

11 September 2020

The Hon Guy Barnett MP
Minister for Energy
Level 5, 4 Salamanca Place
HOBART TASMANIA 7000

Submitted via email to: renewableenergy@stategrowth.tas.gov.au

Dear Minister

Draft Tasmanian Renewable Energy Action Plan 2020

TasNetworks welcomes the opportunity to provide this submission in support of the Tasmanian Government's *Draft Tasmanian Renewable Energy Action Plan 2020 (Action Plan)*. As the owner and operator of Tasmania's electricity transmission and distribution networks as well as the jurisdictional planner, TasNetworks is already an integral part of the State's renewable energy story and will play a key role in the delivery of the Tasmanian Renewable Energy Target (TRET), the creation of a renewable hydrogen industry for the State and achieving the lowest regulated electricity prices in Australia for residential and small business customers.

Supporting lower electricity prices

TasNetworks recognises that with Tasmania's colder climate and Tasmanians' greater reliance on electricity, for many their electricity bills can represent a greater contributor to the cost of living than might be the case in other states and territories.

Since its establishment in 2014, TasNetworks has placed significant downward pressure on the network component of regulated electricity prices for both households and small businesses. After a small decrease in 2016-17, the network charges faced by typical residential and small business customers fell by almost 20 per cent in 2017-18 and a further 2.9 per cent in 2018-19, bringing network charges back to the same level in real terms as they were in 2009-10. For most households and small businesses, network charges decreased by another 1.2 per cent in 2019-20 and in 2020-21 network prices have again fallen, on average by a further 3.8 per cent.

In addition to these significant reductions in the delivered cost of energy for Tasmanian customers, our analysis shows that the increase in renewable generation enabled by supporting infrastructure such as Marinus Link, will also put downward pressure on wholesale energy prices – both in Tasmania and the rest of the National Electricity Market (NEM).



Supporting the TRET

TasNetworks is developing plans for Tasmania's power system that will support the renewable energy targets set out in the Action Plan. For example, as highlighted by the Australian Electricity Market Operator (**AEMO**) in its *2020 Integrated System Plan (ISP)*, a legislated TRET will assist in bringing additional investment in renewable generation to Tasmania. Marinus Link and the augmented North West Tasmania transmission infrastructure will significantly increase Tasmania's capacity to host renewable energy generation including pumped hydro storage.

TasNetworks continues to develop and refine strategies to facilitate the development of the Renewable Energy Zones (**REZ**) identified in the 2020 ISP, which are located in the State's North West, Midlands and North East. As recognised in the ISP, the State's transmission network already has some capacity in parts of the network (particularly in the Midlands REZ) that will enable the connection of new variable renewable energy resources without material network augmentation.

TasNetworks will be commencing a program of stakeholder and community engagement in relation to the development of the Midlands REZ in late 2020.

TasNetworks is also unique amongst transmission network operators in Australia in having developed a Real Time Simulator (**RTS**), a highly accurate computer simulation platform that models the complete Tasmanian transmission network, as well as every large generating unit and load in Tasmania. The RTS can be used to integrate additional generation (such as solar and wind farms) and pumped storage projects, into the Tasmanian power system in a way that will sustain the security and resilience of the power system.

This ability to test control and protection systems for new generation systems enables demonstration of their performance and overall system impacts to maximise both the hosting capacity of the existing network and any proposed network augmentations. As such, the RTS represents an advantage when it comes to developing the renewable energy zones identified in Tasmania and supporting investment in new renewable generation.

Tasmanian households and small businesses have embraced photo-voltaic solar generation with enthusiasm, with embedded generation in the distribution network currently adding around 160 MW of generation capacity. The energy exported by customers is an increasingly significant part of Australia's generation mix that is only likely to grow in the future. While distribution networks in other parts of Australia are reaching the limits of their capacity to accept the energy injected by micro-embedded generators, Tasmania's distribution network still has the capacity to host higher levels of Distributed Energy Resources (**DER**). TasNetworks will continue to prepare for the addition of more DER through its *Future Distribution System Vision and Roadmap*.

Supporting renewable hydrogen

There are many locations around the State, such as the Bell Bay Advanced Manufacturing Zone and the Burnie industrial precinct, where the electricity network is capable of supporting hydrogen production facilities, ranging from small-scale on-site hydrogen production systems to large-scale facilities producing hydrogen for export. Depending on the production process and technology used, apart from the economic benefits to the State, the production of renewable hydrogen on an industrial scale also has the potential to help stabilise the

Tasmanian power system and maximise its hosting capacity for renewable generation, as well as drive investment in additional renewable generation.

We have been working with potential proponents to ensure that the processes used to produce renewable hydrogen in Tasmania have the performance characteristics that support both the hosting capacity and security of the Tasmanian power system.

