

TasNetworks Annual Planning Report 2025

Summary



TasNetworks

Powering a
Bright Future

TasNetworks – our role and our network

Tasmanian Networks Pty Ltd (**TasNetworks**) is a Transmission and Distribution Network Service Provider within the Tasmanian jurisdiction of the National Electricity Market (**NEM**) and has been appointed by the Minister as the Jurisdictional Planning Body. Thus, we prepared our 2025 combined transmission and distribution Annual Planning Report (**APR**) in accordance with the National Electricity Rules (the Rules) and Tasmanian jurisdictional requirements. As the sole Tasmanian Transmission Network Service Provider; under the Rules we are also the Tasmanian jurisdiction System Strength Service Provider (**SSSP**) and Inertia Service Provider.

This brochure provides an overview of our existing networks and considers several key developments and activities that will shape them over the next 10 years; chiefly:

- variable renewable energy generation growth;
- progression of development of a renewable hydrogen industry;
- increased interconnection capacity with the mainland; and
- adaptation of the network with regards to the procurement and management of system strength.

These developments contribute to and are influenced by national objectives, such as the Australian Energy Market Operator's (**AEMO**) Integrated System Plan (ISP).

TasNetworks is a State-owned company that provides transmission and distribution network services within the Tasmanian jurisdiction of the National Electricity Market.

Operating as a commercial business with assets of over \$3.5 billion we deliver monopoly and competitive electricity network services to more than 295,000 residential, commercial, and industrial customers. We also provide telecommunications and technology services to customers across our network.

The Tasmanian transmission network connects 25 hydro-electric power stations, five wind farms, and one thermal (gas-fired) power station with a combined capacity of 3,407 MW. Our system also hosts distribution embedded generation (approx. 39 MW) along with 350 MW of rooftop solar photovoltaics. We also facilitate the transfer of electricity between Victoria and Tasmania via Basslink, a privately owned high capacity sub-sea interconnector.



Introduction

As a key business activity, TasNetworks continuously reviews the adequacy of the Tasmanian electricity networks for both current and future needs and produces a combined transmission and distribution Annual Planning Report.

Notable updates in the 2025 APR include:

- The confirmation of the Final Investment Decision (**FID**) to proceed with Project Marinus Stage 1 by the Tasmanian, Victorian, and Commonwealth Governments.
- Changes to the energy consumption and generation supply balance during 2024 from 2023, indicating record low annual energy production from hydro generation, and a commensurate increase in Basslink imports to Tasmania.
- Continued progression of two Regulatory Investment Tests-Transmission (**RIT-T**), being the Waddamana-Palmerston transmission corridor upgrade and George Town security and reactive support, driven respectively by future Renewable Energy Zone (**REZ**) developments and new hydrogen loads.

In 2025 TasNetworks and Marinus Link Pty Ltd (**MLPL**) boards made the recommendation that shareholders make a positive Final Investment Decision (**FID**) to proceed with Project Marinus Stage 1 (the combination of Marinus Link interconnector and North West Transmission Developments (**NWTD**)), a project of national significance with benefits across the National Electricity Market (**NEM**), in particular Tasmania and Victoria.

Subsequently, this decision was confirmed by Marinus Link Pty Ltd (**MNPL**) shareholders being the Tasmanian, Victorian, and Commonwealth Governments in August 2025, with construction planned to commence in 2026.

Our 2024-2029 revenue determination included several contingent projects to support successive tranches of hydrogen developments in Tasmania. Two notable projects are actively progressing in Tasmania, being the Bell Bay Powerfuels project and HIF Tasmania. These projects present a combined capacity of more than 500 MW of new load to the network. In response to emerging network constraints introduced by new load connections, we have progressed a project for the initial tranche of new load connection at George Town.

Government support continues for the development of Hydro Tasmania's Lake Cethana pumped hydro energy storage and Tarraleah power station redevelopment.

For the period beyond December 2025, AEMO projects shortfalls in inertia and system strength attributed to the expiry of a contract with Hydro Tasmania. To meet our obligations to procure the required services, we completed a RIT-T confirming the preferred option of contracting with existing owners of synchronous condensers and generation assets.

