sector — have the potential to meet much of Queensland's projected demand for deeper storage over the medium term.

- **Mt Rawdon** is a proposed up to 2 GW / 20 GWh PHES located near Mt Perry, 75km south-west of Bundaberg. CleanCo is working with private sector proponents, Evolution Mining and ICA Partners, with the 2025-26 Budget allocating $50 million for CleanCo towards acquisition of the project.
- **Big T** is a proposed 400 MW / 10-hour PHES, located at Lake Cressbrook, near Toowoomba. In 2025–26, Stanwell is investing $29.4 million to acquire the project in a joint venture (JV) with an established global PHES operator.
- **Capricornia** is a proposed 750 MW / 16-hour PHES located 80km west of Mackay. CS Energy has been considering a range of options for participating in the project.

PHES are major, complex projects demanding disciplined evaluation, design and execution. At any scale, these are multi-billion dollar, multi-generational projects and the Government will take a calm and methodical approach to investment decisions. PHES projects are also unique — costs and development risks change for each investment, unlike technologies such as large-scale batteries and gas-fired generation.

Given project delivery complexity, work will continue on potential PHES projects to retain optionality towards final investment decisions, ensure value-for-money and optimise energy system requirements.

The QIC Investor Gateway will lead future investigation and investment partnerships with the private sector on all prospective smaller, more manageable PHES projects for the Government and GOCs. In addition to the ongoing review of Borumba PHES, this will include the transfer of responsibility for assessment of the Mt Rawdon, Big T and Capricornia PHES including project delivery through to any potential final investment decisions.

This approach ensures potential PHES investments can be assessed consistently against a clear value framework, considering system-wide needs while allowing energy GOCs to focus on core business.

The private sector is also continuing to investigate other prospective opportunities, such as BE Power's proposed 800 MW Big G PHES for Central Queensland, while Genex continues construction of the 250 MW Kidston PHES in Far North Queensland.

Large, long-duration PHES projects face higher risks around deliverability, cost and community impacts. For these reasons, the Government decided not to progress the previously proposed 5 GW Pioneer Burdekin Pumped Hydro Project, which was more than twice the scale of the $12 billion Snowy 2.0 project.

Community batteries

Energy Queensland is connecting community-level batteries in neighbourhoods across the State, including in partnership with Origin Energy or supported by the Australian Renewable Energy Agency.

These batteries allow local charging of rooftop PV exports in strategic parts of the distribution network, creating value for local communities and households while reducing the level of network investment required to manage minimum system load risks during the day. Stored energy can be released during evening peaks, reducing reliance on peaking generators, easing network stress and improving overall market efficiency.

Over the next five years, the Government is supporting EQL to continue its planned rollout of community-level batteries including a $10 million 'partnership fund' to further incentivise private sector investment in collaboration with EQL.

QIC INVESTOR GATEWAY

The Queensland Government is leveraging QIC's capital market connections and infrastructure expertise to establish a new 'front door' for investment in Queensland's energy sector.

The **Investor Gateway** will provide QIC with a clear mandate to:

- **Attract private sector capital** to drive investment in new energy infrastructure across the State and help grow the Queensland economy
- **Match investor interest with energy GOC portfolio needs** and market demand including through project partnerships and contracting opportunities
- **Develop innovative products and blended finance options** to maximise whole-of-State outcomes for the energy system.

This Gateway will provide clarity for developers and investors on opportunities to partner with Government, including GOCs, on new energy projects in Queensland. It will deliver a clear pathway for private sector capital to enhance portfolio diversification into Queensland's energy system.

Starting with a new **Queensland Energy Investment Fund**, QIC has been commissioned to bring energy supply and storage projects from origination to operations, fostering collaboration with the private sector and GOCs. As confirmed by the market outlook, the long-term new investment mix necessitates a range of technologies including gas, renewables and storage.

Initial seed funding of $400 million from Government will leverage new private sector investment, domestic and international, into energy projects across the State. As investment fund manager, QIC's role will be to identify, filter, negotiate, execute and oversee direct and indirect investment into generation and storage assets located in Queensland.

GAS

Under any market outlook, there is a clear need for more gas in the system by the early 2030s, however, domestic and international demand for gas technology has stretched procurement timelines, necessitating a market response in the immediate term to ensure delivery when required. An immediate outcome of the Investor Gateway will be for gas-fired generation. QIC will lead an innovative approach to incentivise private sector investment in gas projects — with a focus on Central Queensland.

QIC is commencing a comprehensive market sounding process in late-2025 in anticipation of a competitive Central Queensland Gas Power Tender in 2026 for up to 400 MW of gas-fired generation capacity, to be operational from 2032.

Indicative timeframes

LATE 2025	Market sounding commencement
EARLY 2026	Tenders open
BY MID-2026	Contract negotiations underway with shortlisted applicant/s
BY END-2026	Tender finalisation
TARGET BY 2032	400 MW operational gas-fired generation in Central Queensland

QIC's mechanism will leverage private sector expertise in project development, while exploring opportunities to partner with GOCs through energy offtakes to provide revenue certainty for investors.

To support an industry-led response, the Government – through QIC – will take a 'risk on' position through early procurement of long-lead items, such as turbines, ahead of finalising project contracts and counterparties.

The Government will also look at other enablers for delivering gas-fired generation capacity including strategic land access, storage requirements, connection arrangements and skills development.

PUMPED HYDRO

QIC will expand its current oversight of the Borumba PHES towards other smaller, more manageable pumped hydros, including Mt Rawdon, Big T and Capricornia, ensuring a coordinated state-led approach for assessment and investment in longer duration energy storage.

Leveraging its ongoing review of Borumba and support to Queensland Hydro, QIC will work with CleanCo, CS Energy and Stanwell to deliver a full commercial assessment of delivery options.

This will support a focus for energy GOCs on core business to deliver affordable, reliable and sustainable energy, while ensuring a whole-of-State perspective to PHES development.

A shortlist of PHES projects for further consideration will be developed in 2026. Further investments will be made in future Budget processes.

