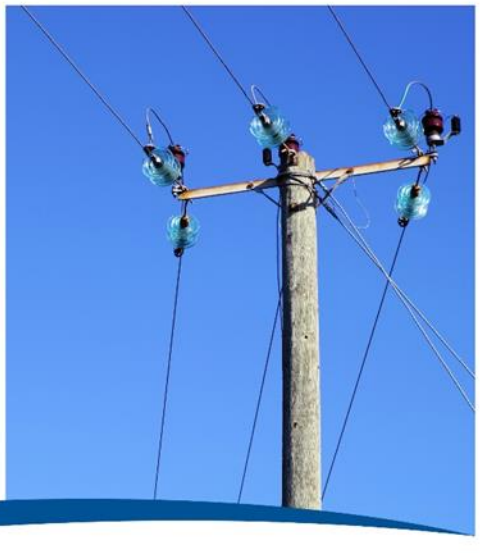
Low Cost

Reliable

Clean Energy

Marinus Link
Battery of the Nation

Current Situation Assessment



Department of State Growth

Tasmanian Government

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Minister's Foreword

Australia's electricity market has started a period of dramatic change, and Tasmania is well positioned to play its part. Over the next half a century, the source of electricity in Australia's National Electricity Market is expected to transform from one dominated by coal generation to a far more diverse combination of renewables, thermal (natural gas and some coal), hydro and storage (both electrochemical batteries and pumped hydro).

Managing this transition in an orderly and affordable way is a critical challenge facing all governments in Australia. I have been proud to be an active member of the COAG Energy Council, which has a forward looking and comprehensive suite of projects and investigations underway that will help guide Australia's energy future.

That work is telling us important things – in the next three decades, more than a quarter of the NEM's installed generation capacity is due to reach the end of its technical life; over five decades, that figure is even higher.

We will require significant investment to fill the emerging gap, and making sure this investment is the best possible combination of generation and storage, at the lowest price, is the key to transforming our electricity system while ensuring that prices are as low as possible, reliability in supply is maintained and the greenhouse gas emissions from our stationary energy sector are as low as possible.

These are national challenges, and they require national solutions, but Tasmania has a critical part to play. The impacts in Tasmania, with our plentiful natural resources and the work we've already done in shoring up our energy security, will come more in the form of opportunities than challenges, making this a very exciting time for our State.

Our work so far shows that Tasmania has what other states need – low cost, reliable, clean electricity and that this will be needed particularly as older technologies are retired. Because of our natural advantages and previous investments, we have some of the best renewable resources in the country and we have existing infrastructure that can be leveraged to complement new technologies. These are nation-building projects for Australia's electricity sector and state-building projects for Tasmania's economic development.

Tasmania is ready and willing to play its part in the transformation. Tasmania can offer the nation an affordable and reliable source of renewable energy as part of the solution that it needs; the nation can offer Tasmania jobs and investment in a 21st century energy industry.

There are still challenges to be overcome in this transition, and we will work with the Australian and other state governments to address these challenges and find ways forward.

This document presents the Hodgman Liberal Government's assessment of the current situation in relation to Project Marinus and the Battery of the Nation project. This includes consolidation of the inaugural *Integrated System Plan* and *Coordination of Generation and Transmission Investment* review, TasNetworks's *Initial Feasibility Report* into additional Bass Strait Interconnection and Hydro Tasmania's *Future NEM State Analysis*. The concepts and matters outlined here will be developed into a major stream of my *Tasmania First Energy Plan.*

Guy Barnett MP
Minister for Energy

List of Abbreviations

ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ARENA	Australian Renewable Energy Agency
BotN	Battery of the Nation
CEC	Council of Australian Governments (COAG) Energy Council
COGATI	Coordination of Generation and Transmission Investment
ESB	Energy Security Board
ESOO	Electricity Statement of Opportunity
FCAS	Frequency Control Ancillary Services
GW	Gigawatt
GWh	Gigawatt hour
IFR	Initial Feasibility Report - TasNetworks
ISP	Integrated System Plan
MW	Megawatt
MWh	Megawatt hour
NEM	National Electricity Market
NPV	Net Present Value
PV	Photovoltaic
RAB	Regulated Asset Base
REZ	Renewable Energy Zone
SRAS	System Restart Ancillary Services
UNGI	Underwriting New Generation Investment
VRET	Victorian Renewable Energy Target

Executive Summary

Additional Bass Strait electricity interconnection (Marinus Link) and pumped hydro energy storage have been identified by the Australian Government as major initiatives that can materially assist in the orderly transition of the National Electricity Market (NEM), contributing to reliable supply in a cost-effective way.

There is an opportunity for governments to act now to take control of the energy transition that is happening in Australia and ensure it occurs in a low cost way while maintaining reliability and limiting greenhouse gas emissions. Expediting design, approvals and planning for Battery of the Nation and Marinus Link and making sure these projects are viable options when the NEM needs them is an important action in managing this transition.

Tasmania is willing to explore opportunities to bring these projects to completion to assist with the reliable and affordable supply of electricity in the national interest, if arrangements can be put in place to ensure Tasmanian electricity customers do not bear the cost of benefits provided in other states.

The Tasmanian Government has already committed significant resources to fund feasibility studies and investigations on Marinus Link and Battery of the Nation. Those studies have shown that there are credible scenarios where Marinus Link and Battery of the Nation can produce positive electricity market benefits from the mid-2020s, but that most of those benefits are to the broader NEM, rather than to Tasmania.

Development of the projects could have significant economic benefits to Tasmania. Total investment in Tasmania of Marinus Link would exceed $600 million just for the new link. Direct and indirect jobs in the construction phase would be more than 500, with more than 400 of these being in North West Tasmania. More interconnection would also stimulate new investment in Battery of the Nation and related renewable generation and storage systems in Tasmania and Victoria, with direct and indirect jobs estimated to reach 650 at the peak of construction of these flow on projects.

Current policy, regulatory and market settings make it difficult to develop business cases that reflect, monetise and allocate all of the benefits produced by the projects, including broader NEM benefits, although these settings are currently under review and are likely to change. Financial arrangements to de-risk the projects and carry them forward while market settings adapt, that protect Tasmanian customers, are required.

Failure to bring Battery of the Nation projects to the NEM via Marinus Link could see more expensive forms of generation fill the emerging reliability gap. This would ultimately come at a cost to all mainland NEM customers through higher prices than they would otherwise pay. It also risks failing to maintain supply reliability increasing the risk of incidents such as the one that occurred on Friday 25 January 2019, when more than 200,000 Victorian homes and businesses had their power cut or limited. A second Bass Strait interconnector could have prevented outages occurring on that day.

The long lead times associated with the projects (indicatively eight years from feasibility to operation) mean that governments need to be acting now to ensure that reliable and affordable supply options are available under these credible NEM futures.

The Tasmanian Government will reserve its right to decide whether to proceed to construction until it is satisfied that the best interests of Tasmanian electricity customers and taxpayers will be served by the projects.

Australia's energy future

Australia's energy supply system is facing a period of transition and uncertainty. By the middle of this century, it is likely that almost a third of the coal-fired electricity generation that supported Australia's growth in the 20th century will have reached the end of its economic life and will be facing retirement. To fill the gap this will leave, Australia will need to identify reliable and affordable investments that assist in meeting our emissions reduction obligations under international agreements.

The current situation

In the short term, Australia's energy system is already beginning to face the strains that will increase over the coming decades. Events that place stress on the system are threatening to exceed the network's ability to ride through and maintain supply.