Tasmanian renewable energy transformation

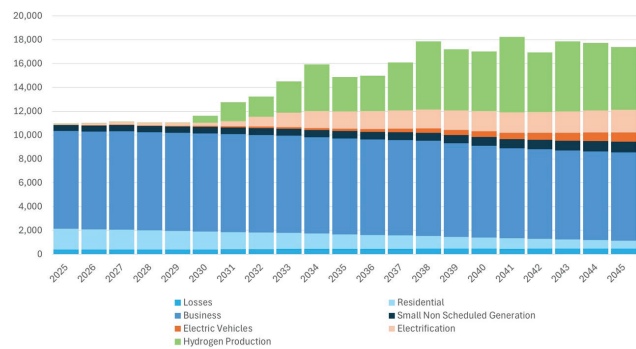
The Tasmanian Government's Renewables, Climate and Future Industries Tasmania¹ (ReCFIT) progressed the Tasmanian Renewable Energy Action Plan (TREAP)² aimed at leveraging investment opportunities and growing Tasmania's economy through energy transition.

Under the Renewable Energy Coordination Framework³ (RECF), ReCFIT completed the Renewable Energy Assessment Process Review resulting in a Renewable Energy Approval Pathway (REAP) being a suite of actions that will support projects, such as wind farms and transmission lines, entering the Major Projects assessment process under the Land Use Planning and Approvals Act 1993 (LUPAA).

In this regard, on-island projects currently at various stages of development total nearly 7,000 MW of wind farms, 800 MW of large-scale solar-photovoltaics (PVs), 750 MW of pumped hydro energy storage (PHES), and 700 MW of battery energy storage systems (BESS). In perspective, there is currently near 3,400 MW of on-island generation covering hydro, gas, wind, and large-scale PVs.

TasNetworks' forecasting methodology is a top-down approach using AEMO's annual Electricity Statement of Opportunities (ESOO) state-level forecasts. Due to the timeframes surrounding the annual planning review process, we used the 2024 ESOO energy and demand forecasts to plan the transmission and distribution networks and are the basis for the 2025 APR.

Energy consumption growth is driven by business electrification and hydrogen production, with the 2024 ESOO forecast largely aligning with current development activity in Tasmania.



Annual energy forecast – consumption by type



- <https://recfit.tas.gov.au/home>
- https://recfit.tas.gov.au/policies_strategies_plans/renewable-energy/renewable_energy_action_plan
- https://recfit.tas.gov.au/_data/assets/pdf_file/0007/343618/Renewable_Energy_Coordination_Framework_May_2022_web.pdf

The Tasmanian power system

Transmission system

The Tasmanian transmission system comprises:

- 220 kV, and some parallel 110 kV, bulk transmission network;
- a peripheral 110 kV transmission network that provides connections to the bulk transmission network; and
- substations that form interconnections within the 110 kV and 220 kV transmission network and provide transmission connection points.

Distribution system

Our distribution system provides supply to more than 295,000 customers and comprises:

- A sub-transmission network that, in addition to transmission-distribution connection points, provides supply to the high voltage distribution network;
- a high voltage network that distributes electricity to the low voltage network and a small number of customers connected directly to the high voltage network; and
- distribution substations and low voltage circuits.

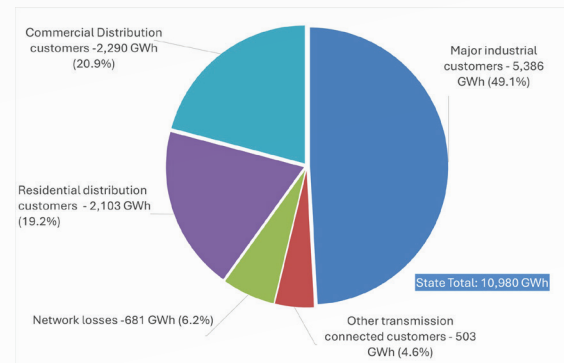
Demand and Supply

Demand Characteristics

The maximum demand on the transmission network during 2024 to supply Tasmanian customers only was 1,812 MW. The network maximum demand including power transfers across Basslink was 2,216 MW.

A high proportion of the energy flow through the Tasmanian network supplies customers directly connected to the transmission network.

Four major industrial customers consumed 49% of the total energy delivered through the transmission network, with all remaining transmission customers adding a further 4.6%. Transmission customers contributed to 35% of the network maximum demand in 2024.