RENEWABLES AND STORAGE

The Energy GOC Review has emphasised the importance of energy GOCs focusing on existing assets to ensure their maintenance and reliability to bring supply to the market and place downward pressure on electricity prices. At the same time, stakeholders have sought clarity on the role of GOCs in business development of new energy projects.

As part of the Investor Gateway, the Government will establish a coordinated exchange for developers, investors and GOCs to solicit interest in renewable energy projects and solutions required by the market.

This approach enables demand and supply aggregation across the sector, matching buyers and sellers and offers valuable project and financial risk diversification as new renewable energy continues to enter the market.

COPPERSTRING

The Investor Gateway extends across the energy supply chain to include the Government's commitment to deliver CopperString, with QIC overseeing an accelerated pathway to deliver this generational project to North and North West Queensland and leverage private sector investment. Actions are focused on:

- delivering the Eastern Link with operations by 2032 (subject to approvals)
- commencing construction of the Flinders Substation at Hughenden in 2025-26, while exploring options to streamline connections and accelerate generation investments at the Hughenden Hub
- progressing the Western Link.

The Government is committed to pay forward the benefits of CopperString to communities west of Hughenden.

A new **North West Energy Fund** is being established to support local generation and storage solutions to improve energy affordability and reliability for local communities in and around Mt Isa, Cloncurry, Julia Creek and Richmond.

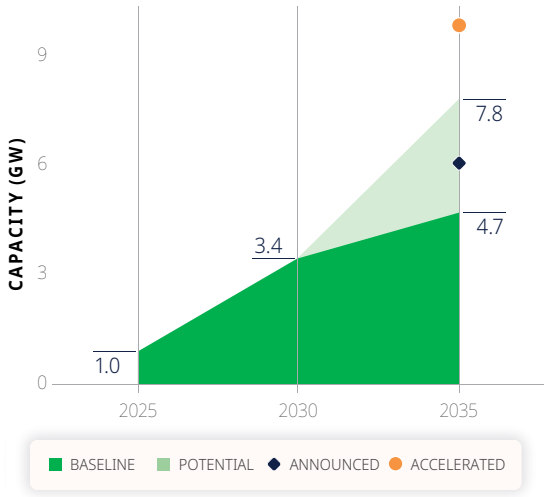
With a record $2.4 billion Government funding commitment to deliver CopperString, the Government will seed $200 million into the fund for QIC to partner with private capital and developers to deliver priority energy infrastructure projects to lower energy prices in the region and stimulate economic development.

RENEWABLES

System outlook

Queensland benefits from high-quality renewable resources including abundant solar energy and a largely complementary wind shape. As at June 2025, around 1 GW of wind capacity and 3.2 GW of large-scale solar capacity were operational. With new committed projects under construction or in the process of being connected to the grid, around 3.4 GW of total wind capacity is expected by 2030. Figure 2.8 shows a range of possible outcomes, forecasting between 4.7 and 7.8 GW by 2035, with higher uptake of wind primarily associated with lower coal capacity by 2035 under an Investor Driven Pathway.

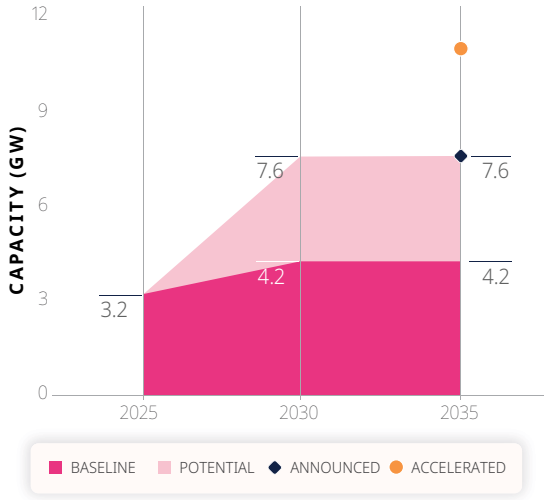
Figure 2.8: Wind generation in Queensland (2025 – 2035)



The modelling demonstrates multiple advantages of wind including geographical diversity, an ability to provide a more consistent output when connected at multiple locations and complementarity with solar output and load shape.

By 2030, between 4.2 and 7.6 GW of large-scale solar may be expected to be operational, remaining within that range until 2035. Beyond 2035, investment in new large-scale solar is expected to escalate further. Increasingly, large-scale solar is being matched with batteries in hybrid projects that provide more dispatchable support to the market.

Figure 2.9: Large-scale solar generation in Queensland (2025 – 2035)



As large-scale solar becomes more prominent in the system, there is increased likelihood of excess generation in daylight hours coinciding with higher rooftop solar, increasing the risk of solar output being economically "spilled" (i.e. wasted energy). Over the course of a year, these spill amounts can be large and challenge the medium term economics of solar in an environment where a significant proportion is spilled and sufficient storage does not yet exist in the system to absorb that excess energy.

> Queensland benefits from high-quality renewable resources including abundant solar energy and a largely complementary wind shape

PROJECT DELIVERY

Queensland has a significant pipeline of wind and large-scale solar projects in the advanced stages of development.[31]

As at August 2025, there is an investment pipeline of around 400 MW of gas, 1.6 GW of solar, 2.4 GW of wind and 3.6 GW of storage either financially committed, under construction or in commissioning — representing investment around $14 billion with 5,500 peak construction jobs.

The project pipeline is influenced by a range of factors and market dynamics including supply and demand, costs and pricing and project deliverability. These factors may similarly affect investment in other firming technologies like gas and pumped hydro.

In turn, the pace of project delivery will depend on procurement timeframes, market capacity, social licence and community benefits and project approvals.

While single years have had a significant investment in wind and solar projects, there are practical challenges in building large numbers of renewable projects across consecutive years — for Queensland, other Australian jurisdictions and globally.

Historical annual build rates show up to 0.5 GW new wind and 1 GW new solar in Queensland (see Figure 1.3). While it may be feasible to deliver higher build rates on average, the ability for project owners, developers, financiers, Original Equipment Manufacturers, contractors, logistics companies and service companies to scale up and deliver a higher average build rate consistently would require step changes in both the Queensland and national renewables industry.

Optionality to run Queensland's relatively young fleet of coal-fired power plants will assist in de-risking the energy shift in the event that new generation and storage is delayed from entering the market.