In Victoria in the summer of 2018-19, there have already been periods of supply shortfall affecting reliability and a tight supply/demand balance for some periods has seen administered price caps in the wholesale market. Over time, these pricing events will affect the average prices that customers are asked to pay.

These events were predicted in the Energy Security Board (ESB) *Health of the National Electricity Market* reports in 2017 and 2018. The 2018 report summary is shown in Table 1.

Table 1: Current status and forward outlook for the NEM

	Current status	**Outlook**
Affordability and satisfied consumers	Critical	Moderate
Secure electricity system	Critical	Critical
Reliable and low emissions electricity supply	Moderate	Critical
Effective development of open and competitive markets	Moderate	Good-Moderate
Efficient and timely investment in networks	Moderate-Critical	Moderate-Critical
Strong but agile governance	Critical	Moderate-Critical

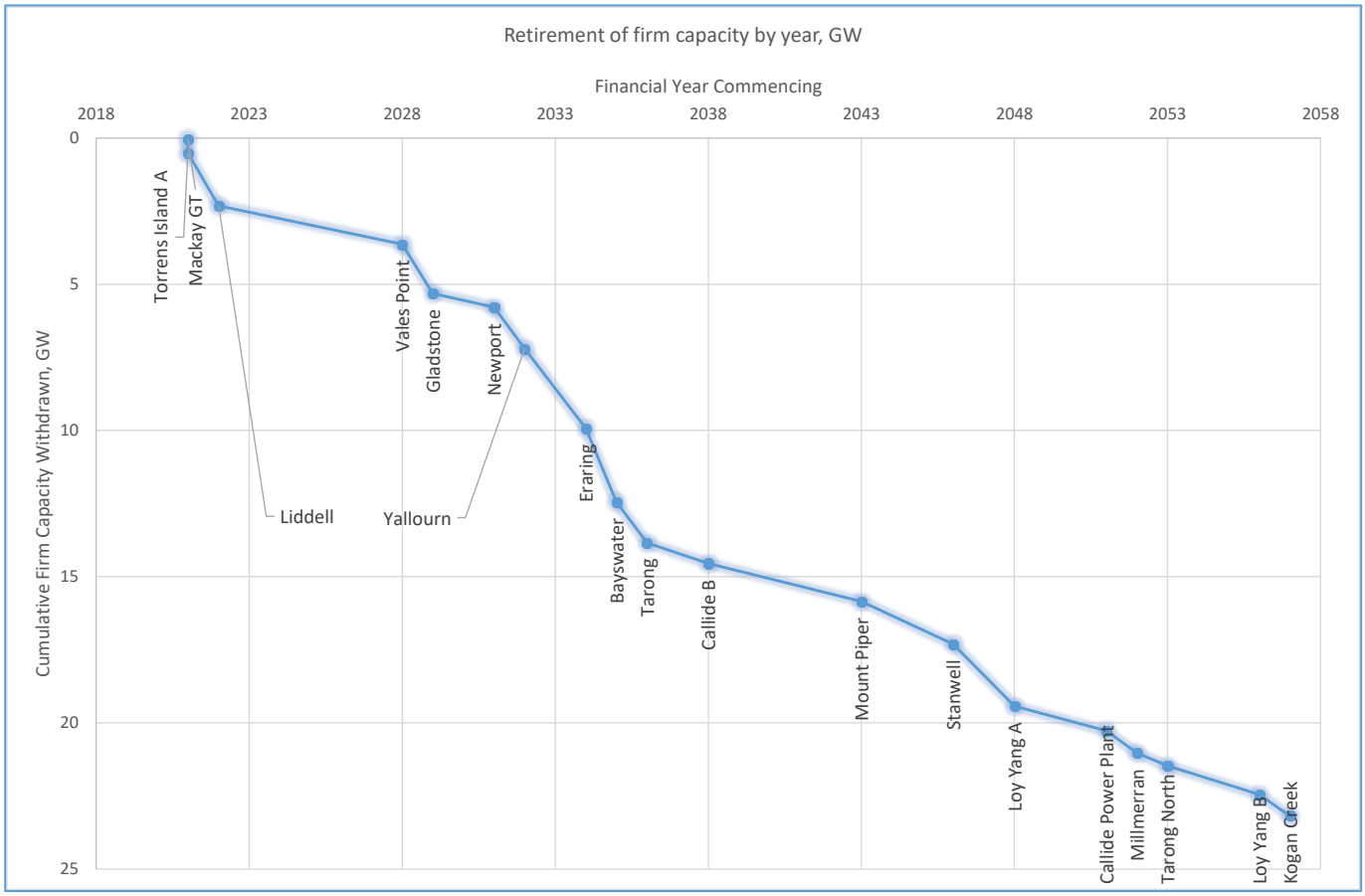
SOURCE: ESB *Health of the National Electricity Market 2018*, December 2018.

In relation to reliability, the report went on to say that "As a result of the changes already underway, the NEM no longer responds to everyday disruptions in the same way that it used to. Changes in the generation mix and patterns of consumption affect the ability of the system to remain in a secure state in the event of credible disruptive events. While some risks have been identified and changes implemented, many issues, and the best way in which they should be managed in the longer-term, are yet to be resolved."

Longer term planning

Under the direction of COAG Energy Council (CEC), the ESB has been examining Australia's energy future and the measures that are necessary to ensure an orderly transition. As part of this process, CEC commissioned AEMO to complete the first Integrated System Plan to forecast the overall transmission system requirements of the NEM over the next 20 years.

Figure 1: Cumulative retirement of scheduled generator capacity



SOURCE: AEMO 2018 ISP Assumptions workbook

In order to do this, AEMO also modelled the most efficient combination (from a resource cost perspective) of generation, network and interconnection and energy storage required to meet Australia's future electricity needs.

> The modelling shows that retiring coal plants can be most economically replaced with a portfolio of utility-scale renewable generation, storage, DER, flexible thermal capacity, and transmission.
>
> The analysis projects the lowest cost replacement (based on forecasted costs) for this retiring capacity and energy will be a portfolio of resources, including solar (28GW), wind (10.5 GW) and storage (17 GW and 90 GWh), complemented by 500 MW of flexible gas plant and transmission investment. This portfolio in total can produce 90 TWh (net) of energy per annum, more than offsetting the energy lost from retiring coal fired generation.

No one single project will supply all of this portfolio. Many different projects will be required and key projects – for instance Snowy 2.0 and Battery of the Nation – will both be required, as well as other projects that are yet to even be conceived.

Predicting the pace of change

Many factors may see these changes accelerated and governments and the market will need to be ready to fill the gap. For instance, factors that could see the timeframe to require new investment brought forward include:

- Commercial and branding decisions of owners;
- Revenue sufficiency as new generation takes market share; or
- Catastrophic plant failure with older generators needing to work harder as other plant is withdrawn.

Because the ISP used a resource cost model and assumed economic efficiency, none of these factors have been taken into account. The Tasmanian Government understands that AEMO is doing further work on this issue.

Further, market and policy factors may lead to the displacement of other generation even where that generation is operational and has not reached the end of its useful life. State-based emissions reduction targets and renewable energy incentive schemes, together with the declining cost of renewable generation, may see market penetration by distributed and semi-scheduled generation at a faster rate than the assumed retirement or withdrawal of thermal generation.