Supporting reliable clean energy

As noted in the Draft Action Plan, there are many other advantages working in Tasmania's favour in its quest to become a world leading provider of clean, reliable and affordable energy. Our analysis shows that Marinus Link will play a key role to support the NEM in undergoing a rapid transformation marked by a significant uptake of renewables and aggressive decarbonisation. AEMO's 2020 ISP findings also show that Marinus Link will support the reduction of carbon emissions across the NEM. In particular, as thermal generation retires, the least-cost transition of the NEM will be to a highly diverse portfolio comprising DER along with strategic investments in transmission infrastructure. AEMO recognised that Marinus Link will form a critical part of the strategic infrastructure needed for the future NEM, by naming Marinus Link an 'actionable ISP project with decision rules' in the 2020 ISP. This classification means AEMO's modelling indicates that Marinus Link forms part of its 'optimal development path'.

The ambitious targets articulated in the draft Action Plan will, however, pose both opportunities and challenges for the Tasmanian power system and for TasNetworks. Adding the new renewable generation systems that will be needed to produce an additional 10,500 GWh per year by 2040 will require careful planning in order to provide the necessary transmission capacity as efficiently as possible, while preserving the reliability and resilience of the power system.

It will also be critical to ensure that any new generation systems connecting to Tasmania's transmission network have the control and protection systems needed to maximise the hosting capacity of the network while complying with the performance standards that are required in Tasmania, which in some aspects are unique in the NEM being an islanded power system. Depending on its location, connecting additional generation is also likely to require the augmenting of some transmission infrastructure.

TasNetworks is aware that some renewable energy investors in other states have experienced connection delays which have created substantial commercial challenges for those developers. In recognition of this we are looking at ways to improve the timeliness and transparency of our connection process, without compromising the security and resilience of the power system or the supply quality of those already connected to the network.

As both the operator of the State's transmission network and the jurisdictional planner, TasNetworks is ideally placed to identify the most efficient means of connecting new renewable generation in Tasmania that will facilitate Tasmania fulfilling its renewable energy aspirations. Each year TasNetworks publishes an Annual Planning Report, which assesses the capability of the network to transfer electricity and, amongst other things, identifies locations where new loads or generation could be readily connected. It also presents information regarding network capabilities and the business' future plans to address any network constraints or limitations. We will continue to update our plans for both the transmission and distribution networks as more becomes known about the location, size and timing of potential

investments in new renewable generation. To this end, the proponents of renewable energy projects in Tasmania are encouraged to contact TasNetworks as early in the planning process as possible to discuss their connection requirements so that they can be taken into consideration in the development of the future plan for the network.

TasNetworks also continues to play an active role in lobbying regulatory bodies within the NEM to ensure that national energy policy is supportive of Tasmanian customers, as well as potential investors in renewable energy in the State, by ensuring that Tasmania is not negatively impacted by changes designed to 'fix' mainland electricity supply issues. A key part of this drive for inter-regional equity is ensuring that the regulatory framework in relation to interconnector and transmission cost recovery is fit for purpose.

Supporting the renewable energy economy

TasNetworks has a number of projects underway, or planned that will facilitate the development of new business models and the entry of new participants into the energy market. These include projects that focus on ensuring that DER is integrated into the distribution network fairly and safely, and in a way that maximises the opportunities for customers to benefit from their investment in energy systems by providing grid support services where needed. The projects include:

- the development of new DER standards and connection requirements;
- the use of advanced metering data for network visibility and power quality investigations;
- DER orchestration pilots, to investigate how DER can be aggregated to better utilise its capabilities to support the network;
- progressing towards an Advanced Distribution Management System (**ADMS**);
- delivering electric vehicle (**EV**) friendly *Networks and Neighbourhoods*, a trial of dynamic EV charging arrangements; and
- demand response pilots.

In preparing for the future, it is vital that initiatives and strategies are aligned to a common vision, providing the foundation for all future work. TasNetworks' *Future Distribution System Vision and Roadmap* is a new initiative which will identify the capability uplift needed in the distribution network to meet the evolving needs of customers and address the challenges and opportunities presented by the energy transition that is already underway.

TasNetworks is also working closely with the Tasmanian Climate Change Office's (**TCCO**) Electric Vehicle Working Group to prepare a coordinated State-wide response to the coming electrification of road transport, and support Tasmania's transition to a low carbon economy. TasNetworks established the Fast Charger Support Scheme (**FCSS**) which supported the installation of Tasmania's first electric vehicle DC fast charger in October 2018. With support from the FCSS, the TCCO and market-based installations, installations of EV chargers will extend State-wide through 2020 and into 2021.

TasNetworks is working with other distribution network businesses, industry bodies such as Energy Networks Australia, the Australian Power Institute and the Electric Vehicle Council, as well as a number of universities, to better understand the future network challenges, new products and services that the market will offer, and the network and non-network solutions that need to be developed to assist the uptake of EVs and battery storage.

TasNetworks is well aware of the opportunity that renewable energy development provides Tasmania and congratulates the Tasmanian Government on the release of the *Draft Tasmanian Renewable Energy Action Plan 2020*. It comes at a time of significant change and enormous opportunity within the National Electricity Market. TasNetworks looks forward to working with stakeholders and playing its part in the delivery of low cost, clean, renewably generated electricity to our customers in Tasmania, as well as to customers throughout the NEM. For more information or to discuss this submission, please contact TasNetworks' Regulation Leader, Chantal Hopwood, at Chantal.Hopwood@tasnetworks.com.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Lance Balcombe', written in a cursive style.

Lance Balcombe

Chief Executive Officer