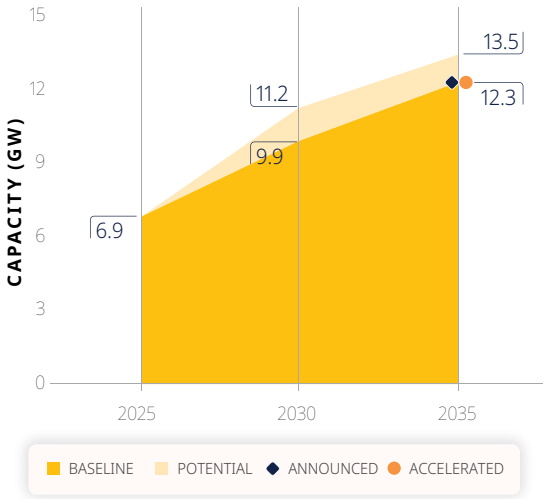
Small-scale solar and storage

Over the next five years, installation of small-scale solar PV (under 30 MW) across Queensland may reach 11 GW – an increase of more than 4 GW from 2025 levels.

For business and industrial customers, energy demand is expected to increase over the longer term due to economic growth and electrification of transportation and industrial processes. As business and industrial customers seek to reduce their energy costs, increased investment in on-site generation and energy efficiency is expected, alongside more flexible consumption to take advantage of lower cost energy when supply is in surplus.

Increases in distributed PV (mainly rooftop solar) — provided its integration and management is coordinated for system outcomes and provides consumer benefits — could help to shift Queensland's overall energy use and reduce the amount of large-scale generation infrastructure required into the future.

Figure 2.10: Distributed PV in Queensland (2025 – 2035)



[31] As reported by the Clean Energy Council (2025), no onshore wind farm has been financially committed in the six months to 30 June 2025.

CER is a term used to encompass all consumer-owned assets connected at the distribution network level behind the customer's meter, such as rooftop solar, air conditioners, hot water systems, home batteries and electric vehicles (EV). CER is transforming the way Queensland's energy system operates by allowing household and business consumers to change their demand from the grid by producing their own energy which they can consume, store, or export to the grid for others to use.

Orchestrated CER or virtual power plants (VPPs) can reshape customer load profiles, encouraging energy usage at times of surplus generation while reducing loads at times of peak demand and dynamically adjusting demand on the system in response to energy system events.

The role of orchestrated CER in Queensland is expected to become more prominent over time, rising from very low levels currently to around 0.3 GW by 2030 and 0.9 GW by 2035 based on modelling assumptions.

SUPERCHARGED SOLAR FOR RENTERS

The Queensland Government is delivering cost-of-living relief to renters and advancing renewable energy adoption through the $26.3 million Supercharged Solar for Renters program.

This initiative is providing eligible landlords with rebates up to $3,500 to install rooftop solar PV systems on about 6,500 rental properties, helping to drive down electricity bills for tenants.

The Clean Energy Regulator reports more than 1.1 million small-scale solar units in Queensland — most of these are benefiting Queensland households. Supercharged Solar for Renters extends these advantages to renters, a group often excluded from accessing renewable energy savings.

It is anticipated that installing solar PV under the program will deliver an estimated energy bill saving of around $700 annually for renting households, depending on the property's location in Queensland, the size of the solar system installed and how the household uses energy.

The program also supports Queensland's broader goals of reducing emissions and fostering sustainable energy practices. By making renewable energy more accessible, the Supercharged Solar for Renters Program contributes to a sustainable energy future for all Queenslanders.

TRANSMISSION

System outlook

As Queensland's energy system develops and grows, new and upgraded transmission infrastructure will be required to ensure the energy system can balance supply and demand. These investments will respond to the location and scale of new energy developments, ensuring the system remains reliable and secure while meeting the State's evolving energy needs.

Development will also occur in an environment of growing regional community sensitivity to significant infrastructure development and global trends of increasing material and labour costs.

Ensuring safe, reliable and cost-effective transmission to support an evolving mix of generation is a key challenge, with transmission network service providers like Powerlink now needing to plan and deliver significant new network and non-network investment alongside a traditional focus on asset maintenance and incremental augmentation.

Over the next five years, targeted transmission augmentation will be required to connect new generation and storage projects, continue to supply existing and new loads, remove significant areas of congestion, allow efficient utilisation of the existing network and connect synchronous condensers for power system security. Several critical transmission projects are anticipated over the next decade (see Table 2.2).

Table 2.2: Key transmission augmentation projects (2025 – 2035)

2025– 2030	PURPOSE
Gladstone Project	Deliver essential network upgrades and reinforcements in Central Queensland to maintain system security and reliability. Critical transmission required for system security will be completed by 2029.
Synchronous condensers	Maintain the minimum fault level required for protection operation and minimum system strength requirements. Up to four synchronous condensers are contemplated at this time including in the Gladstone region, with Powerlink expected to commence public and community engagement from early-2026 on potential sites.
Transformer capacity	Generation connections in the Southern Downs may be facilitated by additional 330 / 275kV transformer capacity between the Bulli and South West Queensland zones.
2030– 2035	**PURPOSE**
CopperString – Eastern Link	QIC is delivering the Eastern Link of CopperString with major construction commencing by 2028 and commercial operations by 2032 (subject to approvals). This line — to be built at a 330kV specification as a recommendation of QIC — will catalyse new generation and storage investment in North Queensland to help meet future demand in the region and across the State. QIC is also beginning work to deliver the Western Link.
Replace existing lines between Bouldercombe and Nebo	Replacing existing lines that are approaching end-of-life between Bouldercombe and Nebo with high-capacity 275kV double circuit lines, stringing the second side of Stanwell – Broadsound 275kV line and switching a 275kV line between Strathmore and Haughton River into Reid River Substation are likely to increase transfer capacity from North to Central Queensland and support new generation connections in North Queensland.
New CQ-SQ substation	To support new generation connections in the Darling Downs and Surat, Powerlink will progress a new CQ-SQ substation joining into the Calvale – Halys 275kV line, delivering new transmission capacity from the substation to South West Queensland.
Increase transfer capacity to Brisbane	New generation in South West Queensland supplying main load centres may require Powerlink to invest in additional transfer capacity between Blackwall and north and west Brisbane.
Increase transmission capacity within Gladstone region	To deliver additional transmission capacity within the Gladstone zone and address end-of-life condition for ageing transmission lines between critical supply substations, Powerlink will replace end-of-life assets (Calliope – Wurdong and Calliope – Larcom 275kV lines). Timing may depend on additional load growth in the Gladstone zone and generator connections.
Additional network upgrades	To electrify mining loads in Northern Bowen Basin, Powerlink will undertake network upgrades to 132kV network from Nebo, Lilyvale and Strathmore to Moranbah.
Synchronous condensers	To maintain the minimum fault level required for protection operation and minimum system strength requirements. The delivery requirement may be staged with the number and location of synchronous condensers depending other resources that may provide this service (e.g. gas-powered generation with clutches) or new technological developments.

