

TasNetworks Annual Planning Report 2023

Addendum February 2024



Powering a
Bright Future

Marinus Link

Over the next two decades, we will be tasked with managing a significant step change in the generation and transmission of electricity across Tasmania, and into the mainland. Project Marinus, one of our most significant projects, is being developed and delivered in conjunction with Marinus Link Pty Ltd (MLPL).

This addendum outlines some key developments that have taken place for this project since the publication of our 2023 Annual Planning Report.

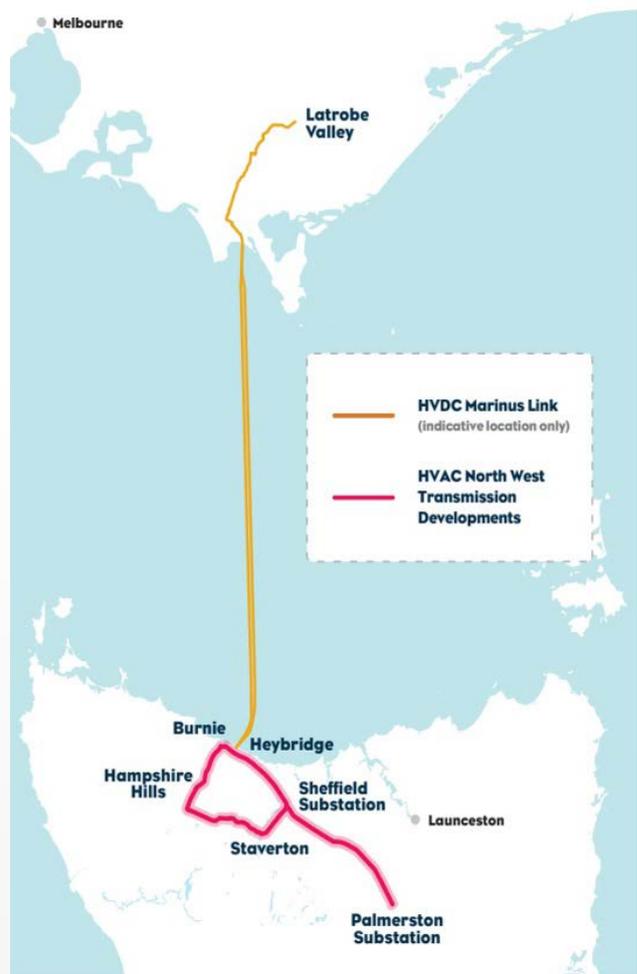
Marinus Link Pty Ltd (**MLPL**) is responsible for progressing Marinus Link, a new interconnector with Victoria comprising two 750 MW High Voltage Direct Current (**HVDC**) monopoles based on voltage source converter (**VSC**) technology. Marinus Link will create a 1,500 MW transmission pathway increasing energy transfer capabilities between Tasmania and the rest of the National Electricity Market (**NEM**).

Marinus Link is currently in the design and Approvals Phase, with a final Investment Decision expected in Late 2024.

TasNetworks is responsible for augmenting the existing 220 kV transmission network in north-west Tasmania to support increased power flows to and from Marinus Link. This network augmentation work is known as North West Transmission Developments (**NWTD**).

MLPL and TasNetworks continue to undertake joint planning activities for the integration of Marinus Link, with our core focus centred on the strategic requirements for the Tasmanian transmission network.

TasNetworks is also responsible for augmentation required to support a pipeline of renewable generation and storage projects proposed for the North West Tasmania Renewable Energy Zone (**REZ**).



North West Transmission Developments

To enable the full 1,500 MW of transfer capability Marinus Link will require the construction of a new double-circuit, 220 kV transmission ring in the North West region.