Victoria's VRET scheme could drive the development of up to 950MW of renewable generation, and the Victorian Government has announced its intention to incentivise the installation of 1300MW of new solar PV generation. This much new unscheduled generation would require firming to ensure ongoing reliable supply.

This combination of factors creates a significant, but unquantified, pressure on reliable supply in regions of the NEM where the amount of firm capacity will reduce in the coming decades.

In the Tasmanian region, the predominance of hydro generation means that these issues are far less likely to occur.

A role for Tasmania in the future NEM

The outlook for Tasmania's energy system is quite different to the rest of the NEM. The challenges that are beginning in the NEM, as it transitions from end-of-life reliable but high emissions coal to new, cleaner technologies, are not relevant in Tasmania.

Because of Tasmania's historical investments in hydropower, and then wind with the advent of Basslink, a similar transition is not required. Indeed, new renewable generation projects will improve Tasmania's energy security and energy balance to the point where future opportunities will be focussed on the services Tasmania can provide the rest of the country.

Tasmania's energy security

Tasmania's reliance on hydroelectricity has traditionally made it vulnerable to hydrological events - long droughts, which in more recent years have been significantly beyond historically extreme ranges.

During 2015-16 Tasmania experienced one of the most significant energy security challenges in its history. The combined impact of two extreme events – record low rainfall during spring together with the Basslink interconnector being out of service – resulted in Hydro Tasmania's water storage levels falling to historically low levels.

The Tasmanian Government responded in both the short and long term, implementing immediate measures including deploying additional on-island generation and bringing the combined cycle gas turbine at the Tamar Valley Power Station back online. The immediate response ensured that supply was maintained and a combination of winter rains in 2016 and the return to service of Basslink eliminated the short to medium term risk to energy security.

The Government also established an Energy Security Taskforce chaired by market leader Mr Geoff Willis, to identify ways to help future proof Tasmania from the types of energy security challenges the State experienced in 2015-16. The Taskforce issued its Final Report in August 2017 and it included five key recommendations:

1. Define energy security and responsibilities.
2. Strengthen independent energy security monitoring and assessment.
3. Establish a more rigorous and more widely understood framework for the management of water storages.
4. Retain the TVPS as a backup power station for the present and provide clarity to the Tasmanian gas market.
5. Support new on-island generation and customer innovation.

The Report identified 36 separate actions to implement these key recommendations. Most of these recommendations have now either been completed or are on track for completion.

This means that Tasmania's energy security situation is significantly different and more secure than it was in 2014. Additional on-island generation, forecast to be brought on-line on a commercial basis, will also further strengthen Tasmania's energy balance and energy security.

This has significant implications for additional interconnection across Bass Strait. Whereas previous studies have been triggered by energy security considerations (for instance the Tamblyn Review), the case for Marinus Link will be more focussed on the role that Tasmania can play in supporting energy security and reliability in the rest of the NEM. Being an island state, additional interconnection will always have a marginal benefit for Tasmania's energy security, but given the significant response that has already occurred to support energy security this is now a lower order benefit.

Reliable supply and firm energy

The emerging technologies that will replace end-of-life generation are a mix of types of energy sources and storage solutions, particularly wind, solar, gas, batteries and pumped hydro.

Storage will become a critical element in the energy mix because the generation capacity that is being retired is typically "firm" generation – it is available on demand and can be ramped up and down as needed – whereas the new generation types are "unfirm" – they generate when the energy resource is available. Sometimes, these new generators will produce more electricity than customers need, for instance on a very sunny windy day, whereas at other times they will not generate as much – at night, for instance.

Storage is one technology that can smooth out these generating patterns by absorbing excess electricity when resources are plentiful and making it available on demand.

Tasmania is uniquely placed to provide this type of solution.

Water in Tasmania's hydro storages is already a type of battery, and some reconfiguration and investments in the existing system can make it even more suited to supporting reliable supply. Adding new pumped hydro energy storage, where excess electricity is soaked up by pumping water back into storages for later use, would add significant capacity for reliable supply.

Tasmania's renewable resources, particularly wind, are recognised as among the best in Australia. The North-West Tasmanian Renewable Energy Zone in particular has been earmarked as a site ready for high priority development. Combining wind and storage creates a significant source of firm, reliable generation that can help address the emerging gap in the NEM.

Critically though, using Tasmania's hydro storages and new pumped hydro can also support the development of renewable generation in other parts of the NEM, such as Victoria, because the firming service and the generators do not need to be collocated. Firming services will be an enabler of new generation which can happen on a commercial basis wherever natural resources and economic conditions favour it.

Providing this reliable supply to the NEM would require additional interconnection across Bass Strait. The affordability of this option compared to other alternative ways of ensuring reliability on the mainland has now become the key driver for additional interconnection.

Whereas previously Tasmanian Governments have looked at interconnection from the perspective of the value to Tasmania, looking forward the question will be more about the value to the nation.

Current Activity

Energy Security Board program of work

The Energy Security Board (ESB), chaired by Dr Kerry Schott AO, was established by the COAG Energy Council (CEC) in August 2017. The Board's role is to coordinate the implementation of the reform blueprint produced by Australia's Chief Scientist, Dr Alan Finkel AO. Expected key outcomes are:

- increased security;
- future reliability;
- rewards to customers for reductions in their demand;
- NEM transition process should be orderly;
- system and network planning must support the transition; and
- strong governance to achieve a more adaptable system that can better integrate emerging technology.

In order to deliver these outcomes the ESB has developed a work plan under the direction of the CEC.

Integrated System Plan and Action Plan

AEMO released its initial Integrated System Plan (ISP) in July 2018.

The ISP provides an underlying planning framework for the NEM which is crucial for an efficient and coordinated transition of the market as levels of renewable energy increase and existing thermal generation exits the market through plant retirements. It identifies critical infrastructure projects in three groups, with group one being immediate priority projects and group 3 being longer term, more strategic but longer lead time projects.

The ISP also identifies Renewable Energy Zones for targeted renewable energy development, including four Tasmanian candidate zones in Tasmania in the North West, North East, King Island and Midlands/Central Highlands.

The ISP supports the strategic investigative work being carried out through Battery of the Nation and Project Marinus, and indicates strengthened interconnection would be beneficial if further renewable energy development in Tasmania delivers the potential value highlighted by Battery of the Nation studies.

The ESB released its plan for converting the ISP into action in December 2018. The Action Plan made 12 recommendations. Broadly, the recommendations are aimed at accelerating the process for bringing ISP projects into the NEM. The recommendations included considering NEM Rule changes to allow ISP projects to be fast tracked and establishing a Fund that could be used to allow projects to commence design and approvals ahead of the completion of the market benefits test.

Coordination of Generation and Transmission Investment (COGATI) Review

Also in December 2018, the Australian Energy Market Commission (AEMC) released its final report into the *Coordination of Generation and Transmission Investment* (COGATI). The COGATI report informs the ISP action plan report and contains much of the detail required to implement the action plan.

The COGATI final report proposes five stages for reform. Stages 1 and 2 are in regard to actioning the ISP, with the recommendations intended to streamline, remove duplication, and de-risk the transmission planning and investment decision-making process.

Infrastructure Australia – 2019 Infrastructure Priority List

On 14 February 2019, Infrastructure Asutralia (IA) released its 2019 Infrastructure Priority List. National Electricity Market (future connectivity and reliability) has been added to the list as a High Priority national initiative.

