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Tasmanian Government

Hon Ruth Forrest MLC
Chair
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Dear Ms Forrest Ruth,

I refer to your letter of 9 November 2023, inviting the Minister for Energy and Renewables to provide input to the Joint Select Committee inquiry into Energy Matters in Tasmania.

Please find enclosed a submission on behalf of the Tasmanian Government which addresses the Joint Select Committee's Terms of Reference.

Yours sincerely

Hon Nick Duigan MLC
Minister for Energy and Renewables

Encl
Tasmanian Government Submission to the Joint Select Committee on Energy Matters 2024
Tasmanian Government Submission to Inquiry into Energy Prices in Tasmania 2023

Submission to the Joint Select Committee on Energy Matters

1. Introduction

Energy systems in Australia and globally are undergoing a profound transition from primarily fossil fuel-based generation to renewable electricity. This transition reflects an increasing acceptance of the need to decarbonise the economy and reduce greenhouse gas emissions, as well as changing technology and market dynamics which mean that renewables are increasingly the lowest-cost form of new energy sources.

Because of the legacy of our hydro investments, Tasmania is better positioned than any other Australian jurisdiction to meet these challenges, and indeed, capture new economic opportunities arising from the energy transition. We are the only jurisdiction in Australia to have already achieved net zero emissions, having done so for nine consecutive years. Tasmania is already 100 per cent self-sufficient in renewable electricity generation capacity, thanks to our 100-year history of hydro-electric development and word-class wind resources.

The Government has established a package of policies that positions Tasmania to adapt to the energy transition challenge, and to prosper from it. Our approach is founded upon the principle of Tasmania-first. The key elements of our energy strategy include:

- Ensuring that Tasmanians continue to have access to reliable and affordable energy, in keeping with the Government's commitment to maintain the lowest regulated prices in the National Electricity Market (NEM).
    - This includes taking steps to directly reduce Tasmanian electricity bills through generous energy concessions and initiatives such as the Renewable Energy Dividend.
- Working with Tasmanian households, small business and larger electricity users to invest in new energy technologies and energy efficiency, to reduce energy consumption and manage energy bills.
- Ensuring that there is sufficient investment in new renewable energy generation and transmission to meet Tasmania's growing energy needs and to fully capitalise on Tasmania's world-class renewable resources, through the world-leading Tasmanian Renewable Energy Target - to double Tasmania's renewable electricity production to 200 per cent (21,000 GWh) by 2040, with an interim target of 150 per cent (15,750 GWh) by 2030.
- Capitalising on the state's ability to store electricity via its hydro system to be able to firm variable renewable production both in Tasmania and across the NEM, providing new streams of income to the State.
- Seizing opportunities from the development of alternative, low-carbon sources of energy, such as hydrogen and bioenergy, that have the potential to contribute to reduced greenhouse gas emissions, strengthen Tasmania's energy security and create new industries and jobs for Tasmanians.

The Tasmanian Government is also partnering with the Australian Government in a range of national initiatives and programs in areas such as energy efficiency, improving regulatory

frameworks, addressing labour market and supply chain constraints, and renewable energy and hydrogen certification. The Tasmanian Government also expects that the state will be able to play a role in the Australian Government's Capacity Investment Scheme, which aims to significantly expand renewable energy generation and storage in-line with the Australian Government's 82 per cent national renewable energy target.

Because all Tasmanians own our government-owned electricity businesses, the commercial opportunities potentially ahead of them are also opportunities to provide the community with enhanced government services through improved financial returns, and direct benefits through lower delivered electricity prices, including through the Government's Renewable Energy Dividend.

Assessing the implications of the energy transition is not straight-forward. While projects like Project Marinus and Battery of the Nation will develop their own business cases based on expected commercial outcomes, there will be wider implications for the Tasmanian community that need to be understood.

Coming to grips with these implications is clearly at the heart of this Inquiry initiated by the Parliament. The Government recognises this and, prior to the establishment of the Inquiry, commissioned the whole-of-state business case in relation to Project Marinus and associated projects to understand these wider implications and to inform Government decision making about them. The Government has committed to make the outworkings of the whole-of-state business case publicly available.

Developing large scale renewable energy projects is complex and can take a considerable time from conception to commissioning (on average between 8 and 10 years) and can have significant implications for the Tasmanian community. In the Government's view, "do nothing" is not an option. We need to start making the investments now to make sure our energy system can meet future needs, just as it has well-served past generations.

We need to make progress in a way which builds Tasmania's economic prosperity and that is consistent with the values that are important to the Tasmanian community. That is why we are advancing important initiatives, such as the development of Renewable Energy Zones, reforming the planning and regulatory frameworks and encouraging best practice community engagement, as well as ensuring sustainable long-term benefits for communities hosting renewable energy infrastructure.

The purpose of this submission is to provide a high-level overview of the Government's Tasmania-first energy strategy, to assist the Inquiry frame its work program.

We recognise the importance of electricity pricing to Tasmanians and Tasmanian business. This submission does not seek to address issues that were covered in detail as part of the Government's October 2023 submission to the Legislative Council Sessional Committee Government Administration A's Inquiry into Energy Prices in Tasmania (a copy of that submission is attached).

Further detail on some matters pertinent to the current Inquiry is included in the appendices. In particular, the terms of reference require the Committee to investigate Tasmania's participation in the NEM, which has been a matter of much debate in the Parliament. As we look towards Tasmania's future energy needs, continued, and further interconnection with the NEM (through Project Marinus) is a vital underpinning element –

both from a physical perspective, and to provide the market-based architecture to enable new investment to take place. Appendix I explains why ongoing participation in the NEM is important to delivering Tasmania's energy future.

Appendix II provides a more detailed description of Tasmania's energy security framework. Lists of key publicly available documents and links are included in Appendices III and IV.

2. Ensuring access to affordable and reliable energy

Affordable electricity

The attached submission to the Inquiry into Energy Prices in Tasmania provides an overview of the factors that impact on energy prices in Tasmania, the recent history of electricity prices in Tasmania, and concessions available to households and small business customers.

Subsequent to that submission being finalised, the independent Tasmanian Economic Regulator's *Comparison of Electricity and Gas Prices Available to Small Customers in Australia* report, released on 25 October 2023, confirmed that Tasmania has the lowest regulated electricity prices in Australia: https://www.economicregulator.tas.gov.au/electricity/reports/price-comparisons/standing-offer-price-comparison-reports

Energy security

Tasmania currently has the capacity to meet, on average, its annual electricity demand from on-island renewable resources. This capacity is supplemented by gas generation capacity at the Tamar Valley Power Station and from imports over the Basslink HVDC interconnector.

Tasmania's main source of electricity historically has been from hydro-electric generation and, despite the increase in wind generation, hydro continues to be the main source of electricity generation, and so hydrological risk remains the main focus for supply security.

Following the 2015-16 summer, after a period of low rainfall followed by a protracted outage of the Basslink interconnector, the Tasmanian Energy Security Task Force was established to advise the Government on how it could better prepare for, and mitigate against, the risk of future energy security events. The Task Force's recommendations were accepted and adopted by the Government and the resulting Energy Security Risk Response Framework has operated since that time.