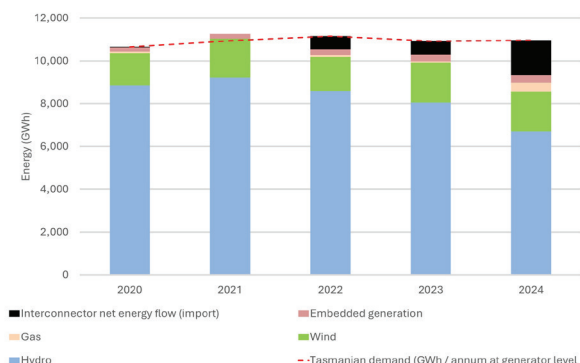
Annual Tasmanian energy consumption in 2024

Supply Characteristics

During 2024, overall energy consumption in Tasmania was approximately 10,980 GWh, very similar to that during 2023. Wind energy and embedded generation contributions were largely consistent with 2023 at approximately 1,850 GWh and 360 GWh respectively.

The energy supply from hydro generation in Tasmania was approximately 6,700 GWh, a 16% reduction from 2023. As a result, significant increases in gas generation, 426 GWh, and Basslink imports, 1,640 GWh, were required to meet the State's annual energy requirement.

These are notable changes to the energy supply and generation balance with significantly reduced hydro generation energy and a commensurate increase in Basslink imports.