The 2019 Priority List notes that "In the medium to longer term, there is an opportunity to improve the connectivity and reliability of the National Electricity Market (NEM). In light of retiring coal-fired generation and various government renewable energy commitments, improved connectivity across NEM regions will make better use of renewable resources, and more efficiently meet operational demand. Additional connectivity would also improve reliability by providing access to energy storage devices."

The initiative was identified by IA itself for addition to the Priority List, for the reasons outlined in the ISP. It identifies the opportunity as applying to increased interconnection between Qld-NSW; NSW-Vic-SA; and Vic-Tas via Marinus Link.

Infrastructure Australia's proposed next step is to identify proponents to deliver on this opportunity. Project Marinus represents a proponent seeking advance one of these opportunities.

TasNetworks – Marinus Link Initial Feasibility Report (IFR)

TasNetworks has completed an Initial Feasibility Report (IFR) on Marinus Link, with funding assistance from ARENA.[1] In order to complement the ISP and to ensure maximum transparency, TasNetworks has principally used ISP scenarios as the inputs into its analysis. The small number of divergences from ISP assumptions are clearly set out in the report and relate to data where TasNetworks is able to produce a more refined model than the ISP, such as Tasmanian hydrological flow patterns.

The key findings of the IFR are as follows.

[1] TasNetworks, *Marinus Link Initial Feasibility Report*, December 2018.

A second Bass Strait interconnector would be a strategic interconnection investment providing NEM-wide economic benefits

Marinus Link would provide value by enabling substitution of lower cost Tasmanian hydro generation, pumped hydro storage and competitive renewable resources for higher cost thermal and renewable generation in mainland regions of the NEM. It would enable cost-effective dispatchable on-demand generation and a range of power system stability services to firm and support the NEM's transition to renewable energy resources.

Marinus Link would unlock broader economic value in regional communities in Tasmania and Victoria

In Tasmania, construction and operation of Marinus Link is estimated to provide economic stimulus of over $600 million, with more than 500 direct and indirect jobs during peak construction and thousands more in related projects. More than 400 of these jobs are expected to be located in North West Tasmania.

In addition, significant economic stimulus would also arise from the new investment in renewable energy projects that it enables. At the peak of flow on investment, this could result in more than 150 direct and 650 indirect jobs in construction and more than 200 direct and indirect jobs in operation.

In Victoria, construction and operation of Marinus Link is estimated to provide economic stimulus of over $1 billion, with more than 900 direct and indirect jobs during peak construction.

The link will be technically feasible

A range of studies has now demonstrated that a 600MW single link, or a 1200MW link delivered in two 600MW stages, will be technically feasible. While a larger single link may be possible, the Tasmanian and Victorian power systems have been designed to remain stable and reliable with a 600MW interconnector, including if a single 600MW link should drop out unexpectedly. Building in 600MW increments best fits within the existing reliable design of the power system.

The Initial Feasibility Report also found that there are routes for Marinus Link that are feasible and are reasonably likely to obtain environmental and planning approvals.

Marinus Link has a positive economic value under a range of scenarios

The Initial Feasibility Report assessed the economic case for Marinus Link coming online with 600MW being available from 2025, and a further option of an additional 600MW coming online from 2028.

Assessed against the *ISP Fast Change scenario*, a 600MW link was found to have an NPV of $490 million, and a 1200MW link was found to have an NPV of $482 million.

The ISP Fast Change scenario assumes that thermal coal-fired generation withdraws from the NEM ahead of its economic life on the basis that this retirement is required to meet a higher emissions reduction. The Neutral scenario assumes that coal plant is operated until the end of its economic life. However, as outlined above, there are a range of factors in addition to emissions reduction that could see coal retirements occur earlier than the Neutral scenario and more in line with the fast change scenario. The ISP Fast Change scenario is presented as a proxy for the range of possible scenarios under which earlier coal retirement might occur.

A summary of the present value of benefits and costs (over a 25 year assessment period) for Marinus Link coming online in 2025 and 2028, under the ISP Fast Change scenario, is shown in Table 2.

A range of other market benefits, including competition benefits, have not yet been valued. A range of non-electricity market benefits have also not been valued, such as the potential for additional telecommunications services and associated competition benefits in that sector.

When assessed against the *ISP Neutral scenario*, either a 600MW or 1200MW link were found to have a positive NPV from the mid-2030s, consistent with the ISP Neutral assumption of significant coal withdrawal at that time. Further, the NPV remains positive for either a 600MW or 1200MW link (when timed to coal withdrawal) if Snowy 2.0 is included in the modelling.

Table 2: Present Value assessment of Marinus Link under ISP Fast Change scenario (25 years)

	600MW Link	**1200MW Link**
Component	**Value ($m)**	**Value ($m)**
Benefits		
Wholesale energy market	1 605	2 366
Energy spill	127	131
Energy security	49	49
Renewable Energy Zone augmentation cost savings	0	40
Ancillary services	54	54
TVPS stays in service	40	40
Total Benefits	**1 875**	**2 680**
Total Costs[1]	**1 385**	**2 198**
Net Present Value	**490**	**482**

1. Costs and benefits for NPV analysis are P50 estimates so as to compare like with like. Actual project costs are subject to 30% uncertainty and contingency and so the NPV analysis cost estimates may differ from project cost estimates.

The Initial Feasibility Report shows that Marinus Link has positive economic benefits if the commencement of its operation coincides with the retirement of approximately 7GW of coal-fired generation.

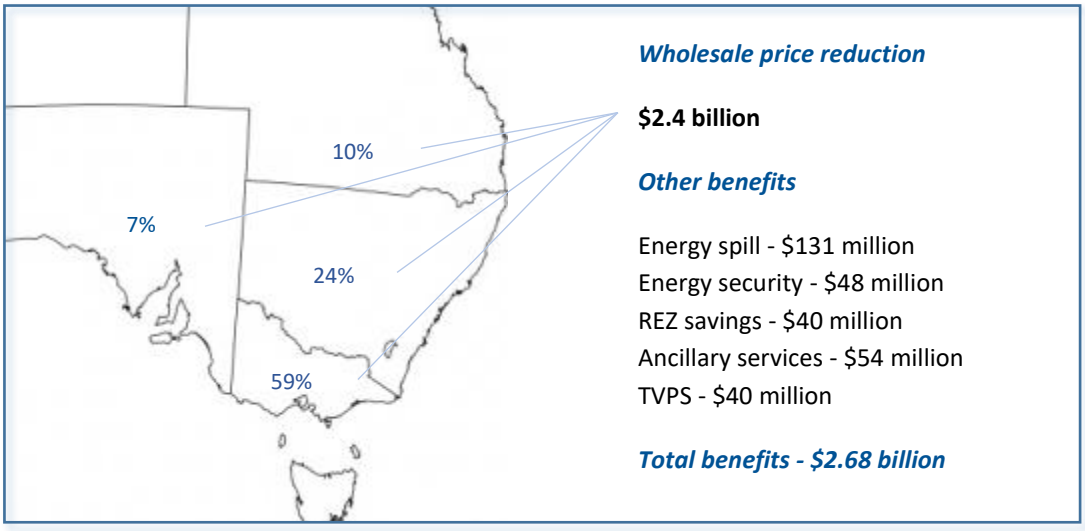
It is therefore likely that Marinus Link will be a viable economic proposition at some stage in the next 15 years, but the exact timing remains unknown (and possibly unknowable within the lead times required for the project and the requirement that retirements are notified only three years ahead). Given the economic proposition appears to be show that Marinus Link will be positive in the future, moving to the next stage of development would create significant real option value while preserving flexibility in the timing of final delivery. Advancing the project to being final investment decision ready, while not making a final commitment to advancing beyond that stage, is the mechanism to create this option value.