Further detail on the Energy Security Risk Response Framework is set out in Appendix I.

Energy efficiency

Energy efficiency presents further opportunities for households and businesses to take control of their energy usage and reduce their bills. Upgrades such as better insulation, window glazing and more efficient appliances can provide significant cost savings to households, and similarly, there are energy efficiency opportunities for business.

The Government recognises that the up-front costs of investing in energy efficiency can present barriers for Tasmanian households and businesses to implement energy efficiency strategies. This is why the Government provides a broad range of energy efficiency programs, such as the Energy Saver Loan Scheme[1] and the Business Energy Efficiency Loan Scheme[2] and funds public housing upgrades to ensure that all Tasmanians can benefit from energy efficiency improvements.

[1] see https://recfit.tas.gov.au/household_energy/energy_saver_loan_scheme
[2] see: https://recfit.tas.gov.au/grants_program/business_energy_efficiency_scheme

The Government is also closely monitoring the development of national frameworks for residential energy efficiency disclosure and minimum energy efficiency rental requirements. Following the release of these Frameworks, the Government will consider the case for their adoption based on a rigorous assessment of the costs and benefits in a Tasmanian context.

New energy technologies such as solar PV, batteries, smart appliances and electric vehicles present opportunities for empowered consumers to participate more actively in the energy market. These technologies can offer a range of benefits for consumers who install them, but can also result in improved grid efficiencies, putting downward pressure on network costs to the benefit of all energy consumers.

The rollout of advanced meters will be key to unlocking these benefits and the majority of residential and small business customers in Tasmania will have advanced meters installed by the end of 2024. Tasmania is currently among the leading NEM jurisdictions in terms of the proportion of homes that have already had advanced meters installed.

New technologies can also be challenging to navigate and understand due to their complexity and unfamiliarity. The Government will continue to examine ways to lift energy literacy so that consumers can better manage their energy usage and get the most out of new energy technology. This includes work done by our energy businesses in schools and the broader community to grow Tasmanians' understanding of their energy use, costs and safety issues.

3. The need for new energy generation and transmission

Generation from hydro sources still accounts for around 80 per cent of electricity production in the state, with wind farms accounting for most of the remainder of generation. The share of gas generation has been shrinking and in 2023 was well below 1 per cent. Any difference between generation and consumption in Tasmania arising from annual, seasonal, and intra-day patters of demand and supply is balanced by imports and exports via the Basslink interconnector.

Tasmania's 100 per cent self-sufficiency in renewable energy means that we can, given average/typical weather patterns, generate sufficient electricity from renewable sources to meet current demand. Tasmania achieved this status following the commissioning of the Cattle Hill and Granville Harbour wind farms in 2020. Our renewable status confers a significant brand advantage on Tasmanian businesses.

Expected annual electricity generation from installed Tasmanian renewables is between 10,500 and 11,000 gigawatt hours (assuming a wind farm capacity factor of between 35 and 40 per cent). This is currently sufficient to balance our electricity demand, with Tasmania swinging from being a small net exporter of electricity to a small net importer from year to year, depending on dam inflows and market prices in the NEM. However, population growth and electrification in the business and transport sectors are expected to drive increased demand going forward, with improvements in energy efficiency and increased penetration of rooftop solar likely to only partially offset this growth.[3]

Accordingly, Tasmania's 100 per cent renewable status is finely balanced and is likely to come under threat without further investment in new generation.

Tasmania's future energy needs cannot be met by current infrastructure or by hydropower alone. Without investment in additional renewable energy generation, even organic growth in demand will need to be met through imports or (generally higher priced) gas-powered generation. This would have implications for energy prices, Tasmania's emissions profile and energy security (due to a greater reliance on imports through Basslink and the Tasmanian Gas Pipeline).

Meeting the growing demand requires investment in new and existing infrastructure, with a combination of technologies that make the most of Tasmania's unique advantages: abundant wind, deep water storages, and a network of hydropower assets.

Investment in major new renewable energy projects will benefit all Tasmanians by improving the security and reliability of our energy system and providing broader economic and employment opportunities. There will be new job opportunities in the renewable energy sector, while access to affordable, reliable and clean energy is a key competitive advantage for Tasmanian businesses and key to attracting new industries and jobs to the state.

There is strong interest from investors in building new renewable generation in Tasmania. A registration of interest process run in 2022 identified around 25,000 gigawatt hours of potential renewable energy projects aiming to start operation by 2030. If progressed, this

[3] Australian Energy Market Operator, 2023 Electricity Statement of Opportunities

level of investment would be more than enough new generation to support the full achievement of the 200 per cent Tasmanian Renewable Energy Target.

However, there are a number of barriers to converting this interest into firm investment commitments, including uncertainties about Australia's energy transition and its impact on future demand and energy prices. The Tasmanian Government is currently investigating the case for market mechanisms to support and accelerate renewable energy developments in Tasmania.

The Australian Government has also recently announced an expansion of its Capacity Investment Scheme to support reliability in Australia's rapidly changing energy market and help reach the Australian Government's 82 per cent renewable energy target. The Tasmanian Government looks forward to working with the Australian Government to explore the role that Tasmania can play in enhancing reliability in the NEM and assisting the Australian Government to meet its targets.

Tasmania's hydroelectric system offers a level of flexible capacity and deep storage that can support a significant expansion of variable renewable energy in Tasmania. The lack of correlation between peak demand and supply conditions in Tasmania and other parts of the NEM, combined with the high capacity factors of Tasmanian wind farms, mean that Tasmanian renewable energy generation and storage assets can in-turn play a significant role in enhancing overall system reliability in the NEM, provided it is accompanied by the transmission needed for Tasmanian generators to reach these markets.

Greater wind and solar generation will provide the lowest cost form of new generation for additional on-island load, but there are also opportunities to get a better return from our existing hydro assets.

Wholesale contract model

Whilst the State energy supply arrangements are very secure, there is a limit to the ability of Hydro Tasmania to write wholesale electricity contracts with counterparties in Tasmania (very large industrial loads and retailers). In the first instance, Hydro Tasmania's 'natural' contracting capability is related to the sustainable yield from rain, and legacy wind off-take arrangements Hydro Tasmania has with Tasmanian wind farms.

In the medium term, with the introduction of further interconnection through Project Marinus, along with Basslink's potential regulation, there is expected to be enhanced opportunities for Tasmanian loads to contract with generators in other regions, as well as with Hydro Tasmania. The entry of new scale Tasmanian renewable generation, coupled with firming from Hydro Tasmania, will also broaden the Tasmanian options for wholesale contracting.

At the State's current level of electricity demand, Hydro Tasmania's natural contracting capacity is fully utilised. Moreover, there are projections for sustained increases in electricity demand in Tasmania. Accordingly, in the transition period before Project Marinus and the development of scale new renewables, consideration is being given to how best to manage the availability of Tasmanian wholesale contracts, through the development of a Wholesale Contracting Framework.