Supply contribution by type: 2020 to 2024

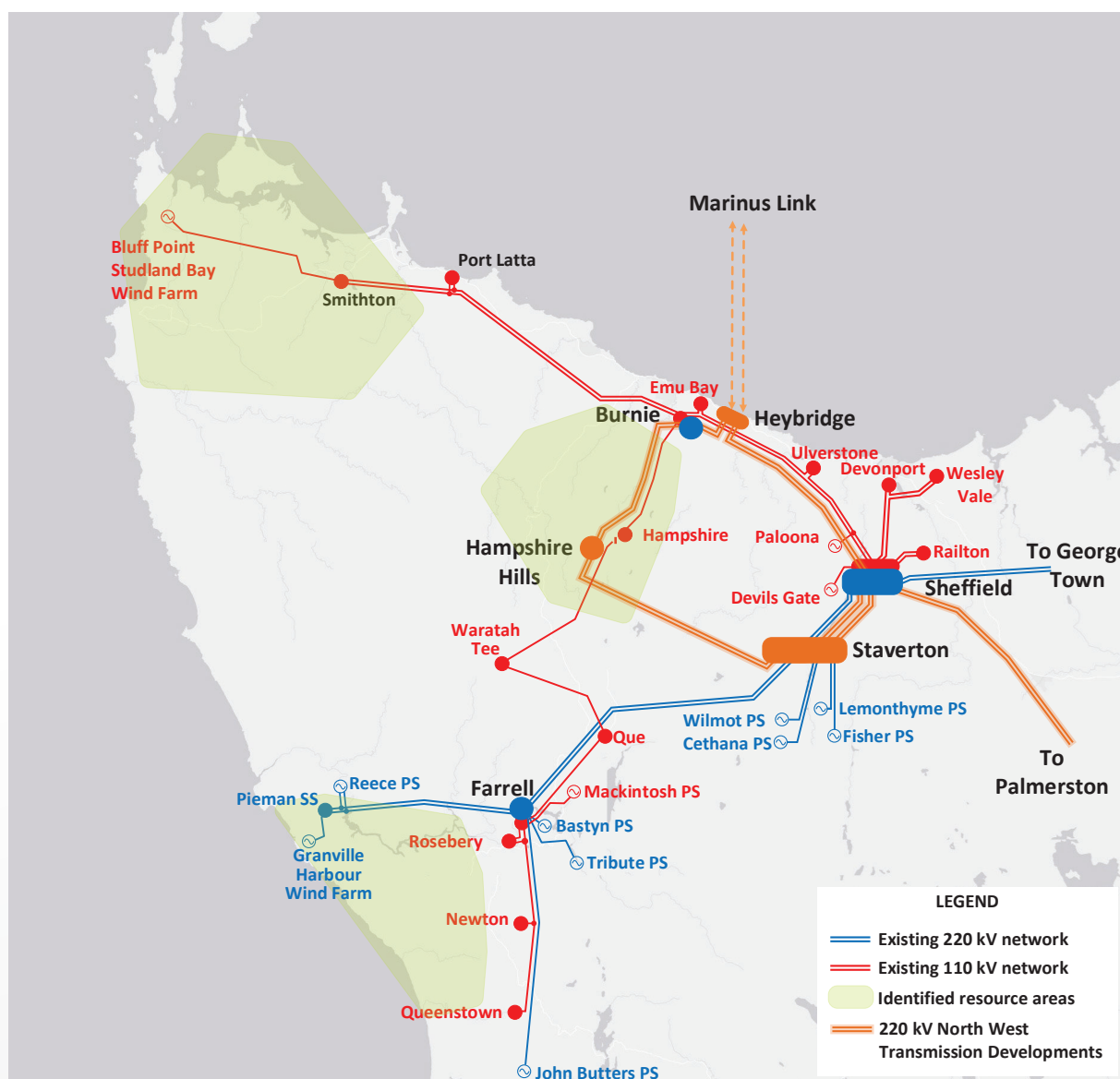
Renewable Energy Zones

Renewable Energy Zones are “high renewable resource areas” identified by the Australian Energy Market Operator as best suited to renewable energy generation.

The Annual Planning Report describes each Tasmanian Renewable Energy Zone’s capability to host new variable renewable energy with the existing network and the potential augmentations required to support further variable renewable energy developments. We take the view that the Renewable Energy Zone concept does not restrict the development and connection of any new generation outside of these nominated areas.

New variable renewable energy generation may use a variety of natural resources supported by battery energy systems; however, in Tasmania wind is forecast to be the dominant developed energy source. In addition, repurposing, and expansion of the existing hydropower system in Tasmania, including future pumped hydro energy storage, will support Renewable Energy Zone development.

The North West REZ transmission network illustrated below, inclusive of NWTD Stages 1 and 2, has significant potential for new wind generation developments. The connection location for Marinus Link is within this REZ at Heybridge (near Burnie). There is significant interest to develop new generation in the area, as well as the first tranche of PHES. Hydro Tasmania has announced Lake Cethana as its preferred PHES site and is progressing it to final feasibility.⁴