Most energy market benefits would be realised in mainland NEM regions, with Marinus Link supporting lower cost energy outcomes to meet mainland NEM customer demand

The Initial Feasibility Report assessed the *market benefits* of Marinus Link over a 25 year horizon.

Wholesale energy market benefits reflect the reduction in NEM wholesale market prices that occurs because of avoided new capital or fuel costs with Marinus Link in place, compared to what would occur without it. This includes significant reduction in fuel costs associated with new gas-fired generation, which would be the next most affordable option for reliable supply in the absence of Marinus Link. The breakdown of wholesale energy price reductions by region is shown in Figure 2.

Figure 2: Allocation of approximate wholesale energy price reductions resulting from a 1200MW Marinus Link (25 years)



SOURCE: TasNetworks, Initial Feasibility Report, December 2018

Because Tasmania will not see generator withdrawal in the same way as the rest of the NEM, Tasmania does not capture any wholesale energy market benefits through the introduction of Marinus Link. However, a number of other, lesser, energy market benefits would accrue to Tasmania, including:

- Energy security is the cost of running the Tasmanian electricity system differently if there was a prolonged Basslink outage with and without Marinus Link. The cost is largely the cost of additional gas fuel.
- Ancillary services – these have been conservatively estimated at $12M for Frequency Control Ancillary Services (FCAS) and System Restart Ancillary Services (SRAS). These benefits would be shared between Tasmania and the rest of the NEM.

There are also a set of benefits that, while they might occur in Tasmania, will benefit the rest of the NEM through lower wholesale prices, because they will result in savings to the cost of generation that will be exported from Tasmania because it is not required in Tasmania. These benefits include:

- Avoided energy spill, through having less spill in run-of-river systems because those systems can be operated more efficiently with more export and import opportunities;
- REZ augmentation cost savings, which arise because some of the transmission system augmentation required to facilitate Marinus Link would also be required to facilitate one or more REZ in Tasmania.
- Tamar Valley Power Station (TVPS) stays in service – increased export opportunities into a region that would otherwise require new gas generation creates additional commercial opportunities for combined cycle gas at the TVPS.

The breakdown of customer benefits to the regions in which they occur is shown in Table 2.

Table 3: Allocation of benefits, 1200MW Marinus Link, ISP Fast Change Scenario (25 years)

Benefits	Tasmania	Rest of NEM
Wholesale energy market		2 366
Energy spill		131
Energy security	49	
Renewable Energy Zone augmentation cost savings		40
Ancillary services[1]	27	27
TVPS stays in service		40
Total Benefits	**76**	**2 604**
Share of Benefits	**2.8%**	**97.2%**

1. Notionally splitting AS benefits 50:50 – although noting that system restart benefits are more likely to accrue in other NEM regions than Tasmania, which has a surplus of restart ancillary service available.

The Initial Feasibility Report economic modelling shows that more than 90 per cent of the customer benefit of Marinus Link goes to mainland NEM regions and less than 10 per cent to Tasmania.

Hydro Tasmania - Analysis of the Future NEM

As one of a suite of papers being prepared by Hydro Tasmania with assistance from ARENA, the Analysis of the Future NEM report made key findings in relation to Battery of the Nation as follows.

Significant hydropower potential

Tasmania's extensive and established hydropower system is well-placed to contribute to the challenges facing the energy system with proven, reliable, dispatchable renewable energy backed by Hydro Tasmania's extensive experience developed over 100 years.

Tasmania's hydropower assets are currently primarily focussed on long term energy security for the state and most plant are optimised to provide baseload power to Tasmania. However, with the right investment Tasmania can repurpose existing elements of the hydropower system to store energy when sun and wind energy are abundant, and draw on this storage to deliver power to the nation when weather conditions limit wind and solar generation.

Increasing the flexibility of a greater proportion of hydropower assets in Tasmania would result in more cost-effective energy dispatch and lower prices for Australian consumers.

Significant wind potential

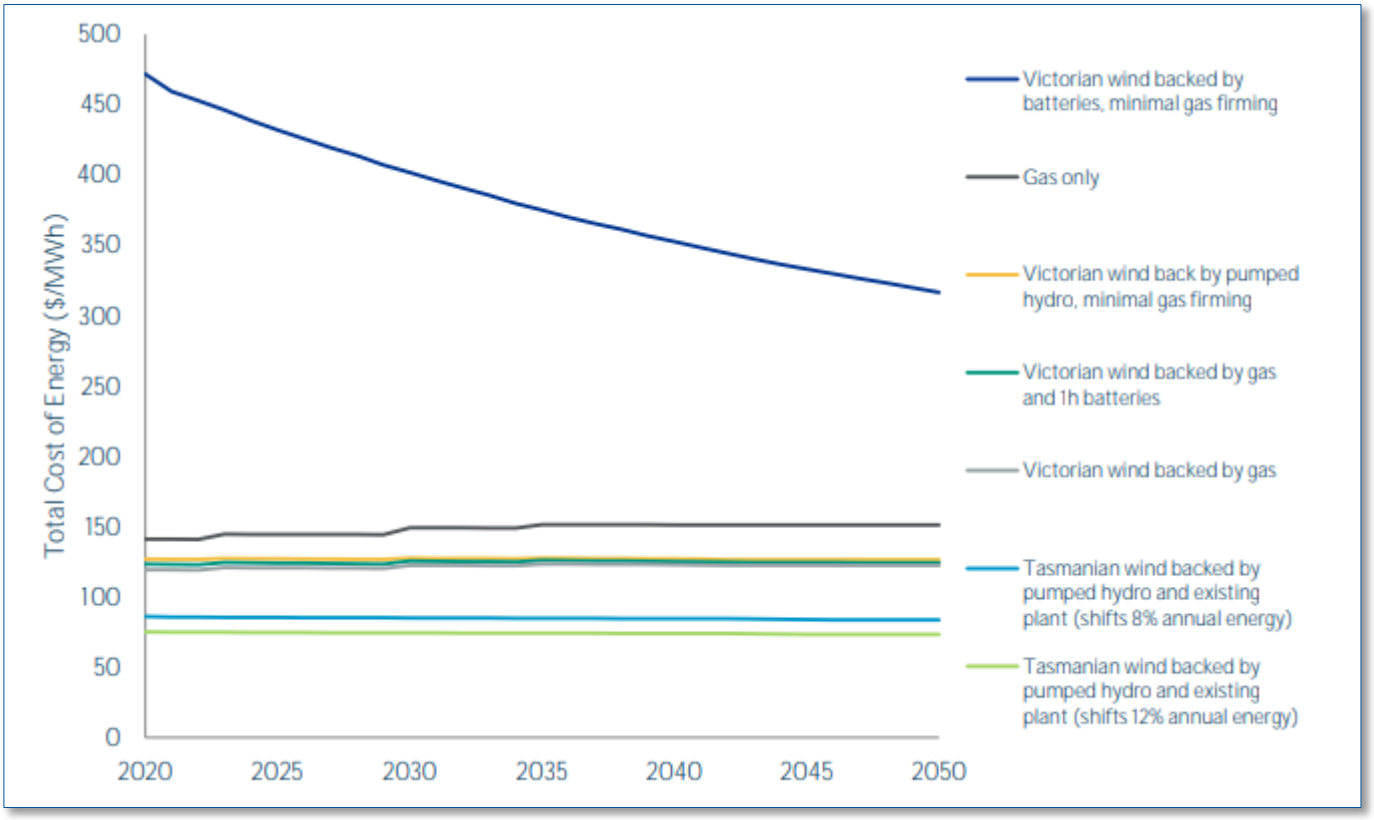
Tasmania's wind resource is high quality and diverse. This is due to a high quality natural resource and lower correlation with wind resources on mainland Australia. Further development of this resource could bring substantial diversity to the NEM over the next ten years.