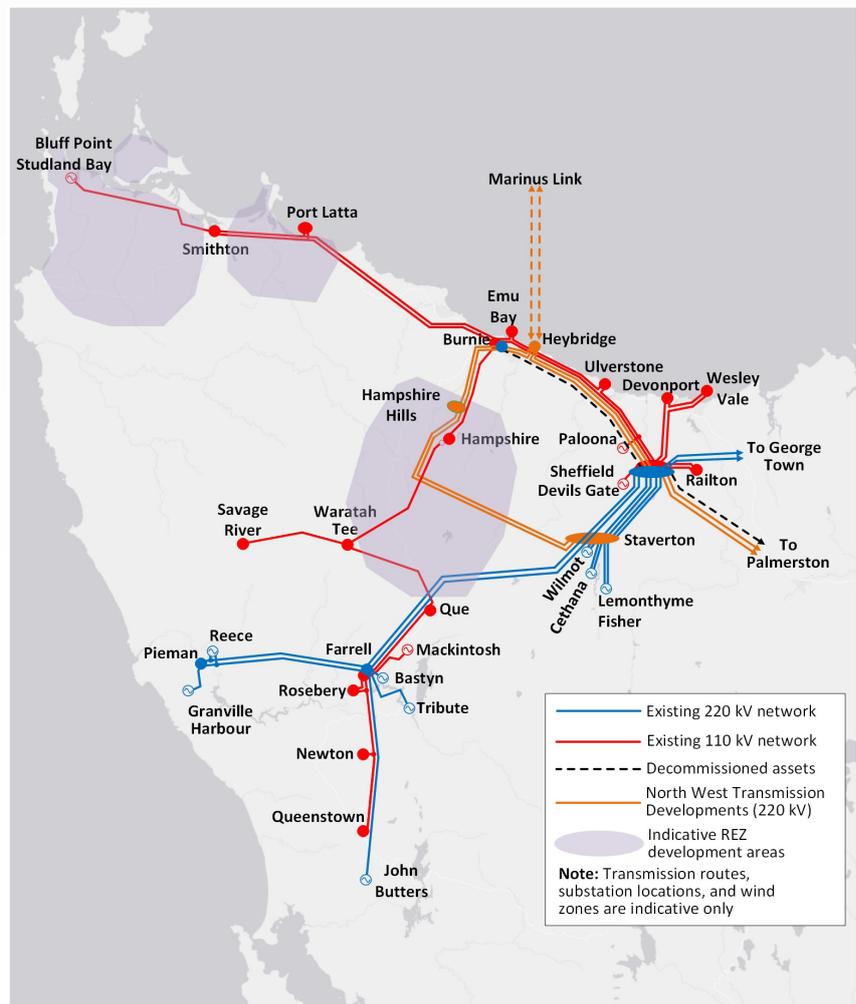
The transmission ring will be formed using 'coastal' and 'inland' line routes from Sheffield Substation to the converter station at Heybridge.

Two separate transmission paths are needed to provide route diversity and the ability to connect new generation in the North West Tasmania REZ.

The North West Transmission Developments also include upgrading the 220 kV transmission line from Sheffield Substation to Palmerston Substation.

The key components of this network are:

- new 220 kV switching stations at Staverton, Hampshire Hills and Heybridge; and
- a new high capacity double circuit 220 kV transmission ring in the North West of Tasmania.



The total combined cost of the North West Transmission Developments is currently estimated to be approximately \$1.45 billion.

North West Transmission Developments Staging Sequence

In September 2023, MLPL announced that the project will be executed with a staged approach, focusing on delivering the first cable by the end of the decade, or earlier if possible.

The development sequence of the north west supporting network has been reviewed to ensure that the minimum network requirements for the initiating single cable are met at least cost to our customers, with the capability to further develop into the full, 1,500 MW supporting network.

The 'coastal' route first stage of the North West Transmission Developments comprises a new double circuit transmission corridor between Palmerston, Sheffield and Burnie, with a cut in at Heybridge to connect the first 750 MW Marinus Link interconnector.

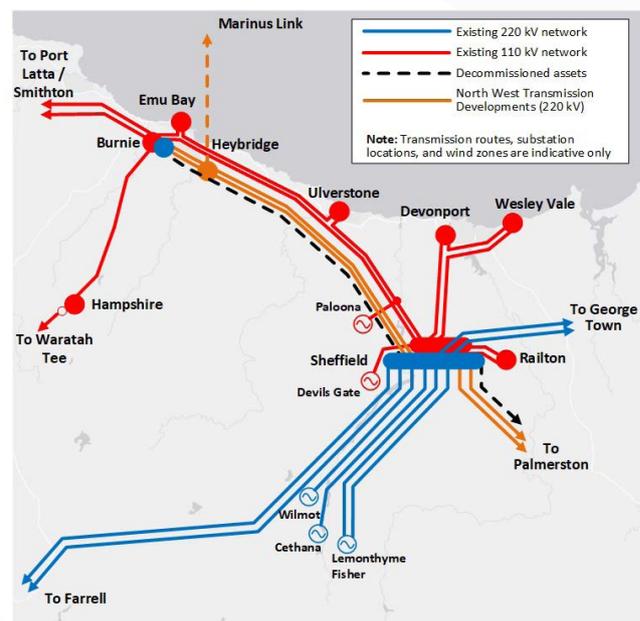
The coastal connection constitutes:

- **One new 220 kV switching station** at Heybridge;
- **One new 220 kV double-circuit transmission line** between Sheffield, Heybridge and Burnie;
- **One new 220 kV double-circuit transmission line** between Palmerston–Sheffield; and
- **Decommissioning** of the existing single-circuit Palmerston–Sheffield and Sheffield–Burnie 220 kV transmission lines.

The estimated cost of this first stage of works is \$950 Million.

Supporting assumptions:

- Construction of the new transmission line will be undertaken to minimise operational risk to North West connected customers and generators.
- A double circuit 220 kV connection for the first stage Marinus link is to ensure that the link operates its full capability during both export and import scenarios.
- Upgrade works will be undertaken at Burnie and Sheffield substations to ensure that the security of the network is maintained and new generation and load can be connected in the North West network.



The new high capacity corridor between Palmerston, Sheffield and Burnie will provide the means for harnessing renewable energy resources close to the network. New resources in the North West REZ have the option to connect at Burnie in the first instance.

Draft 2024 Integrated System Plan (ISP)

On 15th December 2023, AEMO published its draft 2024 ISP for consultation. TasNetworks note the following observations:

Candidate paths for the optimal development path were tested against future scenarios, through to 2050. The two most likely scenarios considered were:

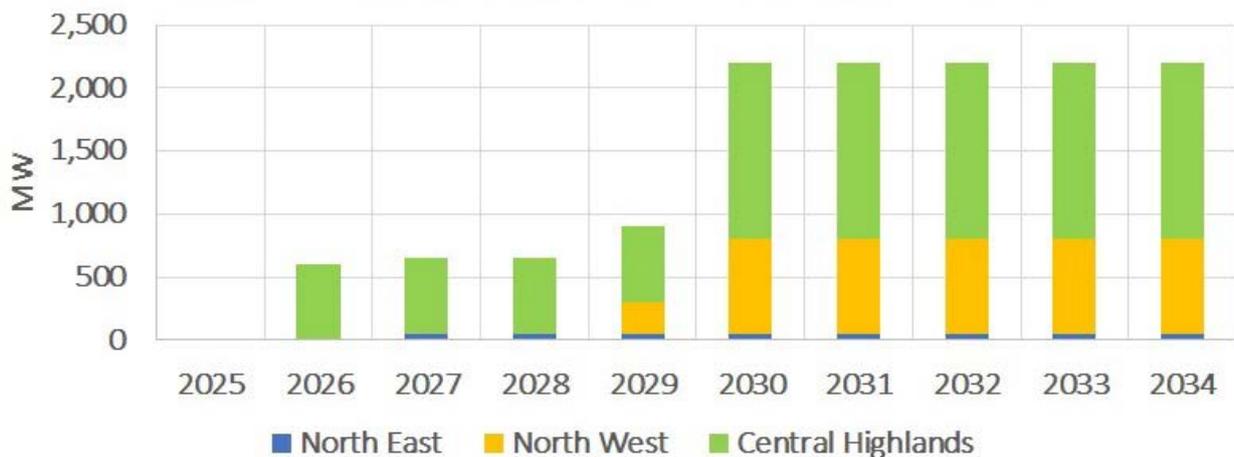
- **Step Change**, which fulfils Australia’s emission reduction commitments in a growing economy,
- **Progressive Change**, which reflects slower economic growth and energy investment

REZ resource projections

In Tasmania, over 2,000 MW of new utility-scale wind VRE is projected as being required by 2029-30, utilising transmission capacity released by the development of Project Marinus Stage 1. This new generation is developed across the following REZs:

- 50 MW in North East REZ
- 700 MW in the North West REZ and;
- 1,400 MW in the Central Highlands REZ

Draft 2024 ISP:REZ projections – Step Change Scenario



Network Projects in the Optimal Development Path: Step Change scenario

We note the continued inclusion of Marinus Link Stages 1 and 2 as a single actionable project with the first stage being delivered by 2030.