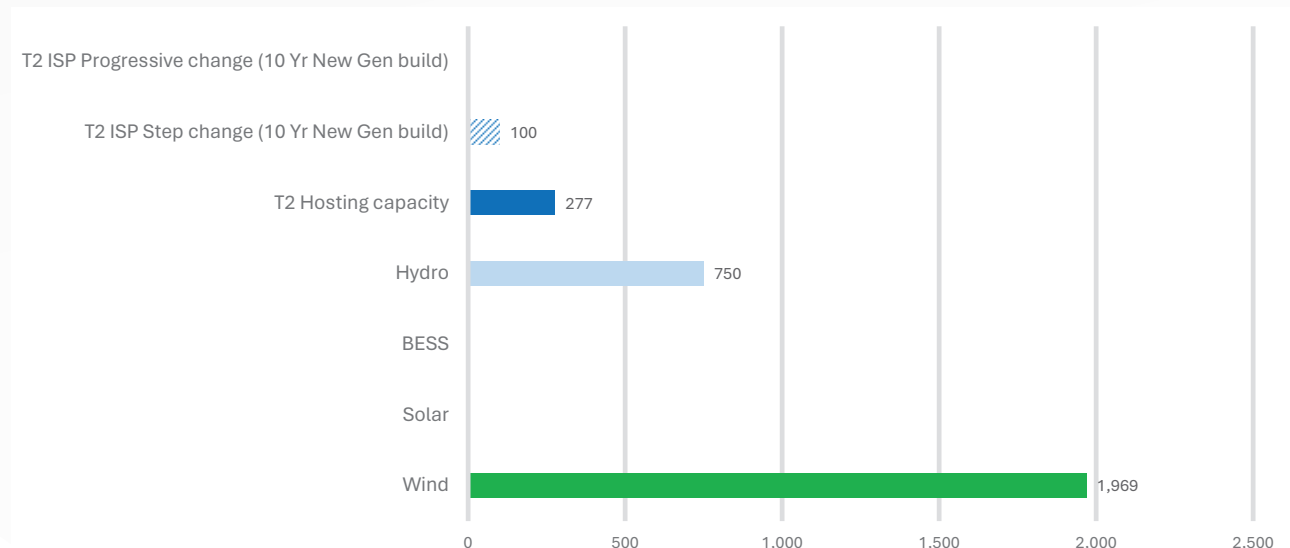


North West Tasmania Renewable Energy Zone transmission network with NWTD

⁴ <https://www.hydro.com.au/clean-energy/battery-of-the-nation/pumped-hydro>

There is a combined interest of approximately 1,600 MW of new generation in the North West REZ, the vast majority being wind generation. There is capability in the existing transmission network to accommodate approximately 277 MW of new VRE subject to a number of already identified limitations being adequately addressed including provision of adequate system strength.

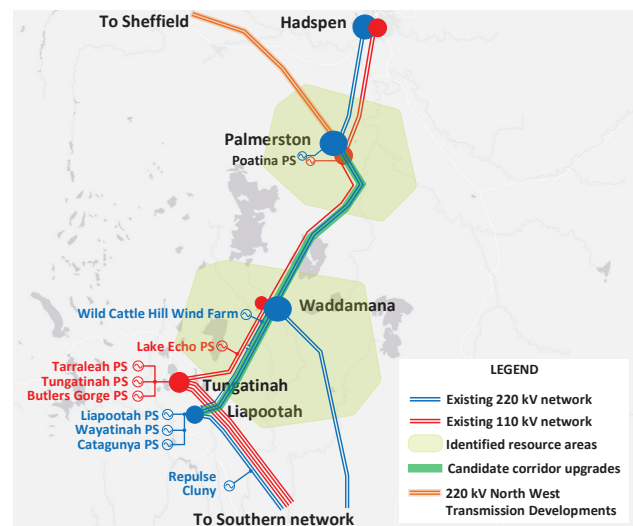
Illustrated below is the existing hosting capacity of the North West REZ transmission network, including publicly announced generation developments. Included for comparison is the generation forecast under the 2024 ISP Step Change and Progressive Change scenarios.



North West Tasmania REZ forecast generation and hosting capacity

The capacity factor for new wind generation in the Central Highlands REZ has been identified as the highest in the NEM. Coupled with the existing transmission network capacity, there is significant opportunity for new wind generation to be developed within the REZ immediately.

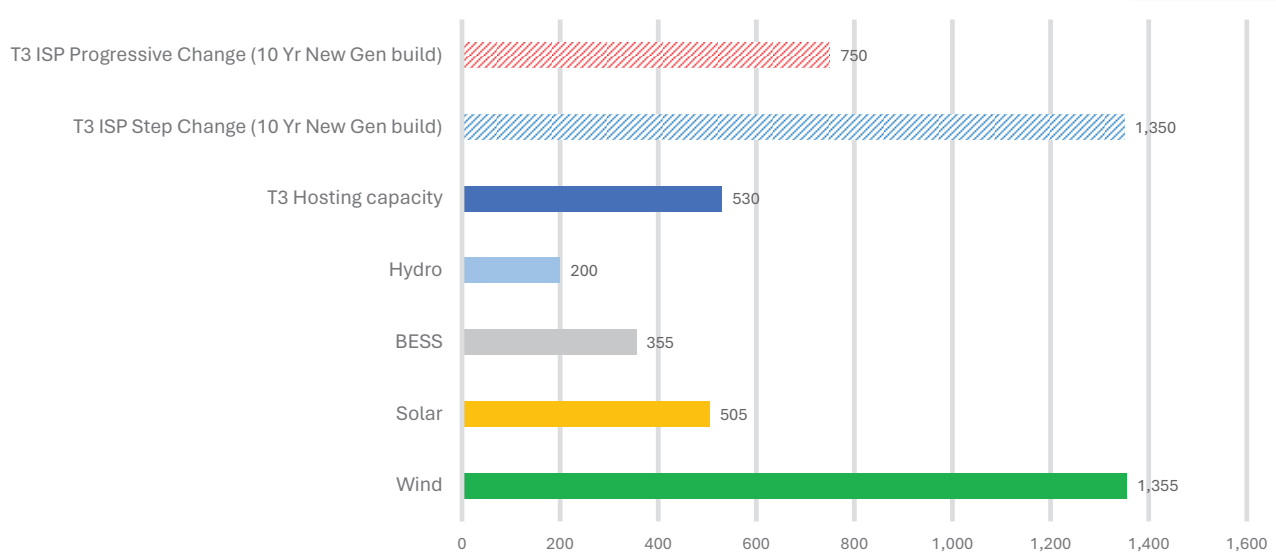
The Central Highlands REZ transmission network is illustrated below including the new Palmerston–Sheffield 220 kV transmission line as part of NWTD. The figure also shows possible connection locations that could utilise existing network capacity. We anticipate that new wind generation will be developed in the Waddamana area and surrounds, while new solar would more likely develop on flatter terrain around Palmerston at the base of the Western Tiers.