This diversity will become more and more valuable as the penetration of variable renewables increases and is a key benefit of the nationally planned renewable energy zones. Tasmania's typical diurnal cycle has also been found to have a low correlation with mainland wind energy and also a notably different daily pattern of generation. This difference in wind patterns provides diversity benefit to the NEM. It is also coupled with the highest capacity factor for wind energy generation in the NEM.

Cost competitive coordinated solution

Hydro Tasmania's *Analysis of the Future NEM* report considered the cost of a range of options for ensuring reliable supply in the Victorian region of the NEM in the future. The analysis found that the high potential pumped hydro sites in Tasmania represent up to about 4 800 MW of cumulative installed capacity, with up to 140 000 MWh of energy in storage and capital cost indicatively estimated in the range of $1.05 to $1.5 million per MW installed. Hydro Tasmania's analysis found that this compares favourably to the estimated cost of alternatives, as shown in Figure 3.

Figure 3: Comparison of fully firmed energy solutions to deliver 600 MW to the Victorian load centre

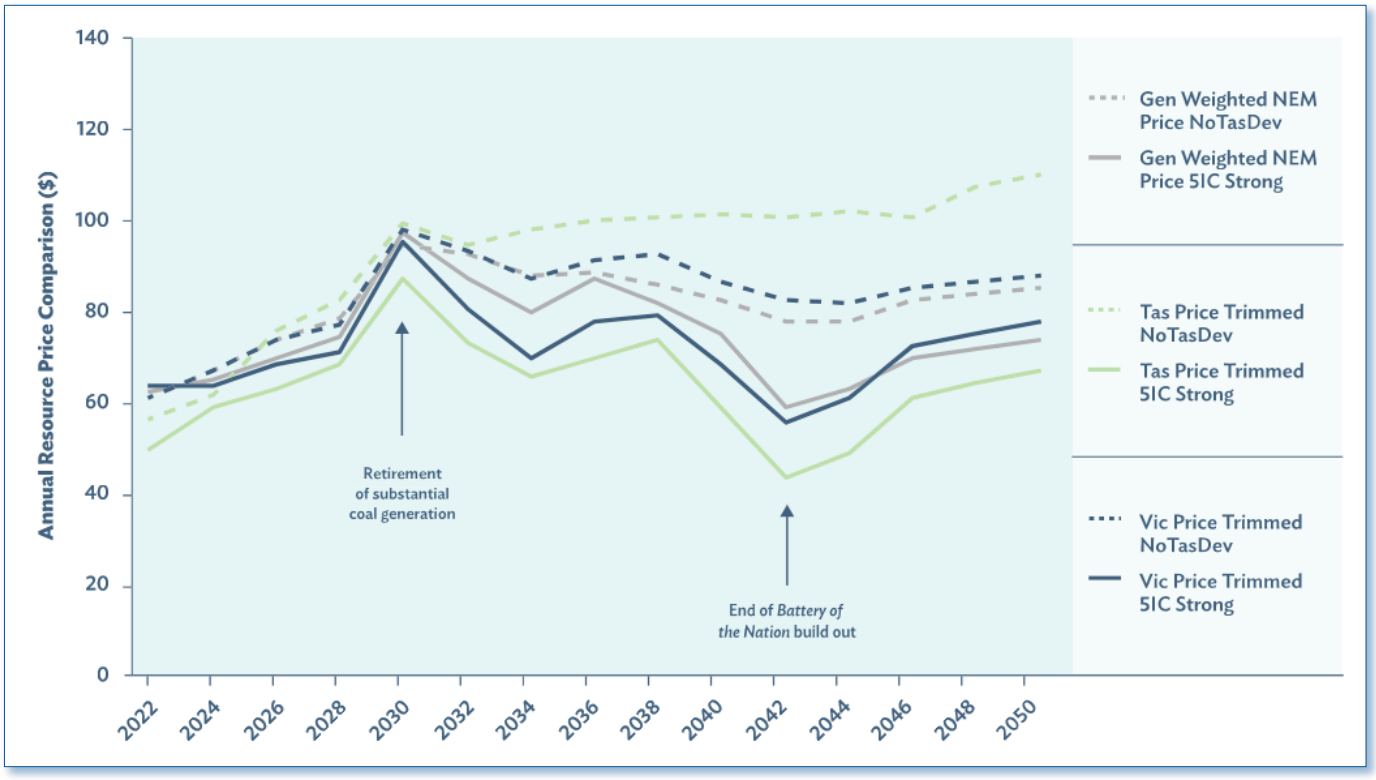


SOURCE: Hydro Tasmania, *Analysis of the Future NEM*, April 2018

The Analysis of the Future NEM report also assessed the impact on NEM-wide generation-weighted resource costs with and without BotN. The results of this assessment are shown in Figure 4.

The combination of Tasmania's strong diverse wind resources and valuable pumped hydro opportunities substantially lessens the reliance on gas usage in the NEM. This acts to reduce the resource costs of energy in the NEM by up to 20% (comparing the scenario where multiple interconnectors are deployed with wind and hydro storage developed – referred to as the 5IC Strong wind scenario in the charts – with the NoTasDev case).

Figure 4: Generation-weighted resource cost projections, with and without strong BotN scenario



SOURCE: Hydro Tasmania, *Analysis of the Future NEM*, April 2018

As with TasNetworks's modelling, the principal driver of resource cost savings was the reduced reliance on gas-fired generation as a replacement source of firm capacity as coal retires. This outcome would also result in significant reduction in CO_2 emissions.

The TasNetworks and Hydro Tasmania assessments were – appropriately – conducted independently of each other. Differences in the specific estimates arise from differences in methodology and assumptions, but their broad conclusions support each other.

National planning alignment

As outlined above, the ESB and AEMO have been developing a national planning approach to map the most efficient – and hence cheapest – transition of the NEM. Battery of the Nation has been recognised as being consistent with the ISP both through the use of additional interconnection to supply firming capability and also through utilising identified Renewable Energy Zones (REZ).

- Developments proposed by BotN deliver on all identified benefits of a REZ:
    - Achievement of reliable and secure energy supply at least cost to consumers by:
    - Leveraging economies of scale for generation, storage and efficient use of both new and existing transmission using synergistic technologies;
    - Improving the national diversity of variable renewable energy through the addition of Tasmanian wind energy, reducing the need for storage;
    - Delivering substantial access to the highest quality wind resource in the NEM;
- An opportunity that is modular in nature and can be scaled to the size of the economic opportunity enabling progressive investment.
- The ability to adapt timing and build outs to work within nationally coordinated planning to manage the risk of asset stranding through flexible optionality.

Since the publication of the Future NEM State paper, North West Tasmania has been recognised by AEMO as a high priority REZ.

Hydro Tasmania – Unlocking Tasmania's Energy Capacity

Hydro Tasmania has also produced a White Paper on the potential within the existing hydropower system that could be deployed to meet the emerging national demand for reliable supply. The White Paper found that additional Bass Strait interconnection would unlock the Tasmanian hydropower system's latent dispatchable capacity and make it available to the NEM with little or no extra investment required.