That Framework has a strong Tasmania-first focus. A primary element of the Framework is the prioritisation of recontracting opportunities for Tasmania's existing major industrial customers, ahead of alternative large-scale industrial loads. The Government has confirmed with Hydro Tasmania and the major customers that the Government's expectation is that our major industrial customers should have the opportunity to negotiate on commercial terms with Hydro Tasmania to recontract their existing volumes of electricity as current arrangements expire. Similarly, the Government has been consistent with potential new large electricity users, such as hydrogen and e-fuel proponents, that their projects will be contingent on the simultaneous development of new renewable generation in Tasmania, at least in the period prior to the completion of Project Marinus.

With these foundational points in place, the work on the Wholesale Contracting Framework remains ongoing.

Marinus Link and North West Transmission Developments

Marinus Link is a proposed electricity and telecommunications interconnector between Tasmania and Victoria. The North West Transmission Developments (NWTD) project includes upgrades to Tasmania's electricity transmission lines to facilitate the use of Marinus Link and allow for new Tasmanian generation to be developed. Together, these projects aim to unlock Tasmania's renewable energy and storage potential.

Marinus Link will help support the business case for investment in new renewable generation by increasing the ability of Tasmanian generators to export surplus electricity to the mainland and, in the case of energy that is unable to be stored for significant periods of time, reducing 'spillage', or wasted energy when Tasmanian demand is relatively low. Without further interconnection (in addition to Basslink), the 'must run' nature of much of our hydro system will mean there will be a natural limit on the development of renewable generation in Tasmania – not all of Hydro Tasmania's output can be 'stored' throughout the year.

Marinus Link can also help to decarbonise the NEM by replacing coal and gas fired generation with reliable 'as required' renewable electricity from Tasmania, with Marinus Link expected to unlock savings of up to 140 million tonnes of carbon dioxide equivalents by 2050.[4]

Analysis undertaken for Marinus Link by Ernst & Young found that Stage 1 is expected to provide over $1.4 billion in additional economic stimulus in Tasmania through construction and operation and 1,400 additional jobs at peak construction.[5]

AEMO's Integrated System Plan for the NEM continues to identify Marinus as an actionable project, meaning that it forms part of the optimal path for transmission development in the NEM and should be progressed as urgently as possible[6]. The commissioning timeframe for

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4 https://www.marinuslink.com.au/

5 https://www.marinuslink.com.au/economic-contribution-2023/

6 https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2023/draft-2024-isp-consultation/draft-2024-isp.pdf?la=en

Marinus Link in the draft 2024 ISP is June 2030 for the first 750MW stage and June 2032 for the second stage.

Marinus Link and the NWTD will also enable more efficient use of the Tasmanian hydro generation portfolio, deliver energy security benefits to Tasmania and keep downward pressure on Tasmanian wholesale prices. Yes, it will mean increases in transmission costs for customers, however, the benefits to customers from lower wholesale costs than would otherwise exist absence Project Marinus have been assessed through the AER to outweigh those costs by a substantial margin. Deeply concessional finance provided by the Australian Government's Rewiring the Nation Fund will also help to minimise the impact on customers.

Draft results of a pricing study by FTI Consulting shows that the first stage of Marinus Link is expected to reduce the wholesale energy cost component for a typical residential consumer bill by between $90 to $95 per year on average. Taking these savings into account and networks costs calculated by TasNetworks, a typical residential consumer is expected to save between $35 and $40 each year on average, once Marinus Link Stage One is operational. Ultimately, the customer cost impacts will be calculated from the final costs to complete the project, and these costs are not yet known but are a key input for the Tasmanian Government's assessment of the Marinus Link final business case.

Marinus Link and the NWTD will continue to be progressed to a Final Investment Decision (FID), including progression of procurement processes, subject to ensuring that the projects deliver net benefits to Tasmania. Preparation of final business cases has not yet been (and cannot be) done until later in 2024.

Due to significant cost increases for Marinus Link, which is now expected to cost in the order of $5.5 billion for the initially envisaged 1500 megawatt (MW) dual cable, the Tasmanian Government, in partnership with the Victorian and Australian governments, have agreed to focus on the delivery of the first 750 MW stage of Marinus Link in the first instance. This decision was taken to ensure that the best interests of Tasmania are preserved and that our customers do not bear unreasonable cost impacts. The first stage of Marinus Link is expected to cost in the order of $3-3.3 billion, though tender and procurement processes are ongoing. The option to progress a future second stage of Marinus Link will be considered after FID for stage 1, which is planned for late 2024.

As a result of the Marinus Link staging, the NWTD is also now being delivered in stages, with the proposed 'coastal route' of the NWTD being progressed to support the first Marinus Link stage. As a result of supply chain increases that impacted Marinus Link, the cost estimate for the NWTD has also been revised, with the entire project estimated in the order of $1.45 billion (with the 'coastal route' costing an expected $950 million). As with Marinus Link, the NWTD project is continuing to progress through tender processes.

Marinus Link Pty Ltd is currently a wholly owned subsidiary company of Tasmanian Networks Pty Ltd, which itself is owned by the Tasmanian Government. The Tasmanian, Victorian and Australian governments have agreed to be the future owners of the Marinus Link project, and work is underway to transfer to that model. The new ownership model would see the Tasmanian Government owning 17.7 per cent of Marinus Link and our funding to date will be recognised as equity, among other arrangements. These arrangements limit the State's future financial exposure to fund the project. Importantly, the State will still have a role in making key decisions, such as a decision on FID, through the

proposed Shareholders Reserved Matters which require unanimous approval from all shareholders.

The transition to the new ownership model is very complex and involves financial, commercial, and legal considerations, and all parties are still working through the details at pace. The governments are planning for the new Marinus Link ownership model to commence in the first quarter of 2024, noting the project FID is planned for December 2024.

Hydro upgrades and Battery of the Nation

Hydro Tasmania invests significant resources to maintain and upgrade its network of assets to ensure ongoing reliability and efficiency and safety. However, many of these assets are aging. For example, Tarraleah Hydro Power Scheme is 85 years old. As they age, the assets become more expensive to maintain, just like the family car. While it may be a jewel in the State's crown, it is far from the case that the State's hydro system is simply there and can be relied upon on the back of historic investments and the hard work of the generations that have worked "for the Hydro".

Upgrades are currently planned or underway at Gordon, Poatina, Lemonthyme, and all five West Coast power stations, as well as upgrades to Murchison and Edgar dams.

Battery of the Nation is a series of Hydro Tasmania projects that are investigating and building our island's capacity as a hydro "battery". The Battery of the Nation work program includes redevelopment of existing hydro power stations and schemes, better use of existing hydropower latent capacity and potential development of a new pumped hydro site. This will ensure a safe, reliable, renewable energy supply for all Tasmanians and increase Hydro's ability to provide firming support when there is limited availability of wind and solar generation in the NEM. The financial rewards that are potentially delivered through these opportunities reflect a source of new income to the State, for the benefit of all Tasmanians through their ownership of Hydro Tasmania.

The Australian Energy Market Operator (AEMO) forecasts that Australia will need up to 40 gigawatts (640 gigawatt hours) of new energy storage over the next 30 years and Tasmania is ideally suited to supply a share of this at a scale and at a cost that is unparalleled in other places.