Central Highlands Renewable Energy Zone transmission network

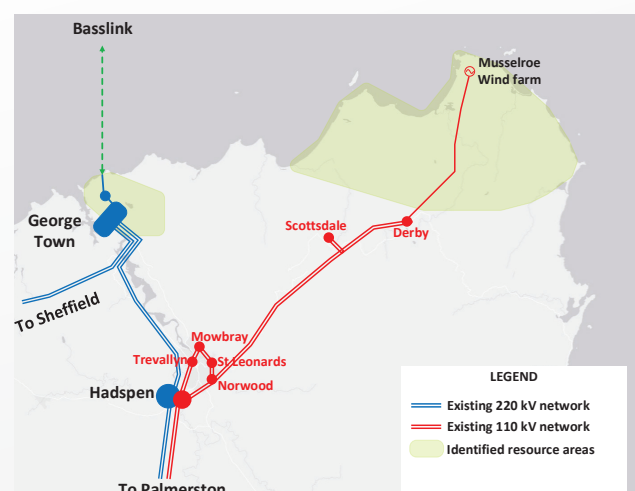
As well as the Tarraleah Power Station replacement there are proposals for 1,544 MW of new wind generation in this area across several projects. This is expected to occur in the Waddamana area and surrounds, including to the south along both the Waddamana–Liapootah and Waddamana–Lindisfarne transmission corridors. The existing transmission network has the capability to host approximately 530 MW of new generation, limited by both the Waddamana–Palmerston transmission corridor capability and the transmission network from the Central Highlands Renewable Energy Zone to the rest of the network. Options are being assessed to provide a Waddamana–Palmerston transfer capability upgrade; we are currently progressing the RIT-T to determine the preferred option. We have also initiated a new Network Investment Capability Parameter Action Plan (NICIPAP) project to upgrade the corridor capacity between Liapootah and Waddamana.

Illustrated below is the existing hosting capacity of the Central Highlands REZ transmission network, including publicly announced generation developments. Included for comparison is the generation forecast under the 2024 ISP Step Change and Progressive Change scenarios. The 2024 ISP only forecasts the development of wind generation in this REZ, without any solar.