Figure 2.11: Significant transmission augmentation in Queensland

Network

Moderate demand projections and ongoing operation of state-owned coal assets support a more gradual augmentation of Queensland's transmission network, reducing the immediate need for significant investment in high-capacity infrastructure.

While the construction of large-scale 500kV transmission infrastructure may be needed in the future — particularly if demand increases significantly due to energy-intensive export industries or data centre growth — these conditions are not currently forecast. Moreover, any future decision on such infrastructure would depend on changes in generation patterns or reductions in transmission costs relative to other technologies.

Given the long lead times associated with transmission development, however, it is prudent to commence early strategic works to maintain flexibility and ensure the State is prepared to deliver high-capacity infrastructure in key locations if it becomes necessary.

Over the next five years, Queensland is focusing on targeted, high-priority transmission investments that address immediate needs and support system reliability. Two strategic infrastructure projects — the Gladstone Project and CopperString — are critical to support Queensland's largest industrial loads and economic growth.

Queensland is committed to the Priority Transmission Investment framework and Regional Energy Hubs to progress critical transmission infrastructure in an efficient and effective manner.

Together, regulated and non-regulated transmission developments will ensure Queensland's energy system support the needs of industry, investors, communities and consumers.

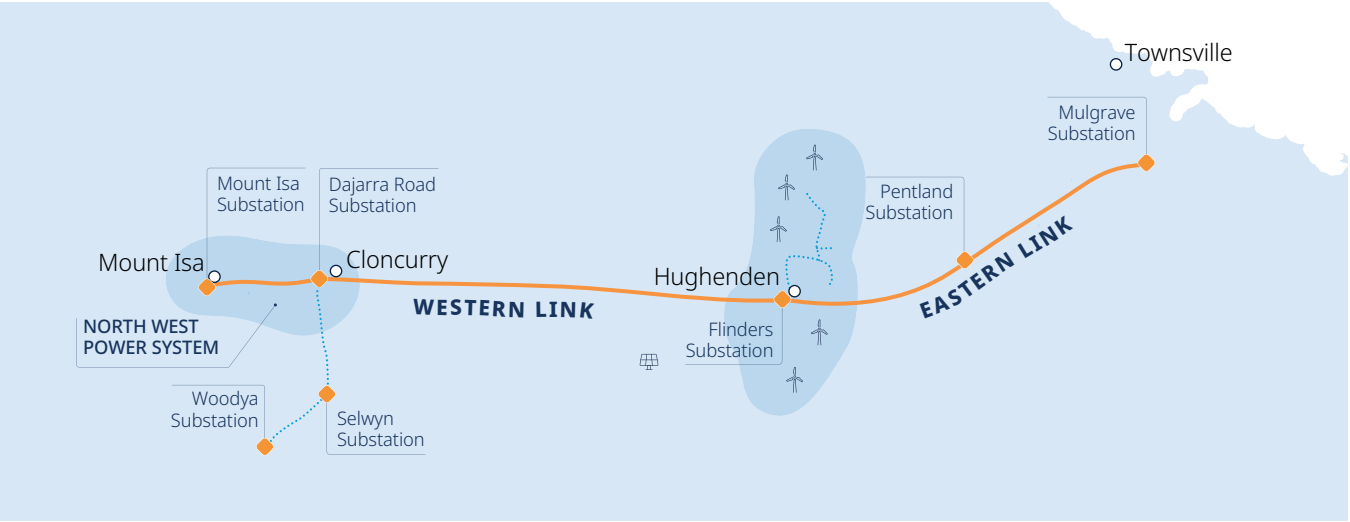
CopperString

CopperString is designed to support North and North West Queensland by delivering affordable, reliable and sustainable energy. The project will connect to the NEM, enabling new generation, firming, industrial development and economic growth.

The Queensland Government has commissioned QIC to oversee the delivery of CopperString, ensuring the project is delivered efficiently while meeting the needs of North and North West Queensland.

The 2025–26 State Budget allocated $2 billion over the next four years including $403 million in 2025–26, to ensure the delivery of CopperString and to support jobs. This brings the total project investment to a record $2.4 billion.

Figure 2.12: Copperstring



Eastern Link and Hughenden Hub

The Eastern Link from Townsville to Hughenden is due to commence major construction by 2028 with commercial operations by 2032.

The build specification will be a 330kV transmission line supporting a transfer capacity of 1.7 GW (and 2.9 GW hosting capacity) to meet projected demand requirements over the medium to long term.

Into the future, there is potential for higher demand to support a higher specification line, which may be accommodated by duplicating an adjacent line; however, demand projections out to 2050 do not support the development of a 500kV specification at this time.

Optimising the Eastern Link for expected supply and demand requirements in the region and across Queensland is a value for money outcome.

As well as progressing works on the Eastern Link, early works on the Flinders Substation will commence in 2025-26 which will be the gateway to connecting new generation assets across the Hughenden Hub into the Eastern Link of CopperString from 2032.

Hughenden and its surrounds have some of the best wind resources in the country, complementing the output profile of other wind and solar resources across the State, with several large gigawatt-scale wind projects proposed for development to the north and south of Hughenden.

North West Economic Development

Over the next five years, the benefits of affordable, reliable and sustainable energy will start to be delivered to communities starting west of Hughenden through a North West Energy Fund.