Hydro Tasmania is already progressing the early works and upgrade works for a potential redevelopment of the Tarraleah Hydropower Scheme, with recent Tasmanian and Australian Government support. A redeveloped Tarraleah power scheme would significantly increase the station's peak capacity from 90MW to 190MW and deliver 30 per cent more energy from the same amount of water – energy that the State needs given the forecast increase in electricity demand. Further power station upgrades on the West Coast scheme are also possible in conjunction with planned renewal works to improve the dispatchable capacity of those assets.

Further interconnection through a second stage of Marinus Link may also provide the potential for a pumped hydro project in Tasmania. Hydro Tasmania has identified Lake Cethana as the preferred pumped hydro site. Lake Cethana is a 750 MW project that is likely to be one of the most cost-effective long-duration storage options in the NEM. AEMO's draft Integrated System Plan 2024 highlights that Tasmania has the highest capacity

factors and lowest build costs for pumped hydro in the NEM. Hydro Tasmania will keep the project option live until a decision on the second cable is made.

All these initiatives have the potential to provide returns to our state-owned generator, which can be returned to the people of Tasmania in the form of increased dividends to the State Government which help fund services such and health and education, and depending on Hydro Tasmania's profitability to energy consumers through the already-announced Renewable Energy Dividend.

Renewable Energy Zones

Renewable Energy Zones (REZs) are high-quality resource areas where clusters of large-scale renewable energy projects can be developed to take advantage of economies of scale.

REZs are expected to play a key role in minimising the cost of build out for Tasmanian customers and connecting generators through optimising the design of the power system, which is essential if we are to bring on the new generation Tasmania will need in the future.

REZs not only help coordinate development and access to transmission lines in areas with excellent renewable resources but also help minimise and manage the impact on other important values such as land use, environment and heritage.

AEMO has identified three candidate REZs and two Offshore Wind Zones (OWZs) in Tasmania.

In late 2022, the Government announced that the north west region will be the first to be explored in detail to host Tasmania's first REZ. Regional stakeholder reference groups are being established to inform and guide the REZ establishment process. This will occur alongside more detailed technical, environmental and economic studies.

Additional candidate REZ regions will be considered after the north west REZ work program, which will effectively be used as a pilot, allowing any lessons learned to be applied to investigations in subsequent regions.

Offshore wind

The establishment of an offshore renewable energy industry will support key state objectives such as the development of a green hydrogen export industry. There is a high level of interest in developing these areas as demonstrated through the Government's registration of interest process.

The Australian Government is currently consulting on the suitability of a Northern Tasmania OWZ. This is a first step prior to proponents being able to apply for a licence to locate in the zone. The announcement of this consultation reflects that Bass Strait is one of the top options for offshore wind energy in the country.

The Tasmanian Government is working with key Tasmanian stakeholders such as the Blue Economy Cooperative Research Centre to investigate ways to support the industry to develop.

In determining the location of REZs and OWZs, the Tasmanian Government will also consider important values such as environmental and community impacts.

Tasmania Candidate Renewable Energy Zones and Offshore Wind Zones[7]

Note: the above map is for illustrative purposes only. The generation symbols do not reflect the location of actual projects or the location where projects should be developed.

Community engagement and local benefit sharing

Benefit sharing is a key component of the Tasmanian Government's Renewable Energy Coordination Framework. It aims to integrate developments within communities and establish and maintain positive connections to the area by contributing ongoing value. It is important to get this right to ensure communities that host renewable energy projects feel that outcomes are fair and adequately consider community interests.

Local benefit sharing can come in the form of in-kind or cash contributions that go towards things like community grants, neighbour payments, neighbourhood programs, additional upgrades to phone towers or other community infrastructure, flora and fauna protection or the cost of establishing co-investment or co-ownership opportunities.

In October 2022, the Government published a draft document, *Renewable energy development in Tasmania: a guideline for community engagement, benefit sharing and local procurement*, which aims to set clear practice standards for renewable energy projects in Tasmania.

Guiding principles for developing benefit sharing include flexible and transparent strategies that involve local communities and respond to local contexts.

Each project will have different capacities and parameters that require strategies tailored to local circumstances and that are proportionate to the scale of the project. The starting point for any project proponent should be consideration of the appropriate timing and method of engagement with prospective host communities and project stakeholders. The

[7] AEMO draft 2024 Integrated System Plan for the NEM

opening engagements with community can set the tone for how a project progresses and it is important to acknowledge in all engagement that land and water in Tasmania comes under traditional custodianship of Aboriginal people and that this connection to country is ongoing.

Ensuring the widest participation by Tasmanian businesses in renewable energy projects is also a key priority for the Government. Opportunities for local businesses and broader Tasmanian supply chains need to be considered when engaging the host community about issues of importance and how benefits can be shared. Local procurement to provide the skills and services required for a project is a fundamental way that a project can benefit a community. Local procurement should involve prioritising people and businesses in the towns adjacent to the project, followed by the region and then the state, where possible.

Whole of State business case assessment for major energy projects

The Tasmanian Government continues to support development work in relation to Marinus Link and the NWTD, and associated projects including Hydro Tasmania's Battery of the Nation and its redevelopment of the Tarraleah power station.

The Government recognises these projects represent the largest suite of infrastructure projects ever instigated and undertaken by a Tasmanian Government and its associated electricity businesses. If these projects are progressed, there will be significant investment and employment impacts but there is also a level of risk and uncertainty in a range of areas. These include the level of investment required, the financial outcomes associated with the investments and broader economic, social, and energy market impacts. Electricity customer cost impacts are also a key consideration.

In this regard, the Government has committed to the preparation of a Whole-of-State Business Case in relation to Project Marinus and associated projects to assess their opportunities and risks and to ensure that these major energy developments are considered from a whole-of-State perspective, both individually and collectively. The Department of Treasury and Finance is supporting the preparation of the Business Case under the guidance of the Project Marinus Whole-of-State Business Case Steering Committee. This Business Case is to be completed prior to the Marinus Link Final Investment Decision (currently expected in December 2024), will be independently peer reviewed and is to be made publicly available.

4. Investing in new low-emissions energy

Energy systems in Australia and globally are undergoing a rapid transition from fossil fuels to renewable electricity and other low emission energy sources. As the global push to decarbonise accelerates, low carbon sources of energy will become increasingly important to achieve environmental objectives, representing a range of opportunities and challenges for Tasmania.

Tasmania's *Climate Change (State Action) Act 2008* requires the government to develop five-yearly sector-based Emissions Reduction and Resilience Plans (Plans) in consultation with business and industry. The Plans will support a practical and balanced approach for key sectors to reduce greenhouse gas emissions and build resilience to climate change.

The Plans must support greenhouse gas emissions reduction, the transition to a low emissions economy, and resilience to climate-related risks. Plans are to be developed for key economic sectors including the energy sector, which is to include emissions from electricity generation and combustion of fossil fuels for stationary energy purposes.

Development of the Plan for Tasmania's energy sector is underway and consultation with government and industry stakeholders completed. A draft Plan will be released in early 2024 for public consultation, with a final Plan to be tabled in Parliament by November 2024.