The presence of more interconnection would immediately deliver benefits from Tasmania's latent dispatchable capacity, made available through relatively minor adjustments to the operation of existing hydropower assets.

Analysis by Hydro Tasmania has found that 400 MW of reliable, latent dispatchable capacity can be unlocked with no new generation investment. It would be available over the summer months, when demand is at its peak in Victoria and the system under greatest pressure. This coincides with the period of lowest demand in Tasmania, which means supporting the NEM can coexist with meeting domestic energy needs.

With the right market signals, a similar amount of additional dispatchable capacity could be made available with a minimal amount of investment, through upgrading assets and altering operations at higher lake levels (increased 'head effect') and demand side opportunities.

Critical Issues

Who should pay?

This is a critical issue for both Marinus Link and BotN.

There are two main models for interconnectors in the NEM:

- Market Network Service Providers (MNSPs); and
- Transmission Network Service Providers (TNSPs).

For BotN, commercial arrangements will be required, because the generation section of the NEM is a commercial market model. However, ensuring that the market can properly value the full range of services provided, and that commercial risks associated with investment decisions are managed, will be critical.

Market Network Service Providers

MNSPs operate on an unregulated commercial basis and source revenue through interregional trading and contractual arrangements for providing transport services.

If Marinus Link was progressed as an MNSP, it would be up to the proponents to put together a business case and set of contracts and arrangements that recovered the link's costs.

Likely commercial or contract partners might include renewable generators, firming services and retailers, who have a mutual interest in supplying one region from another and calculate that doing so via an interconnector is a competitive option compared to in-region generation and firming.

Under this model, customers would not face direct network charges to pay for Marinus Link. Instead, generators and retailers would pay for the link through contracts and the costs of those contracts would become part of their cost of business. Customers would in effect pay through their wholesale and retail charges, rather than their network charges.

Where the wholesale and retail revenues are generated (as in, which customers pay) would then become a commercial matter operating on a market basis in the unregulated part of the NEM.

The combined offering of out-of-region generation, firming and interconnector costs would need to be competitive against in-region generation for a business case to be positive, so while the customers in that region would be the ones who pay, they would pay less than alternative sources of generation.

Given that the main beneficiaries of Marinus Link would be in mainland NEM regions and that the benefits would come in the form of lower wholesale costs than without the link, it might be possible to develop Marinus Link on a commercial basis as an MNSP with contracts with mainland generators and retailers. This would be likely to involve complex multi-party negotiations and consequential timing uncertainty.

In addition, careful consideration of the risks associated with the contracts would be required. The Tasmanian Government will need to consider whether it is appropriate for Tasmania or Tasmanian Government-owned businesses to carry any market risks or contracts, and the scale of the project would make it unlikely that the Tasmanian Government or its businesses could carry the bulk of the contracts necessary to establish Marinus Link as an MNSP.

Transmission Network Service Providers

TNSPs, on the other hand, have their prices regulated and included in customers' bills through network charges. Only customers pay these charges, not generators. This is a less risky investment model but the current operation of the TNSP pricing rules makes its application to Marinus Link potentially challenging.

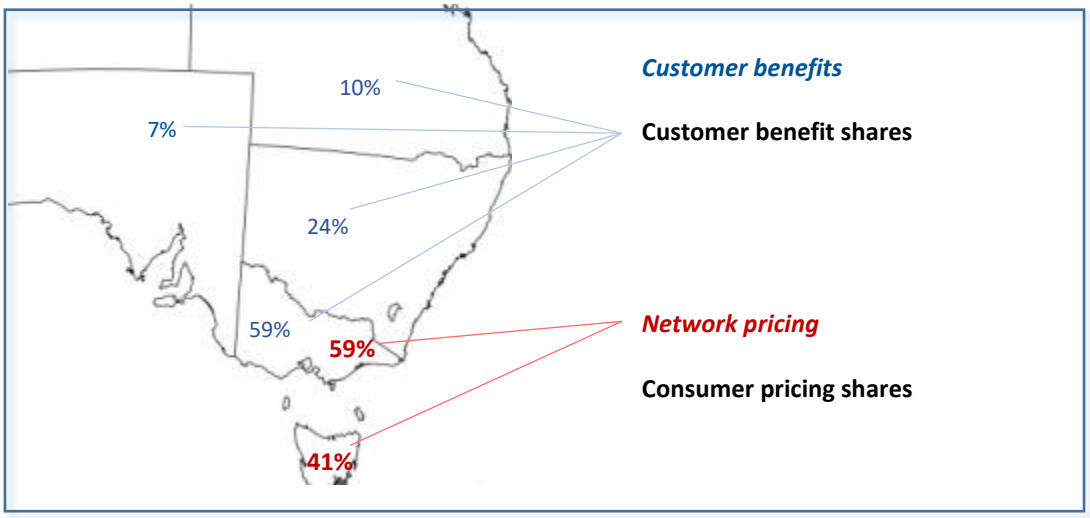
TNSP interconnector pricing does not allocate costs to beneficiaries

The Marinus Link proposal is a means by which reliable supply, including pumped hydro, can be made available to the broader NEM, underpinning investments in renewable generation. As shown in the IFR, this means that the main beneficiaries of the link will be outside of Tasmania.

Presently, the mechanism by which a transmission network service provider could receive a revenue stream for its investment in an interconnector would be through adding the capital value of the interconnector to its regulated asset base (RAB) and receive regulated revenues from customers.

However, this pricing mechanism is limited in its ability to allocate costs to customer beneficiaries, where the customers are outside the regions joined by the interconnector. The COGATI final report recognises that the current pricing framework struggles to appropriately allocate costs to beneficiaries, with the AEMC seeking to undertake a further review of this issue. However, this process is likely to take some time and an earlier resolution is required to facilitate Marinus Link to bring it to market when it may be required.

Figure 5: Comparison of benefits to costs - current network pricing rules



SOURCE: TasNetworks, IFR, February 2018.

In the case of Marinus Link, the application of the current pricing framework would likely see a disproportionate share of costs fall on Tasmanian customers, who are not the primary beneficiaries of the interconnector. Figure 5 shows the possible allocation of costs that could arise under the current pricing rules, assuming that Victorian customers pay in proportion to their share of customer benefits (which would still result in a net benefit to Victorian customers, given benefits exceed costs) and Tasmanians pay the remainder.

> *Unless costs can be appropriately allocated to beneficiaries – or at least not allocated to Tasmanian customers – Tasmania will not be able to progress Marinus Link.*

Tasmania considers that, while currently not supported by market and regulatory arrangements, this proposal for revenue recovery is reasonable for projects with high national benefits but low local market benefits. Failure to progress Marinus Link simply because costs cannot be appropriately allocated would see more expensive options developed instead, ultimately at a cost to customers nationally.

Market arrangements not adequate to value, capture and bank reliable supply and storage

ARENA and Hydro Tasmania's Future NEM State analysis considered the current issues in adequately recognising the value of reliable supply in the NEM.