For regional and remote communities, as identified, investment in local generation and storage systems will be made to materially improve network resilience. This work will commence in 2025-26 with QIC to work closely with local communities to deliver appropriate microgrid solutions.

For customers connected to the North West Power System including at Mt Isa and Cloncurry, the Government will leverage a $200 million North West Energy Fund to partner with the private sector and invest in flexible firming solutions to reduce reliance on gas for baseload electricity consumption.

Leveraging its infrastructure and investment management expertise, as part of the Investor Gateway, QIC will work to ensure an optimal outcome for all customers in the North West Minerals Province (NWMP) to place downward pressure on prices in the region.

Western Link

As QIC progresses work on the Eastern Link, its attention to the Western Link will continue, including an assessment of the best value-for-money specification to ensure that, when the North West is connected to the NEM, the total benefit of CopperString is maximised for Queensland customers.

Delivering the Eastern Link and ensuring the generation and network infrastructure in the NWMP is in place to connect into the NEM are key enablers of the Western Link.

Community Legacy

Along the CopperString corridor, an expanded $50 million Community Benefits Fund will deliver critical projects to local communities including community infrastructure, housing and accommodation, as well as economic and workforce development.

> Transmission will keep pace with demand growth and decentralisation of the network as new generation and storage capacity connects to the electricity grid

Gladstone Project

The Gladstone Project involves critical network upgrades and reinforcement of the transmission network in the Gladstone region to ensure ongoing system security and reliability, while also expanding the network to enable new supply to support the region's industrial base.

Gladstone Power Station has historically played a central role in supplying energy to major industrial loads in Central Queensland. However, with advancing age, reliability risks and recent notification of its potential retirement in March 2029, it is now necessary to prepare for a change in its operation.

The Gladstone Project will ensure the region's energy needs are met as changes occur, maintaining system resilience and security. The project is currently under assessment as a Priority Transmission Investment through existing legislative frameworks, with options around timing, phasing and configuration under consideration prior to any final investment decision by Government on the best approach to deliver long-term system security to the region. Powerlink has identified potential components of the project are:

- Establishing a new Gladstone West 275 kV Substation
- Building and rebuilding 275 kV high-capacity double-circuit lines between Calvale and Calliope River and between Larcom Creek, Bouldercombe and/or Calliope River
- Installing synchronous condensers to provide system strength, inertia and dynamic reactive support.

Critical transmission required for system security will be completed by 2029.

The 2025–26 State Budget allocated $221 million in 2025–26 to progress early works on this project.

CENTRAL QUEENSLAND AND GLADSTONE

Gladstone is a key region in Queensland's electricity system and economy, serving as a hub for industrial activity and energy generation. It is home to key infrastructure such as the privately-owned 1,680 MW Gladstone Power Station, Rio Tinto's Boyne Aluminium Smelter, the Yarwun alumina refinery and the Queensland alumina refinery. Together, these operations employ over 3,000 workers and contribute significantly to Queensland's economic activity.

The electricity grid in Central Queensland, established in the 1970s, relies on generation and load in this region to ensure the security and stability of the system. Gladstone Power Station, as Queensland's oldest coal fired power station and Boyne Smelter are legacy components of this system, playing a critical role in maintaining system strength. Reliability and the operational timeline of Gladstone Power Station is determined by its private owners, with CS Energy contracting capacity and dispatching it into the NEM under an existing contractual agreement.

To ensure the security of energy supply and the stability of the grid in Central Queensland, the Queensland Government is supporting the Gladstone Project. This project is a critical step in reinforcing the network, enabling the transition of power assets such as Gladstone Power Station with new energy sources while maintaining system strength and reliability.

The Gladstone Project may be one of the most consequential projects for ensuring Queensland's energy security and reliability into the future.

From St Lawrence in the north, Bundaberg in the south and inland to Blackwater, Central Queensland also has significant potential for large-scale wind and solar projects, with around 1.7 GW of large-scale solar and 3.5 GW of wind at development approval, financial close, under construction, or operational.[32]

Supported by QIC's Investor Gateway, the region could become a hub for new gas generation, which would provide firming for renewable energy while supporting system security and reliability for both existing and new loads.

[32] Queensland Treasury Electricity Generation Map.

Policy settings

03

Policy settings

- Policy and investment settings must be responsive to the continuous evolution of the market, needs and preferences of consumers and technological advancement into the future.
- While decisions and actions by the Queensland Government over the next five years are influential, Queensland recognises and respects the empowering roles of industry, investors, communities and consumers to support an affordable, reliable and sustainable energy system.
- Energy GOCs will focus on core business to supply affordable and reliable energy and build a sustainable longer-term portfolio. GOCs will continue to partner with the private sector on investment opportunities that meet portfolio need and deliver commercial value.
- A review was undertaken to ensure energy legislation is fit-for-purpose to support the Government's objectives to deliver an affordable, reliable and sustainable energy system for Queensland and facilitate private sector investment in new energy infrastructure.
- The private sector will have an enhanced role in Queensland's energy system to deliver the new infrastructure needed over the next five years and beyond.
- The Roadmap is designed to adapt to the dynamic nature of Queensland's energy market.

Delivering the $1.6 billion Electricity Maintenance Guarantee to improve existing assets, and a further $400 million to drive investment in renewables, gas and storage 

ENERGY GOCS

Queensland's energy GOCs will continue to play a significant role across the energy system, owning and operating assets in generation, transmission, distribution and retail. GOCs also provide a unique opportunity for Government to work directly with the private sector on what the State needs to ensure affordable, reliable and sustainable energy for Queenslanders.

To do so, the Government recognises the importance of clarity to market on the role of GOCs and expectations around engagement with the private sector. For energy GOCs, there is a renewed focus on financial and operational performance of existing assets including their reliability, while ensuring committed projects — network and generation — are delivered on time and on budget.

Going forward, it will be important for GOCs to apply discipline in investment decision making as they work to bring on new supply. Key criteria will be demonstrating value for customers and improvement in the commercial and financial risk of the GOC's energy portfolio. Private sector funding should be sought with appropriate risk sharing between parties to ensure value-for-money outcomes for Queenslanders.