Tasmania has by far the cleanest electricity grid in Australia; however, renewables make up just under half of Tasmania's total energy (as opposed to electricity) consumption[8]. There are still greenhouse gas emissions from fuels such as coal, natural gas, petrol and diesel. Fuel combustion emissions in the transport sector accounted for around 21 per cent of Tasmania's total emissions in 2021.[9]

As part of its commitment to net zero emissions or lower by 2030, the Tasmanian Government will continue to support opportunities to lower our emissions from these sources, including opportunities to displace fossil fuel use with Tasmanian renewable electricity and investigating alternative zero emissions replacements where electrification is not a suitable option.

In November 2023, the Government released Tasmania's Future Gas Strategy, which sets out the government's vision for an industry-led transition away from fossil gas and towards renewable alternatives such as green hydrogen, biomethane and synthetic renewable gases.

There are also opportunities for Tasmania to export hydrogen, in the form of green ammonia or green methanol, and other clean energy products to contribute to the world's transition away from emissions-intensive energy sources which, in turn, creates economic and employment benefits for Tasmanians.

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[8] Department of Climate Change, Energy, the Environment and Water, Australian Energy Statistics 2023, Table C Fuel

[9] https://www.recfit.tas.gov.au/__data/assets/pdf_file/0006/440592/Tasmanian_Greenhouse_Gas_Emissions_Report_2023.pdf

In buildings, Tasmania's competitively priced and reliable electricity means that switching away from gas or liquid fuels is a cost-effective decision for many Tasmanian households and businesses. Tasmania's renewables-dominated electricity grid also means that electrification can significantly reduce emissions.

However, electrification will only be a viable option in some contexts. In particular, electrification may not be suitable, or may be cost prohibitive, for a range of industrial heating purposes, especially where flash heating, high temperatures and precise control is required. Natural gas is therefore likely to continue to play a role in Tasmania's energy mix for some time.

In the longer-term, Tasmania's decarbonisation pathway is likely to require the introduction of alternative fuel sources capable of meeting the requirements of industrial heating processes and providing clean energy alternatives in cases where electrification is not viable.

Importantly, Tasmania can leverage its competitive advantages in renewable electricity, water availability and biomass to produce its own renewable fuel alternatives. On-island production of renewable fuels has the potential to strengthen Tasmania's energy security by reducing our reliance on imported natural gas and LPG, while also protecting consumers against commodity shortfalls and price volatility driven by external events.

Hydrogen development

Hydrogen is an excellent energy carrier and can be used in a broad range of energy applications including as a fuel for transportation and as a substitute for natural gas. It can also be used as a chemical feedstock in a range of industrial applications.

Renewable energy can be used to electrolyse water to produce hydrogen and oxygen. This is commonly referred to as 'renewable' or 'green' hydrogen. Green hydrogen is recognised as an important enabler for the transition to a clean energy system with no greenhouse gas emissions.

A large-scale renewable hydrogen industry, using Tasmanian renewable energy to supply export markets and for local end-use, has the potential to provide significant benefits for Tasmania. This includes flow-on and indirect benefits, with large-scale renewable hydrogen developments expected to stimulate significant renewable energy and associated infrastructure investment.

The CSIRO estimates that clean hydrogen exports could directly support 16,000 jobs nationally by 2050, plus an additional 13,000 jobs in renewable energy infrastructure construction. Clean hydrogen production for both export and domestic use could generate more than $50 billion in additional GDP by 2050.[10]

Analysis conducted by GHD during planning for the Tasmanian Green Hydrogen Hub indicated that the project could contribute an average of 740 full-time equivalent jobs in management and maintenance such as engineers and technicians, while hub construction will provide work for local skilled trades like concreters, plumbers, fitters and electricians. It is also modelled to generate $1.2 billion in net benefits to the Tasmanian economy, derived from direct investment and indirect economic benefits.

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[10] https://www.csiro.au/en/about/challenges-missions/Hydrogen

Tasmania is ideally placed for the production of green hydrogen using its untapped renewable energy resources and fresh water. Green hydrogen can be produced, distributed and used locally in a range of applications or exported to international markets. While the cost of hydrogen production and distribution are currently relatively high compared with other fuels, these costs are expected to fall significantly as the scale of production increases and technologies develop.

The Government's vision is that by 2030, Tasmania will have become a significant exporter of green hydrogen. Importantly, export-sized production facilities will secure hydrogen supply to help support local Tasmanian businesses to transition to fully green production processes, which will help to retain national and international competitiveness (whether the hydrogen be in the form of hydrogen gas, liquid hydrogen, ammonia, methanol or other e-fuels).

In addition to large scale green hydrogen (and derivates) development, the Tasmanian Government is pursuing a range of initiatives to encourage and develop a domestic hydrogen market from locally produced sources in to assist with decarbonation of hard to abate industries and sectors. To this end, the Tasmanian Government has announced a further round of funding under the Tasmanian Renewable Hydrogen Industry Development Fund to assist the local renewable hydrogen industry to develop.

The Green Hydrogen Price Reduction Scheme (GHPRS) allocates up to $8 million to incentivise businesses intending to produce, sell and use green hydrogen within Tasmania. The GHPRS aims to bring the sale price of green hydrogen down to a level that is competitive with other energy or fuel sources to become an attractive zero emissions substitute for end users. This will help to lower the sale price for green hydrogen while the industry develops. It is expected that GHPRS will best support small to medium scale green hydrogen production projects within the range of 5-10 MW. An open process for Expressions of Interest concluded in late 2023, with announcement of the next steps due in February 2024.

Tasmanian Green Hydrogen Hub

A hydrogen hub is a precinct of industry and businesses producing and using hydrogen, including users from the energy, transport and industrial sectors. Co-locating production and usage in one place is a cost-effective approach using existing infrastructure and economies of scale in developing a local hydrogen industry.

The Tasmanian Green Hydrogen Hub (TGHH) will provide major benefits to Tasmanian businesses and the economy, confirming our status as a renewable energy powerhouse, and cementing access to developing global supply chains.

In January 2024, $70 million in funding from the Australian Government's Regional Hydrogen Hubs program was locked-in for the TGHH project meaning the project is now officially underway.

The Tasmanian Government is leading a consortium of partners including TasPorts, TasNetworks, TasWater, TasIrrigation and the Bell Bay Advanced Manufacturing Zone to deliver this project over the next four years.

The TGHH will provide common-user infrastructure including upgrades across port, water, and electricity transmission, as well as providing funding for appropriate project governance and market activation opportunities.

It will provide the necessary infrastructure for hydrogen proponents to establish green hydrogen and hydrogen derivatives production facilities at Bell Bay and enable the expansion of these facilities over time.

The first stage of the TGHH targets the development of hydrogen production of up to 300MW located within the Bell Bay Advanced Manufacturing Zone by early 2028.

The green hydrogen produced on site can be used to transition advanced manufacturing, heavy transport and energy intensive industries to renewable energy, as well as for export and wider domestic uses.