Central Highlands REZ forecast generation and hosting capacity

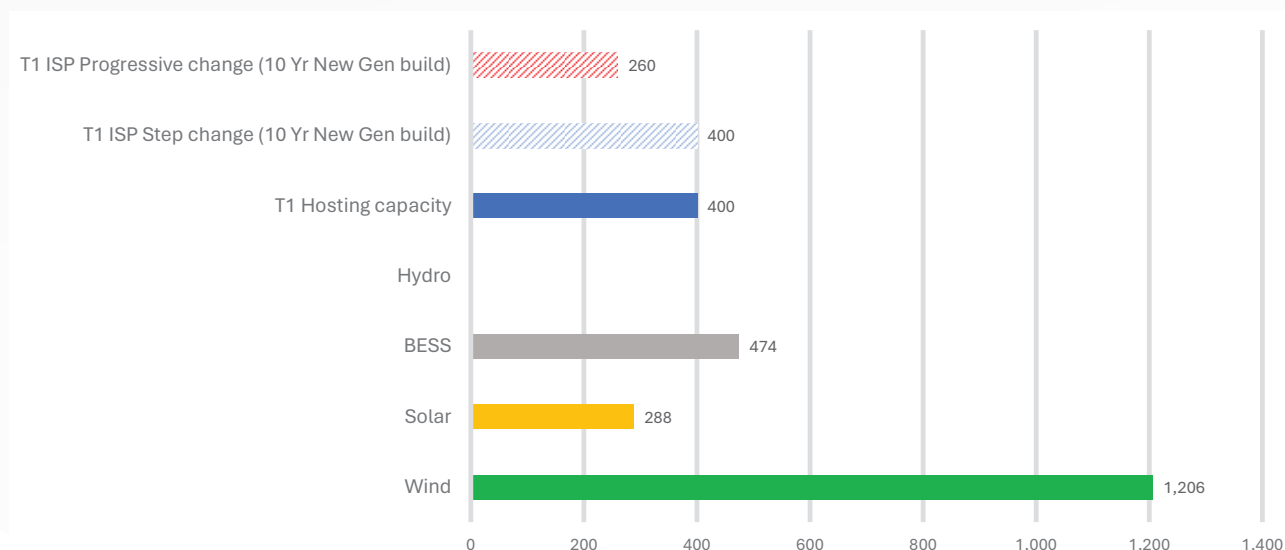
The North East Tasmania Renewable Energy Zone, illustrated below, has excellent wind resources. Also highlighted are possible new VRE resource locations that may seek connection to the network over time. The existing transmission network from George Town Substation to the rest of the network has strong thermal capability with George Town being a large load centre and hosts the Basslink connection. New VRE from the far north-east, as well as the north-east offshore area, must connect to the 220 kV network. The existing 110 kV network does not have sufficient capability to support new connections at any significant scale.



North East Tasmania Renewable Energy Zone transmission network

Prospective VRE developments in the north-east and far north-east region of Tasmania have a combined capacity approaching 2,000 MW. VRE resources in the far north-east and north-east offshore area would require substantial new transmission assets to connect to the George Town area. This is a limiting factor for the projected generation build in the ISP.

The below diagram illustrates the existing hosting capacity from George Town of the overall north-east transmission network, currently limited to approximately 400 MW, including publicly announced generation developments. Included for comparison is the generation forecast under the 2024 ISP Step Change and Progressive Change scenarios.



North East Tasmania Renewable Energy Zone forecast generation scenarios and hosting capacity

Hydrogen Development

The state government continues to pursue the development of a green hydrogen industry in Tasmania. The network requirements to facilitate hydrogen development will depend on the size, location, and technology of the loads.

Two main issues arise following new load connection at George Town. Both are related to the minimum network performance requirements of the Tasmanian Electricity Supply Industry (Network Planning Requirements) Regulations and Schedule 5.1 of the National Electricity Rules. Specifically; any new load exceeding 210 MW connecting to George Town Substation will require a reliability corrective action to:

- meet the Network Planning Requirements by preventing a single asset failure leading to the loss of 60% of State load, deemed to be a system black event; and
- ensure that acceptable voltage stability by maintaining the reactive power margin requirements defined under Chapter 5 of the Rules.

Our 2024-2029 revenue determination included several contingent projects to support successive tranches of hydrogen developments in Tasmania. Accordingly, we have progressed a Regulatory Investment Test-Transmission project for the initiating tranche of new load connection at George Town.