As the system outlook highlights, there is a medium-term requirement for additional gas-fired generation capacity and medium-duration storage.

Powerlink and Energy Queensland can also play an important role in facilitating private investment through connecting new generation, storage and loads to the electricity network. To maximise these opportunities, businesses will improve the performance and transparency of their connection processes.

Beyond this, GOCs will be held accountable for the safe delivery of affordable, reliable energy.

PUBLIC OWNERSHIP

As coal continues to underpin Queensland's energy system into the future and with an increasing system reliance on gas, the Government has an enduring commitment to 100 per cent public ownership of its existing operational generation portfolio while ensuring significant State investment into those assets continues over the next five years and beyond including through the Electricity Maintenance Guarantee.

The Government will crystallise this public ownership commitment through legislation to provide certainty to all stakeholders — industry, investors, GOCs and the community — and a clear invitation for private sector investment into new generation. Existing public ownership commitments to transmission, distribution, and deep storage will remain enshrined in legislation.

ENERGY GOC REVIEW

On 8 April 2025, the Treasurer, Minister for Energy and Minister for Home Ownership announced a review of Queensland's energy GOCs (Powerlink, Energy Queensland, Stanwell, CS Energy and CleanCo).

This review — led by Queensland Treasury and supported by Queensland Treasury Corporation — is the first comprehensive analysis of the energy GOC sector for many years.

It is critical Queensland's state-owned entities are well-positioned to deliver on the Roadmap — meeting the core objectives of affordable, reliable and sustainable energy — and facilitating (rather than competing with) private investment, while maintaining operating and business performance.

THE GOC MODEL

The *Government Owned Corporations Act 1993* sets the legal framework for establishing and operating GOCs in Queensland. The Act requires GOCs to have independent boards, operate under both the *Corporations Act 2001* (Cth) and State legislation and be accountable to shareholding Ministers.

Corporatisation allows the State to maintain control over essential assets while driving commercial discipline and delivering public value.

Entities incur costs and bear commercial risks in service delivery and target a commercial rate of return to sustain ongoing investment and performance. Returns from GOCs support consolidated revenue and government service delivery including critical infrastructure maintenance and delivery.

OBJECTIVES

The review assessed financial and non-financial performance, alignment of business strategy with shareholder expectations and risks and opportunities for GOCs into the future. This included options and actions to:

- support a well-functioning energy market where energy affordability for customers is driven by enhanced productivity, competition and required asset reliability
- define the core business focus of each GOC, aligned with affordable, reliable and sustainable energy
- ensure GOCs have the capability and resources to efficiently and effectively perform core business.

KEY FINDINGS

The review identified opportunities for energy GOCs to:

- better focus on existing assets and core business to supply affordable and reliable energy
- build a sustainable longer-term portfolio by partnering with the private sector on new investment opportunities that meet portfolio need and deliver commercial value.

Powerlink owns and operates the electricity transmission network in Queensland. While Powerlink has demonstrated sound financial and operational performance, it faces input cost pressures common across the sector and a need to proactively address issues through technical expertise and commercial partnerships. Powerlink maintains its commitment to efficient and effective customer connections, noting some customers have found negotiating and finalising Connection and Access Agreements challenging.

- Powerlink to continue focus on the customer connections experience and improve visibility through reporting; effectively manage regulated network costs and the revenue determination process; and prioritise completion of the Gladstone Project for Queensland electricity system security.

Energy Queensland owns and operates the low-voltage distribution network connecting to households and businesses. It is also the largest regional Queensland retailer to around 780,000 customers. As a customer-facing business, there are opportunities for Energy Queensland to enhance the experience of small and large customers including through connections and contestable services.

- Energy Queensland to manage network expenditure in consideration of regulatory allowances; enhance and report on customer connections performance and service provision; and identify and address barriers to accessing CER.

Stanwell supplies around 30 per cent of Queensland's electricity, with an owned energy portfolio of around 3,300 MW from its three coal-fired power stations. Stanwell is also investing in new renewables and firming assets while it manages additional contracted renewable energy. Stanwell has an established foundation of consistent asset maintenance practices, demonstrated by the high reliability of Tarong and Stanwell Power Stations and as a contributor to State finances.

- Stanwell to continue work to manage the operational life of power stations and support sharing of asset management best practices across the sector.

CS Energy supplies around a quarter of Queensland's electricity, with an owned or contracted portfolio of around 4,000 MW including thermal, renewable and firming assets. It is also progressing the 400 MW Brigalow Gas Peaker. CS Energy has faced multiple operational incidents in recent years, adversely impacting its financial and non-financial performance. Legacy contracts have also posed commercial challenges for CS Energy to navigate. A new Board and management team is focused on improving operating performance and addressing commercial headwinds as the foundations of financial health.

- CS Energy to focus on uplifting operational capacity in asset management across its portfolio and improving financial performance including to manage financial risks associated with major contracts, the Callide C Joint Venture and the Callide Mine.

CleanCo owns and operates a 1,100 MW portfolio of low and no emissions assets, with additional contracted renewable energy and continued progress on its 250 MW Swanbank Battery. Since establishment in 2019, CleanCo has sought to grow its energy portfolio alongside asset management and essential business capabilities. High asset availability at Wivenhoe, paired with new renewables to offer firmed renewable products, is critical for its business model.

- CleanCo to focus on work to extend the operational life of Swanbank E and underlying financial sustainability, ensuring fuel supply and consistent availability of Swanbank E and Wivenhoe to enable forecast increased generation and revenue.

GOCs will be held accountable for delivering outcomes over the next five years and beyond including through existing governance processes and initiatives like the Electricity Maintenance Guarantee.

The Government will also introduce a new Connections Guarantee for Powerlink and Energy Queensland to ensure public accountability for engagement with the private sector on connection applications (Powerlink) and customer connections (Energy Queensland) including targets and annual reporting.

WORKFORCE

There are around 40,000 direct employees in Queensland's coal mining sector and more than 800 employees directly working at state-owned coal-fired power plants.[33]

By resetting the operating timeframes of state-owned coal assets, the Roadmap delivers employment security for existing workers while presenting opportunities for new employment in construction and operation of future energy projects across renewables, storage, transmission and distribution.