Bioenergy

Modern bioenergy is one of the most widely used renewable energy sources in the world and the Tasmanian Government is laying the foundations for making the most of this abundant resource through a new Bioenergy Vision for Tasmania.

Bioenergy is energy produced from organic matter including from agricultural, municipal, industrial and forestry waste and residue. Bioenergy can feed a wide range of energy needs including heating, fuels such as methane and transport fuels for cars, boats and planes, as well as electricity generation and industrial heat.

With more than 1.3 million tonnes of solid organic waste and residues and 7.8 million tonnes of liquid organic waste and residues produced in Tasmania each year from agriculture, industry, municipal and forestry sources, there is an existing payload of bioenergy fuel to draw upon to replace traditional fossil fuels in almost every energy market.

By taking this industrial by-product and using it for energy generation, we can reduce the levels of this abundant yet disregarded material going to landfill or waste disposal processing and direct it to generating energy for uses such as residential and commercial heating, electricity and transport.

The Government has also committed $10.1 million towards displacing fossil fuels used in Tasmanian Government-owned boilers with renewable alternatives, including bioenergy. Over the next three years, the government will start a program of upgrades and replacements of existing assets to reduce emissions and demonstrate leadership in adopting bioenergy solutions.

5. Conclusion

The Government is pursuing an integrated suite of policies aimed at positioning Tasmania to benefit from the clean energy transition that is underway globally. In taking this approach, we are very deliberately putting Tasmania first.

The Government's top priority will always be to ensure that Tasmanian's have access to reliable and affordable energy, including measures that directly reduce energy bills, and through energy efficiency initiatives and new energy technologies which enable consumers to take control of their energy use.

In addition, the Government is ensuring that there is sufficient investment in new renewable energy generation and transmission to meet Tasmania's growing energy needs and to ensure that Tasmania is able to take full advantage of the opportunities offered by the energy transition – as an attractive investment destination with a pathway to competitively-priced, reliable and clean energy.

The Government is also encouraging the development of alternative, low-carbon energy sources, including hydrogen and bioenergy, that have the potential to strengthen Tasmania's energy security and contribute to reduced greenhouse gas emissions.

6. Appendix I – Tasmania's participation in the NEM

With the proposal to progress interconnection with Victoria through Basslink, in the late 1990s, the then Government agreed to progress Tasmania's participation in the NEM.

To enable this to occur, transition arrangements were required to be authorised by the Australian Competition and Consumer Commission (ACCC) – these were wholesale contracts to support the stage roll-out of retail contestability, and changes to the National Electricity Code (now referred to as the National Electricity Rules) to accommodate Tasmanian-specific needs.

This was a fully public and transparent process, with many interested Tasmanian parties participating through submissions and public hearings. In 2001, the ACCC granted its authorisation of the transition arrangements. This created the path to Tasmania joining the NEM in 2005 (just ahead of Basslink commissioning in 2006).

As we look towards Tasmania's future energy needs, continued, and indeed further interconnection (through Project Marinus) with the NEM is a vital underpinning element – both from a physical perspective, and to provide the market-based architecture to enable new investment to take place.

The physical need for more interconnection

Basslink provides just over 450 MW of transfer capability to and from Tasmania, and is currently heavily utilised, generally transferring electricity into Victoria when Victorian prices are relatively high, and importing electricity to Tasmania when Victorian electricity prices are low.

Given the supply and demand balance for electricity in Tasmania currently, with an average rainfall year in Tasmania, Basslink would typically neither be a large net exporter or importer of electricity – flows would be relatively balanced.

More physical interconnection will be required if Tasmania is to capitalise on its very substantial renewable energy sources as part of the national energy transition. Our hydro-electric system is comprised of a mix of must-use, intermediate and long-term water storages. New renewables will add to the existing must-use component, and without additional ability to export that energy (or corresponding increases in on-island demand for it), there would be 'spill' of either new renewable energy or water – effectively, wasted energy.

This risk is apparent to potential investors, and the confirmed availability of interconnection over and above Basslink (which is currently largely accounted for) is a major risk mitigant for this investment to be enabled. Alternatively, renewable energy proponents risk being caught in a cycle whereby new generation will require identified new on-island load in order to proceed, and vice versa. This would likely result in Tasmania failing to capture the economic opportunities available to it from our renewable resources, or capturing those opportunities over much longer timeframes.

In this context, physically disconnecting with the NEM is not practical with Basslink in place. It would also run counter to the strategy of utilising our strong renewable resources as a source of economic advantage for the State.

Withdrawing from the NEM arrangements

The concept of being physically connected with the NEM, but not being a NEM region was an option considered at the time of the decision to pursue NEM participation, prior to the progression of Basslink. That option was not pursued by the then Government. Rather, NEM participation having regard to Tasmanian-specific needs was advanced, and ultimately agreed by the NEM jurisdictions and the ACCC.

Retaining (and indeed expanding) Tasmania's physical interconnection with Victoria, but withdrawing from the NEM framework (e.g. the AEMO operated spot market and dispatch mechanisms) is also not considered a feasible option as significant issues would arise. If Tasmania was no longer a NEM jurisdiction:

- the State would require a State-based merit order dispatch mechanism to be established in order to schedule generation in an efficient manner;
- there would be a major barrier to entry for new generation participants, and it would effectively destroy retail competition because of the barriers to entry for retailers operating in Tasmania (they would no longer be operating a NEM retail book, rather a NEM book and an entirely different Tasmanian book, which would be cost-prohibitive given the importance of scale economies in energy retailing);
- there would be no framework for Basslink operations, and no framework for the delivery of Project Marinus; and
- there would be no framework for the regulation of network prices (transmission and distribution), and State-based arrangements would be required (as was the case pre-NEM entry).

Retaining the NEM arrangements with regulatory interventions

The previous work on decoupling wholesale pricing outcomes in Tasmania from NEM prices (whilst remaining both physically connected to the NEM and operating within the NEM framework) identified major shortcomings with any structural/regulatory approach that interfered with the NEM arrangements.

These difficulties are arguably heightened with the passage of time. For example, there are now seven retailers operating in Tasmania, whereas at the time of the 2017 interventions there were just two, and there are two additional private sector wind farms that have a stake in spot market outcomes in the Tasmanian NEM region. The pipeline of future developments is now much more robust than seven years ago.

If the State's renewable energy advantages are to be delivered and further incremental improvement in retail contestability is to be delivered, retaining the 'standard' NEM arrangements will be very important.

A scenario where the Tasmanian generation sector experiences the downside (and customers experience the upside) of benign NEM wholesale prices (as existed in 2020 and

2021) but is excluded from the gains available when NEM wholesale prices are heightened, would be a major barrier to entry.

Whilst Tasmania has strong renewable energy resources, the market to attract the capital to exploit those resources is highly competitive (both within Australia and internationally). Creating sovereign risk by intervening in the NEM arrangements in Tasmania (even where such intervention is temporary, let alone ongoing bespoke regulatory arrangements) could place the State at a competitive disadvantage relative to other jurisdictions.