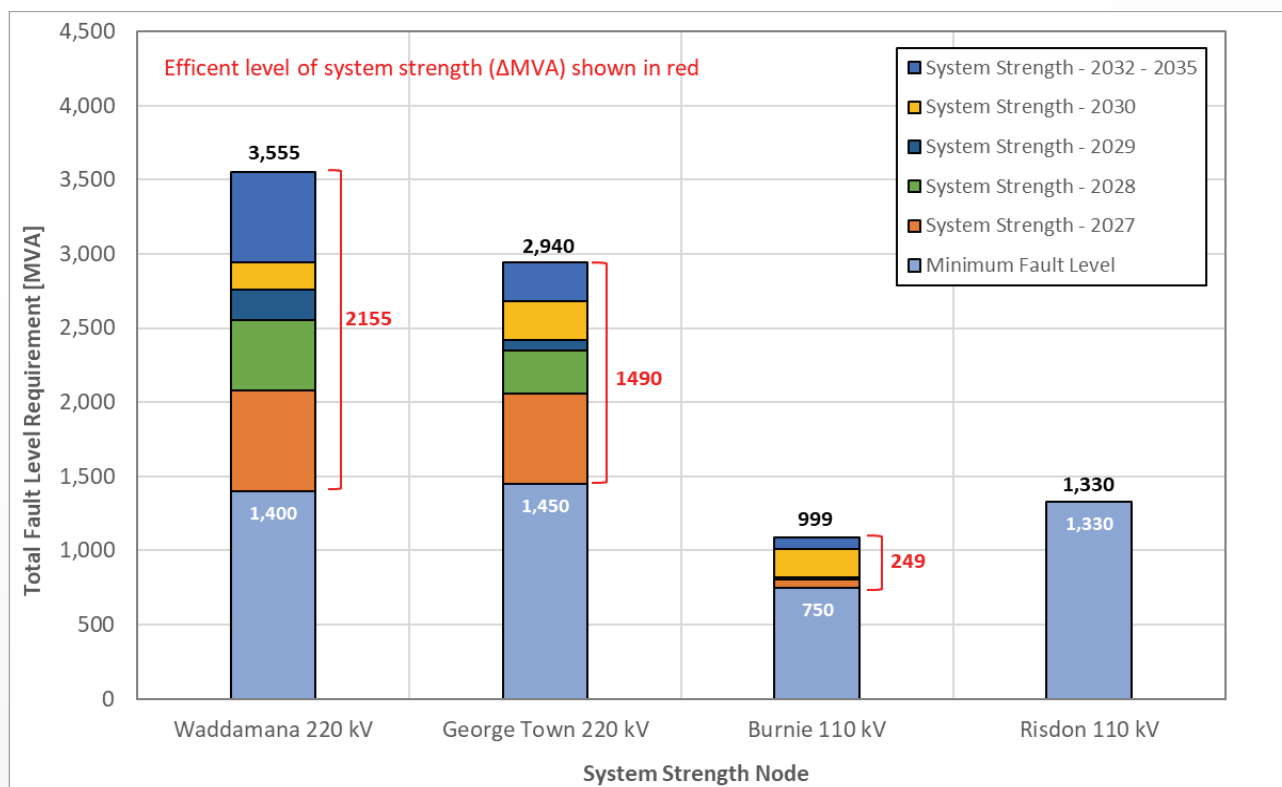


System Strength Rules changes

The National Electricity Rules (the Rules) framework for managing system strength introduced significant new obligations for System Strength Service Providers (SSSP) which commence on 2 December 2025. TasNetworks is the SSSP for the Tasmanian region of the National Electricity Market (NEM). The new framework introduces a new approach for the procurement and payment of *system strength services*, including proactive planning obligations for SSSPs which now form part of the *System Standards* within the Rules.

To meet our obligations to procure the required services we completed a Regulatory Investment Test for Transmission that considered options to meet, on a forward-looking basis, the *system strength standard specification* published by the Australian Energy Market Operator. We published the Project Assessment

Conclusions Report (**PACR**) confirming the preferred option is to contract with existing owners of synchronous condensers and generation assets. The estimated three-phase fault level requirements at each of the declared System Strength Nodes for future years, extending out to 2035 are illustrated below.



Forecast system strength requirements for Tasmania

Network security and reliability

Major incidents and network reliability

The Annual Planning Report provides information about applicable network reliability targets, our performance against those targets, the issues that impact on network reliability, and our plans to ensure compliance.

In August and September of 2024, severe storms caused significant damage to Tasmania's transmission and distribution network, resulting in widespread power outages and extended restoration times due to safety concerns and access limitations. The storms, described as the worst in decades, impacted over 47,000 customers. In response, we activated our Incident Contingency System, enabling Regional Team Leaders to prioritise actions and deploy work crews efficiently to support timely and targeted supply restoration efforts.



TasNetworks welcomes feedback and enquiries on our Annual Planning Report, particularly from anyone interested in discussing opportunities for alternate network solutions to those identified. Please send feedback and enquiries to: **planning.enquiries@tasnetworks.com.au**. Potential demand management solution providers can also register with us via our Industry Engagement register on our website at: **www.tasnetworks.com.au/forms/Industry-Engagement-Register/Industry-Engagement**