The Government recognises a core investment in skills development and training is required to equip the current and future workforce to embrace those opportunities — and a recurring theme across all stakeholders as part of consultation on the Roadmap.

As a catalyst, the Government is providing increased funding of $50 million over two years to deliver the critical skills needed by many industries and ensure that Queensland can meet the growing demand in apprentices and trainees training. This includes the extension of the Free Apprenticeships for Under 25s Program for a further two years at a cost of $10 million.

Apprenticeship and trainee programs offered by all energy GOCs also play a crucial role in equipping the next generation of workers with the skills and experience required to contribute to Queensland's energy industry including electrical disciplines and mechanical trades, laboratory technicians and administration.

BUILDING QUEENSLAND'S FUTURE ENERGY WORKFORCE

Apprenticeship and trainee programs offered by Queensland's energy GOCs play a crucial role in equipping the next generation of workers with the skills and experience to build Queensland's future.

Through a range of apprenticeship, trainee and cadet programs, GOCs provide opportunities for hands-on training and career development, including:

- Energy Queensland's apprentice programs — across Energex and Ergon — train around 120 apprentices per year in electrical disciplines and mechanical trades, as well as paraprofessional traineeships which combine on-the-job training with studies in electrical and civil engineering for a further 20 trainees per year.
- Powerlink's Apprenticeship Program, Administrative Traineeship Program and Laboratory Traineeship Program, with a collective uptake of almost 30 apprentices/trainees per year.
- Stanwell's Early Careers Program, which recruits around 12 apprentices and trainees per year at Tarong Power Station and Stanwell Power Station.
- CS Energy's apprenticeship programs in electrical and instrumentation and mechanical fittings fields and traineeship programs in business administration and supply chains.
- CleanCo's apprenticeship program which recruits apprentices in the mechanical and electrical and instrumentation trades, with additional traineeships offered.

Collectively, Queensland's energy GOCs employ over 850 apprentices and trainees, underscoring the Government's commitment to building a skilled workforce and creating long-term employment opportunities across the energy sector.

[33] This excludes indirect employees and contracting workforce for overhauls.

LEGISLATIVE FRAMEWORK

A review of the *Energy (Renewable Transformation and Jobs) Act 2024* (Energy Act) was undertaken to ensure legislation is fit-for-purpose to deliver an affordable, reliable and sustainable Queensland energy system and facilitate private sector investment in new energy infrastructure. Legislative amendments include:

- **Repealing renewable energy targets** as committed by the Government
- **Streamlining and simplifying** the Priority Transmission Investment framework for critical transmission infrastructure and introducing Regional Energy Hubs to replace Renewable Energy Zones as the enabling framework to support coordinated connection of generation and storage across the State
- **Rationalising governance arrangements** to ensure expert advice is sought as required to support Queensland's energy system needs, minimising cost and administrative burden.
- **Confirming public ownership** of transmission, distribution, deep storage and existing state-owned operational generation assets.

While the Energy Roadmap resets indicative coal operating timeframes, the **Job Security Guarantee** remains an important framework to support workers in the industry and will be retained.

Regional Energy Hubs

To deliver the uplift in supply and storage capacity and facilitate new investment, the Government is putting downward pressure on development costs by supporting cost-efficient, shared transmission connections for new energy generation.

Regional Energy Hubs will replace 'renewable energy zones' in the legislative framework for gas, renewable energy and storage development.

In doing so, the Government will be responsive to industry and community by ensuring hub declarations are market-led, based on private sector interest and development activity and aligned to community expectations. Development of hubs will take account of broader system requirements, such as resource availability, existing grid infrastructure and proximity to major load centres to ensure efficient outcomes for the whole system.

- **Southern Queensland** leverages the State's established energy development areas, building upon existing infrastructure and industry expertise while expanding capacity to meet growing demand. Hubs will benefit from proximity to major population centres and resource availability, reducing transmission requirements and enabling more efficient energy delivery to high-demand areas. The existing transmission infrastructure provides a foundation for expansion, though upgrades and extensions will be required to accommodate new scale of energy development.
- **Central Queensland** capitalises on the region's leading solar resources and emerging wind opportunities, while also considering integration with Queensland's mining and resources sector. Developments in Central Queensland must balance renewable energy development with existing land uses including agriculture and mining, requiring careful planning to optimise outcomes for all stakeholders.
- **Northern Queensland**, encompassing both North and Far North Queensland, focuses on accessing some of Australia's highest quality renewable energy resources. With CopperString, investors and developers will be able to extract these resources for supply to major load centres along the east coast and to regional and remote mining loads.

A coordinated planning and development approach to Regional Energy Hubs will seek to minimise impacts on communities and optimise associated benefits. Each hub will be unique and subject to its own planning and investigation of detailed benefits and impacts for local communities, landholders, the environment, project proponents and all Queenslanders.

The framework — in full alignment with Queensland's planning laws — will provide benefits to the private sector and incentivise new investment in Queensland by:

- sharing scale efficient transmission network, eliminating the need for developers to build individual connection assets and reducing costs
- providing a strong locational signal for energy development in relation to community, resource and grid interests
- giving projects increased financial certainty, through tailored connection and access arrangements and protecting projects from excessive curtailment
- ensuring value to projects with the careful assessment of associated infrastructure, like roads and waste infrastructure.

Although the Hub framework encourages coordinated development, there may be instances where developers and investors choose to progress projects through existing pathways under the National Electricity Rules. The Government remains supportive of continued investment in regional Queensland, noting that in these cases, it will be important to ensure proper respect and regard for community interests.

Strengthening social license

Renewables will continue to be built in a responsible manner across the State to support demand growth as the operating profile of coal adjusts over time. The pace and scale of investment will be determined by market dynamics and the outcomes of landholder and community engagement.

The Government is committed to giving all Queenslanders a voice and empowering regional communities on renewable energy developments to ensure long-lasting legacy and community benefits are locked in for new projects at the time of approval.

Strengthening social licence requirements for renewable energy projects in Queensland has been a key focus of Government. In 2025, the Government legislated the *Planning (Social Impact and Community Benefit) and Other Legislation Amendment Act 2025* to be a transformative, impact assessable approach to renewable energy project development.