In relation to the retail sector, electricity retailers have varying bases for their retail strategies linked to their wholesale energy positions. Intervening in the wholesale market could deliver windfall gains or losses to market participants or have unintended consequences where retailers identify opportunities to 'game' the regulatory model.

Ameliorating temporal NEM pricing impacts

Remaining part of the NEM and retaining its core architecture does not prevent the Government of the day from ameliorating the impacts of NEM pricing in Tasmania for classes of customers from time-to-time, if it so chooses. This can be achieved by making specific payments to targeted customers directly, as the Government has done through the Winter Bill Buster Payment, the National Energy Bill Relief measures and through the concessions framework.

This approach:

- provides a more transparent and targeted approach with fewer opportunities for unintended impacts;
- does not disrupt the operation of the market;
- does not distort the incentives for investment by the private sector in Tasmania's renewables future or create sovereign risk; and
- provides much better control for the Government on the degree to which Tasmanian taxpayers provide such support, and the degree to which the Tasmanian community forgoes core government services, such as health, education, housing and public safety to fund subsidies to electricity users.

7. Appendix II – Tasmania's Energy Security Framework

Energy security for electricity is managed under the following legislation:

- The National Electricity Law - as applied in Tasmania under the *Electricity - National Scheme (Tasmania) Act 1999*
- The *Electricity Supply Industry Act 1995*
- The *Energy Co-ordination and Planning Act 1995*

There are two main aspects to electricity security – security of the network, and security of the energy supply.

TasNetworks is the owner and operator of the monopoly electricity network, and jurisdictional planner under the National Electricity Law. Network disruptions are managed either by TasNetworks (for disruptions limited to the distribution network) or by TasNetworks in conjunction with the Australian Energy Market Operator for significant disruptions to the transmission network within Tasmania, or with disruptions that impact more than one jurisdiction within the National Electricity Market.

Tasmania currently has the capacity to meet, on average, its annual electricity demand from on-island renewable resources. This capacity is supplemented by gas generation capacity at the Tamar Valley Power Station and from imports over the Basslink HVDC interconnector.

Tasmania's main source of electricity historically has been from hydro-electric generation and, despite the increase in wind generation, hydro continues to be the main source of electricity generation, and so hydrological risk remains the main focus for supply security.

Following the 2015-16 summer, after a period of low rainfall followed by a protracted outage of the Basslink interconnector, the Government established the Tasmanian Energy Security Task Force to advise Government on how it could better prepare for, and mitigate against, the risk of future energy security events. The Task Force's recommendations were accepted and adopted by the Government and the resulting Energy Security Risk Response Framework has operated since that time. It was initially adopted administratively, and in 2019 the Framework was formally included in the *Energy Co-ordination and Planning Act 1995* (ECP Act).

The Risk Response Framework included the establishment of two key roles:

- The functions and powers of the Monitor and Assessor are set out in Section 8B of the ECP Act
- The functions and powers of the Energy Security Co-ordinator are set out in section 8E of the ECP Act

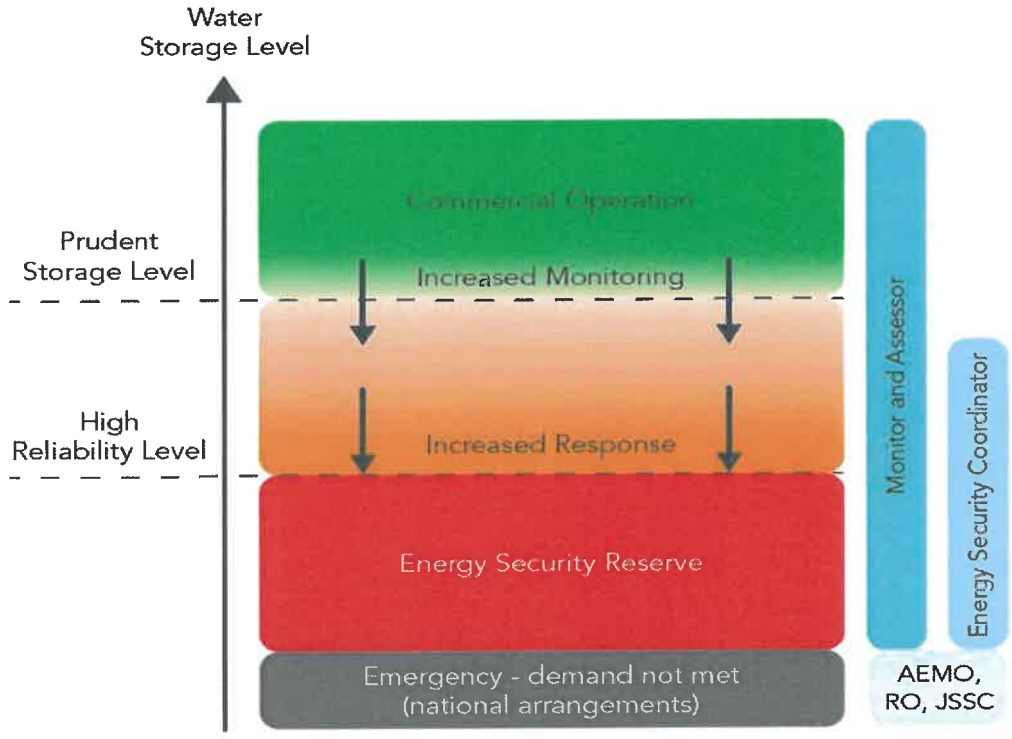
The Monitor and Assessor provides independent oversight and transparent public reporting on Tasmania's electricity security. Public reporting includes monthly 'dashboard' reports and an annual "water year" report each November. This approach aligns with the end of the high point for inflows to Hydro Tasmania's water catchments and best informs forecasting for the upcoming 12 month period.

The monthly 'dashboards' have been published since November 2017 and can be found at: https://www.economicregulator.tas.gov.au/about-us/energy-security-monitor-and-assessor/tasmanian-energy-security-monthly-dashboard

The annual 'Water Year' reports have been published since November 2017, and can be found at: https://www.economicregulator.tas.gov.au/about-us/energy-security-monitor-and-assessor/annual-energy-security-review

These monthly and annual reports look at energy in storage against two key profiles - the Prudent Storage Level (PSL) and the High Reliability Level (HRL). These two profiles map out levels of energy in storage in Hydro Tasmania's catchments, with levels varying over the year.

For any given month, the HRL specifies a level of energy in storage that would be sufficient to meet demand for at least six months without any support over Basslink. The PSL profile provides a further buffer, with extra capacity to maintain storages above the HRL even if there were to be a sequence of historically low inflows coinciding with a protracted Basslink outage.



When energy in storage for any given month is above the PSL, Hydro Tasmania is able to operate its storages in a fully commercial manner.

If energy in storage is below the PSL, then the Monitor and Assessor would increase the level of monitoring. If energy in storage is below the PSL, and the Monitor and Assessor also believes that it is reasonably possible that energy in storage will fall below the HRL, then the Assessor has the discretion to require Hydro Tasmania to develop a PSL recovery plan.

If energy in storage is below the PSL and the Monitor and Assessor believes that it is probable that it will fall below the HRL, then the Monitor and Assessor must require Hydro Tasmania to develop an HRL Recovery Plan.