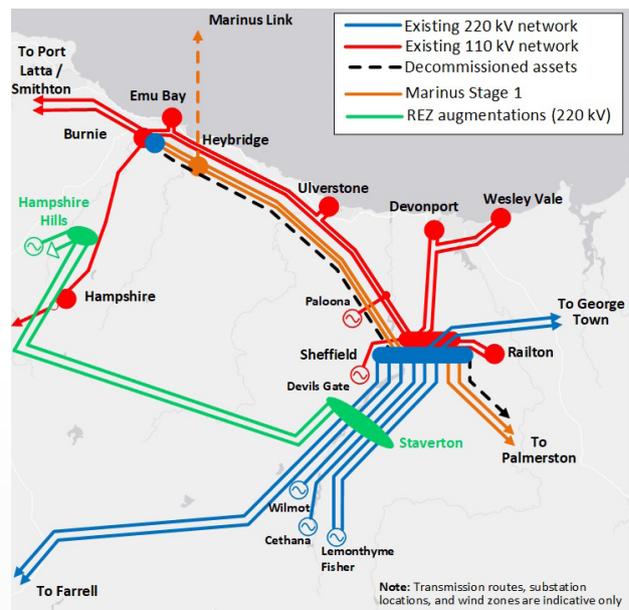
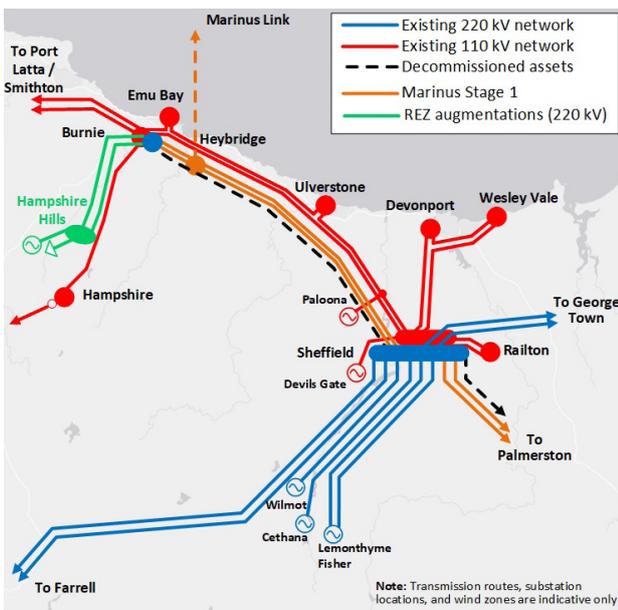
The optimal development path under the step change scenario includes two additional future projects that support REZ developments in Tasmania, which are the upgrade of the Waddamana – Palmerston corridor and the establishment of a new collector station at Hampshire Hills.

North West REZ development scenarios

We are further considering REZ development scenarios where the network is extended in the north west region by means of bringing forward components of the remaining North West Transmission Developments ahead of Marinus Link Stage 2:

Two possible scenarios are:

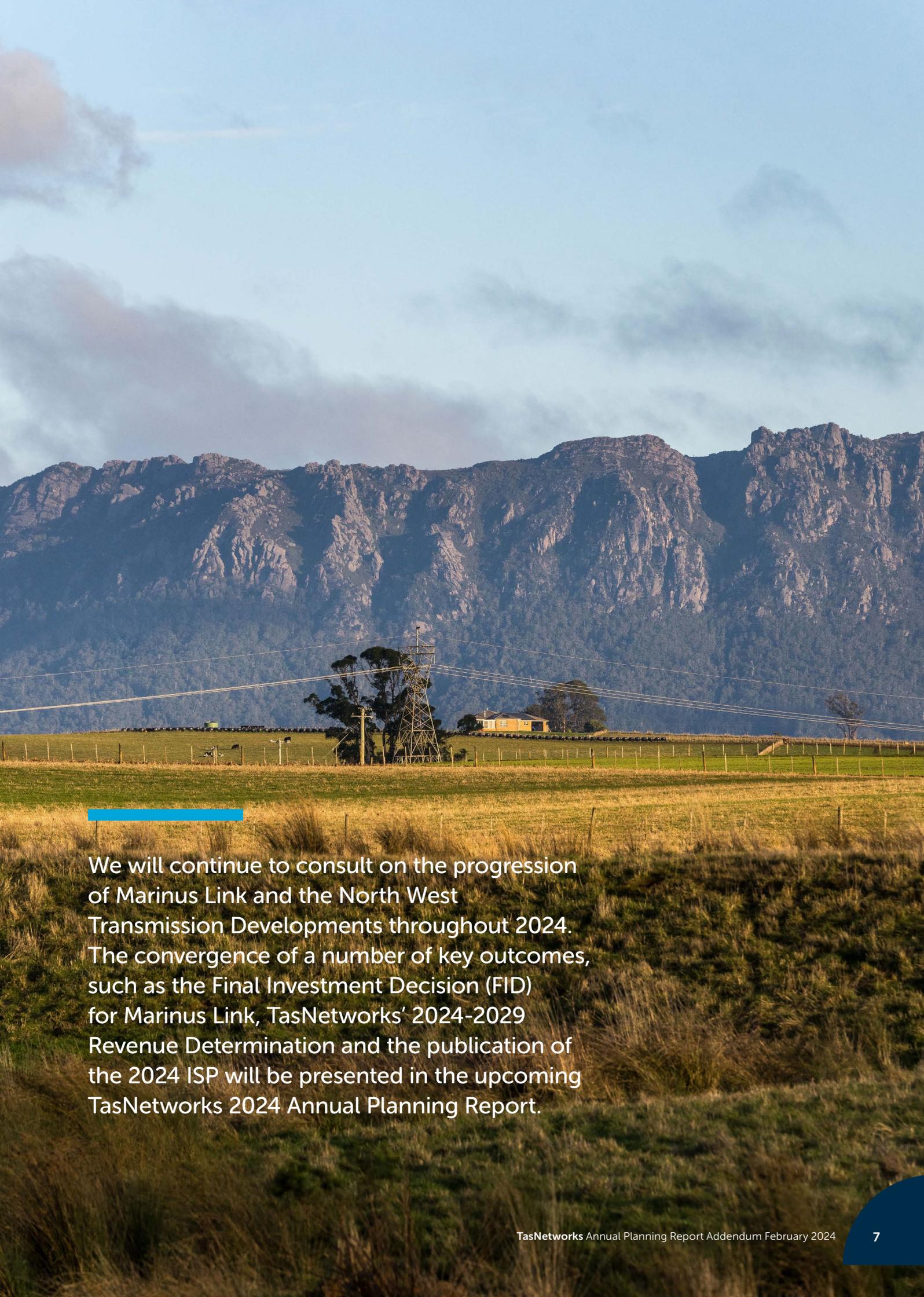
- (1) **Burnie approach:** Developing the Burnie-Hampshire Hills transmission line; or
- (2) **Sheffield approach:** Developing the Hampshire Hills-Staverton line with Staverton switching station



Either option may be progressed through various mechanisms, including:

- A contingent project with funding through TasNetworks upcoming revenue reset period, triggered by the commitment of new generation or load and justified through a Regulated Investment Test (RIT-T);
- An actionable project identified in AEMO's Integrated System Plan (ISP), whereby a RIT is undertaken by TasNetworks and if successful, the preferred option is progressed as a regulated asset;

- A Designated Network Asset (DNA); whereby the augmentation is funded by the DNA owner; or
- Renewable energy zone (REZ) infrastructure utilising a REZ framework if developed by the Tasmanian Government.



We will continue to consult on the progression of Marinus Link and the North West Transmission Developments throughout 2024. The convergence of a number of key outcomes, such as the Final Investment Decision (FID) for Marinus Link, TasNetworks' 2024-2029 Revenue Determination and the publication of the 2024 ISP will be presented in the upcoming TasNetworks 2024 Annual Planning Report.

TasNetworks welcomes feedback and enquiries on our Annual Planning Report and this 2024 addendum, particularly from any parties interested in discussing opportunities for alternate network solutions to those identified.

Please send feedback and enquiries to: planning.enquiries@tasnetworks.com.au.