Improving stakeholder engagement and transparency, while ensuring consistent development assessment rules across the State provides certainty to investors, communities and landholders. Key enhancements include:

- requiring large-scale solar farms and wind farms to be impact assessable, with mandatory public consultation
- introducing a binding community benefit system that mandates social impact assessments and agreements between proponents and local governments
- making the State the assessment manager for large-scale solar farms to ensure consistent rules and certainty across Queensland's 77 council areas.

Amendments to the *Planning Act 2016* (Planning Act) aim to introduce a community benefit system into the Queensland planning framework – providing the ability to identify, avoid, manage, mitigate and counterbalance the indirect and cumulative social impacts from specific development uses.

This empowers local governments to have a greater role in negotiating and deciding on community benefits before the development assessment process, enabling positive legacy benefits for host communities.

The community benefit system brings to the fore a requirement to build social licence with communities before a development application is made to an assessment manager, providing certainty to industry and the community on what the minimum requirements are to advance a development assessment. This will require proponents to invest time and effort into building social licence with a host community and local government in advance of the formal development assessment process.

These requirements provide parity with similar development activity in other sectors. Proponents must conduct a Social Impact Assessment and enter into a Community Benefit Agreement with the local government before lodging a development application, with both documents submitted to the assessment manager as part of a properly made application.

By ensuring social impact and community benefit are appropriately addressed prior to lodging an application under the Planning Act, these changes drive accountability, improve transparency and deliver tangible benefits for the community.

Code of Conduct for renewable developers

The Queensland Government is developing a Code of Conduct for renewable developers to address outstanding community concerns and provide clarity to industry over Government expectations of conduct towards landholders, neighbours and communities.

The Code will support recent changes introduced under the Planning Act to strengthen impact assessment, community benefits and appeal rights. It will provide consolidated guidance and standards that developers of renewable energy infrastructure will be expected to meet when applying for a Generation Authority.

The Code will reflect good industry practice and recommendations of peak bodies to provide clarity over expected developer conduct while aligning to requirements placed on other industries such as mining.

Industry and peak bodies will be consulted ahead of the Code being finalised.

DEMAND SIDE MANAGEMENT

Tariff structures

Ongoing uptake of small-scale solar and batteries allows for new and innovative tariff structures to promote grid-friendly consumption and production behaviours. In South East Queensland, retailers are already developing and offering innovative products to help households drive additional value from their investments.

These opportunities also extend to regional Queensland with Ergon Retail trialling a new retail tariff for low-cost EV charging. By encouraging EV charging during the day, Queensland can better utilise its distribution network, make the most of its high uptake in rooftop solar and delay costly network upgrades from increasing periods of peak demand.

Beyond households, tariff structures must be equally innovative yet well-defined to support an alignment of incentives between users and network providers including in respect of consumption behaviour, progressive adoption of sustainable energy products and pricing outcomes.

Energy efficiency

Effective demand-side participation, coupled with energy literacy, will be increasingly important to manage operational demand, minimum system load issues and tailor network investment requirements.

As Queensland's largest electricity retailer and sole electricity distributor, Energy Queensland will continue to identify opportunities across CER to support customer affordability, voluntarily increase electrification of their homes and transport, as well as source presently underutilised capacity in the system where this is a lower cost alternative to capital investment and improves reliability.

TARIFFS FOR SMALL BUSINESS AND AGRICULTURAL CUSTOMERS

Stakeholder consultation on the Queensland Competition Authority's (QCA) determination of regulated electricity prices in regional Queensland for 2025-26 raised concerns with tariff structures and eligibility impacting small business and agricultural customers in regional Queensland.

In the agricultural sector, daily and seasonal electricity usage can be highly variable and the Queensland Government is committed to ensure tariffs are fit-for-purpose to balance the cost of supply and the needs of customers.

Accordingly, in anticipation of the QCA's 2026-27 pricing determination for regional Queenslanders, Energy Queensland will undertake a comprehensive review of its tariff structures to inform that process.

SOVEREIGN INDUSTRY DEVELOPMENT FUND

The Queensland Government has committed to explore how the biofuels industry can expand, while working closely with the agricultural sector to boost its output to $30 billion by 2030.

Biofuels is one of three priority industries, alongside defence and biomedical, for the $180.6 million Sovereign Industry Development Fund, which will build the State's sovereign industry capability, draw on Queensland's strengths and grow the regions.

An initial focus of the Fund is Strategic and Catalytic Investment Partnerships to accelerate priority industry development by creating, or significantly expanding, a sovereign manufacturing or service capability in Queensland.

Applications are now open for feasible, investment-ready projects which:

- accelerate industry development in Defence, Biomedical or Biofuels
- develop a new manufacturing or service capability in Queensland including common-use infrastructure
- significantly expand an existing manufacturing or service capability in Queensland
- have a wider impact across the industry and Queensland
- can commence within 12 months.

INNOVATION

Leveraging innovation and technological advancement is critical to delivering affordable, reliable and sustainable energy – driving cost reductions, efficiency gains and system resilience.

Queensland's world-class universities and training organisations have a vital role in driving research and commercialisation of new ideas and energy technologies domestically and internationally.

By providing market stability and helping to de-risk new technologies in a targeted and responsible way, the Queensland Government is committed to laying the founding for innovation and advancement across the energy sector. This allows the private sector to bring the capital, efficiencies and speed to market needed for commercially viable and scalable solutions.

Bioenergy is a form of renewable energy generated from biomass. This can include crops like sugarcane, sorghum and corn; forestry residues; and agricultural by-products such as bagasse or straw.

- Biopower involves burning biomass directly or converting it into gas or liquid fuels to generate heat and electricity.
- Biofuels such as ethanol, biodiesel, renewable diesel and sustainable aviation fuel are liquid fuels for transport that can be used in existing engines.
- Biogas or biomethane is produced through organic waste, creating a methane-rich gas that can be used for electricity, heating or as a vehicle fuel.

Queensland is well-positioned to be an Asia-Pacific hub in biorefining, enhancing fuel security, supporting economic diversification and growth and creating high value jobs, particularly in the regions.

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