Recovery plans are to include details of any strategies that Hydro Tasmania may implement for reducing the consumption of energy in storage and details of any strategies for alternative sources of energy supply.

Since the Risk Response Framework has been in place, there have only been two instances where Energy in Storage has closely touched upon or fallen below the PSL.

The first instance was in February 2019, following a very dry summer, where energy in storage came very close to the PSL. A recovery plan was not requested, however, Hydro Tasmania brought the Combined Cycle Gas Turbine at the Tamar Valley Power Station into service until Autumn and early winter rains replenished Hydro's storages.

The second time was in August 2022, when the Monitor and Assessor reported that "Exceptionally low July rainfalls have resulted in overall storage levels dropping marginally below the PSL threshold. While the energy security risk is not a concern at this stage, the Monitor and Assessor is receiving more frequent updates to allow increased monitoring to take place". Following very high inflows during October 2022, energy in storage returned to above the PSL, and the Monitor and Assessor reverted to regular monitoring activities.

Review of the PSL and HRL Profiles

The PSL and the HRL profiles are set by the Minister for Energy. The initial profiles were based on the recommendations of the Tasmanian Energy Security Task Force, which also recommended that these profiles should be reviewed if and when there are material changes to supply and/or demand.

In 2021, following the commissioning of the two new wind farms at Cattle Hill and Granville Harbour, the Monitor and Assessor undertook a review of the profiles and recommended some changes to account for increased wind generation, updated in-flow and demand inputs, and revised expectations of contributions from gas generation. A copy of the review can be found at: https://www.economicregulator.tas.gov.au/about-us/energy-security-monitor-and-assessor/review-of-high-reliability-level-and-prudent-storage-level-profiles

The revised PSL and HRL profiles were accepted, and the updated profiles were included in a new Ministerial Order issued by the Minister under the ECP Act.

8. Appendix III – References and links

The Tasmanian Economic Regulator's annual *Energy in Tasmania* reports provide an overview of Tasmania's electricity supply industry, NEM activity for the Tasmanian region and key performance information for entities in Tasmania's electricity and gas supply industries:
https://www.economicregulator.tas.gov.au/Documents/Energy%20in%20Tasmania%20Report%202022-22.PDF

The Tasmanian Economic Regulator also publishes an annual *Comparison of Electricity and Gas Prices Available to Small Customers in Australia*:
https://www.economicregulator.tas.gov.au/electricity/reports/price-comparisons/standing-offer-price-comparison-reports and an *Annual Energy Security Review*:
https://www.economicregulator.tas.gov.au/Documents/23%202630%20Annual%20Energy%20Security%20Review%202022-23.PDF

The 2017 Tasmanian Energy Security Taskforce Report, which underpins the current Energy Security Risk Response Framework in Tasmania:
https://www.stategrowth.tas.gov.au/energy_and_resources/tasmanian_energy_security_taskforce

The Australian Energy Regulator publishes a range of Performance Reports on the efficiency and effectiveness of energy markets: https://www.aemc.gov.au

Comprehensive information on the operation of the NEM is published by AEMO, including the biennial Integrated System Plan for the NEM: https://aemo.com.au/energy-systems/major-publications/integrated-system-plan-isp/2024-integrated-system-plan-isp

Information about national reform priorities and initiatives that the Tasmanian Government contributes to can be found on the Energy and Climate Change Ministerial Council's website: https://www.energy.gov.au/energy-and-climate-change-ministerial-council

The Tasmanian Government has also published a range of documents that provide further information on its strategies for developing renewable energy and related industries in Tasmania, including:

The Renewable Energy Coordination Framework, designed to coordinate and support the renewable energy growth required to achieve our Tasmanian Renewable Energy Target
https://recfit.tas.gov.au/__data/assets/pdf_file/0007/343618/Renewable_Energy_Coordination_Framework_May_2022_web.pdf

A draft document, Renewable energy development in Tasmania: a guideline for community engagement, benefit sharing and local procurement
https://www.recfit.tas.gov.au/renewables/guideline_community_engagement

The Tasmanian Green Hydrogen International Engagement and Export Strategy
https://www.recfit.tas.gov.au/future_industries/green_hydrogen/international_engagement_and_export

Tasmania's Future Gas Strategy, which sets out the government's vision for an industry-led transition away from fossil gas and towards renewable alternatives:
https://www.recfit.tas.gov.au/future_industries/future_gas_strategy

9. Appendix IV - Marinus and Battery of the Nation – links to key publicly available documents

Document	Date	Prepared by	URL
Feasibility of a second Tasmanian interconnector	2017	Dr John Tamblyn	https://www.energy.gov.au/publications/feasibility-second-tasmanian-interconnector
Business Case Assessment Report	December 2019	TasNetworks	https://www.marinuslink.com.au/business-case-assessment/
The Economic Contribution of Marinus Link Supporting Transmission	2019	Ernst and Young (OBO TasNetworks)	https://www.marinuslink.com.au/wp-content/uploads/2019/12/The-Economic-Contribution-of-Marinus-Link-Supporting-Transmission.pdf
RIT-T, including: • *Public Specification Consultation Report (2019)* • *Public Assessment Draft Report (2020)* • *Supplementary Analysis Report (2020)* • *Public Assessment Conclusions Report (2021)*	2019-2021	TasNetworks and MLPL	https://www.marinuslink.com.au/rit-t-process/
AEMO ISP, including: 2018 ISP 2020 ISP 2022 ISP Draft 2024 ISP	2018-2023	AEMO	AEMO website https://aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp
The case for deep storage: why the NEM needs Battery of the Nation	2020	Hydro Tasmania	https://www.hydro.com.au/docs/default-source/clean-energy/battery-of-the-nation/the-case-for-deep-storage.pdf?sfvrsn=9ee49528_8
Marinus Link and Battery of the Nation - A Current Situation Assessment	February 2019	Tasmanian Government	https://www.stategrowth.tas.gov.au/__data/assets/pdf_file/0007/185839/Current_Situation_Assessment_-_Marinus_Link_and_Battery_of_the_Nation.pdf
Marinus Link Project Agreement	2019	The Tasmanian and Australian governments	https://federalfinancialrelations.gov.au/agreements/project-agreement-marinus-link
Commonwealth-Tasmania Bilateral Energy and Emissions Reduction Agreement Memorandum of Understanding	2020 Updated in 2022	The Tasmanian and Australian governments	https://www.energy.gov.au/government-priorities/Energy-and-emissions-reduction

Document	Date	Prepared by	URL
Federation Funding Agreement – Support for Project Marinus & the delivery of Tarraleah Hydro Power Scheme Redevelopment	April 2022, updated June 2023.	The Tasmanian and Australian governments	https://federalfinancialrelations.gov.au/agreements/support-project-marinus-and-delivery-tarraleah-hydro-power-scheme-redevelopment#:~:text=Power%20Scheme%20Redevelopment-,Support%20for%20Project%20Marinus%20and%20the%20delivery%20of%20Tarraleah%20Hydro,Tarraleah%20Hydro%20Power%20Scheme%20Redevelopment