> Attempts to assign direct value to storage in Australia typically only recognise energy arbitrage value (since frequency control ancillary services (FCAS) markets are not presently considered bankable).
>
> The Future State NEM analysis modelling has found that storage reduces the cost of energy in the NEM and is qualitatively understood to provide critical system reliability services.
>
> A future market design will need to value a variety of system services that will recognise the value of inertia, flexibility and the ability to rapidly change output, alongside the existing energy and ancillary services.
>
> Storage is not simply a generator that buys its 'fuel' from the same market it sells into; acknowledging the value of its other services, including dispatchable load to help manage excess generation, will better optimise the potential benefits of this technology for the broader operations of the NEM.
>
> Storage provides a variety of services, all of which have value, and should not be simply seen as a 'generator' within the system. This oversimplifies the value proposition of storage, which should be treated as a provider of system services.
>
> The future market will need to provide market signals for new system management services, such as storage and rapid response generation, to make best use of the available energy and manage a system that has redefined concepts of peak and off-peak.
>
> Hydro Tasmania, *Analysis of the Future National Electricity Market*, April 2018.

The COGATI Final Report addressed similar issues and concluded that an entirely new registration category for energy storage systems is required.

The Australian Government has also recognised that market arrangements are not adequate to underwrite investment in new reliable, firm generation and has launched its *Underwriting New Generation Investment* (UNGI) program to address this problem in the short term.

> The Government remains concerned about the level of firm or firmed capacity that is available in the market.
>
> In their most recent Electricity Statement of Opportunities (ESOO), the Australian Energy Market Operator (AEMO) identified that the NEM needs an additional 1160 MW of 'firming capability' to enter the market in the next decade to meet the reliability standard. The ESOO is a forecast to help inform the market about potential future supply gaps to allow time for a market response. Removing barriers that limit the ability of all but the largest participants in the electricity market to respond to future supply gaps can improve competition and help bring wholesale prices down.
>
> Australian Government Department of Environment and Energy, *Underwriting New Generation Investment – Public Consultation Paper*, October 2018.

Unless interim arrangements are put in place, the cheapest solutions (which have long lead times) will not be able to be brought to market, which will cost customers in the long run.

The Tasmanian Government recognises and welcomes the recent announcement of the Australian Government's *Underwriting New Generation Investment* scheme. Many of the mechanisms proposed in the consultation paper for that scheme are similar to the types of arrangements that would be required to ensure the cheapest solutions for reliable supply and storage will be brought to market and Hydro Tasmania has submitted a Registration of Interest to the program.

Timing

Risks associated with timing

A just-in-time approach to the replacement of retiring thermal generation would be the most economically efficient, and hence cheapest approach. However, the target date for bringing alternative sources of supply to market cannot be known with certainty and the risks associated with this uncertainty are not symmetrical.

Where new sources of supply are brought online too early – that is, before thermal retirement occurs and the new supply is required – there is a cost associated with overcapitalisation and the new supply may have difficulty generating sufficient revenue until the retirement occurs. The effective cost of this scenario is the opportunity cost of the capital committed to the new project for the period between its completion and the retirement of thermal plant.

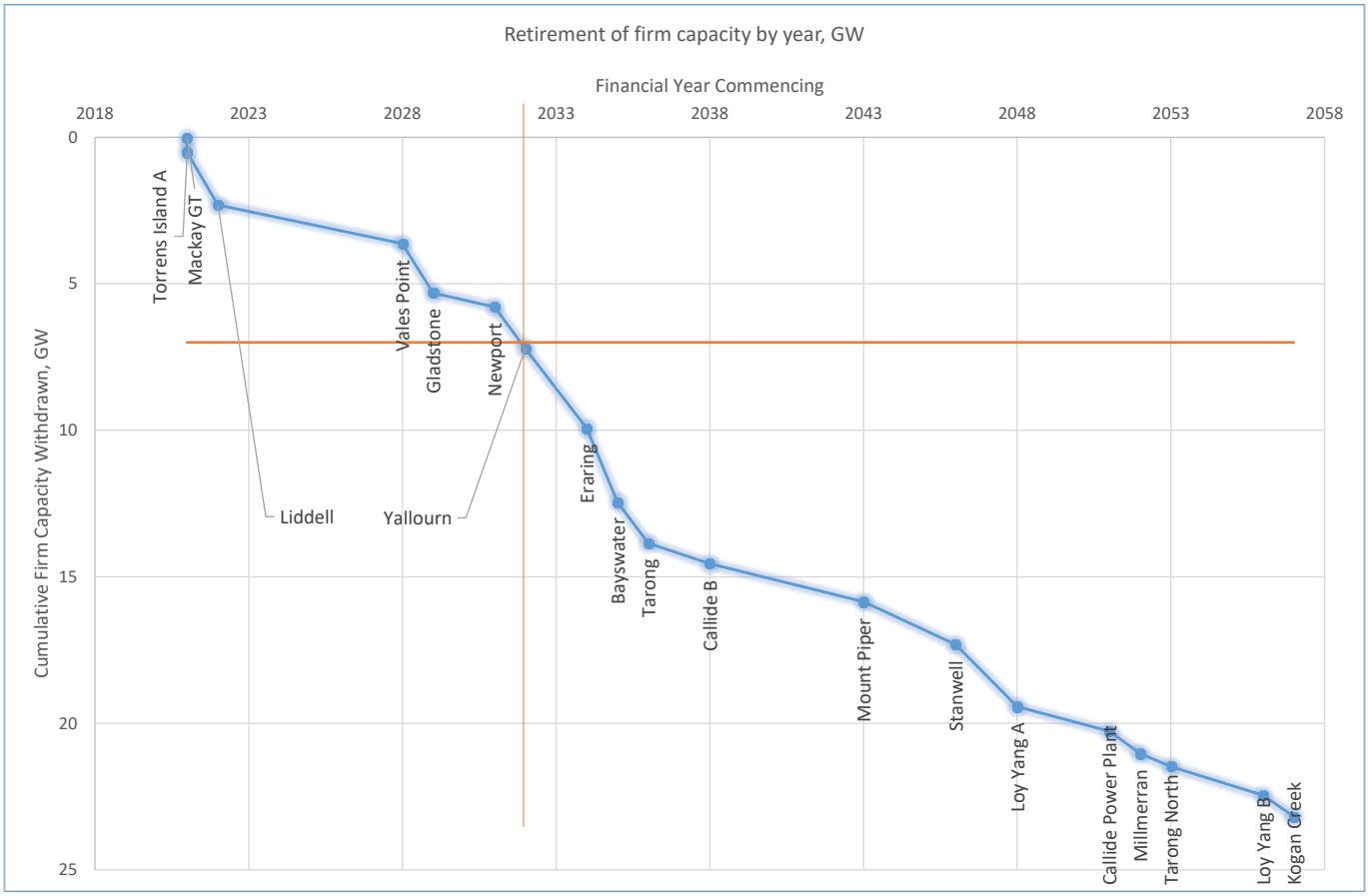
However, where new sources of supply are brought online too late, the costs may be far higher – either by necessitating the rapid deployment of more expensive forms of generation (such as diesel or open cycle gas) or through the economic impact of voluntary or involuntary load shedding.

Given that there are a range of scenarios under which thermal generator retirement may occur before the end of economic life, and that the timeframe of major infrastructure builds tends towards late completion rather than early, a prudent risk-based approach to replacing thermal capacity in the NEM would be to incentivise some float between completion and retirement. However, existing market arrangements do not provide for the carrying cost associated with this prudent approach.

Implications for project development timeframes

Project Marinus is currently in the feasibility and initial business development stage and BotN proposals are at pre-feasbility stage. Each are showing promising signs of being capable of realising significant benefits to the NEM as coal-fired generation is withdrawn from the market.

Figure 6: Timing of withdrawal of 7GW of coal generation - ISP assumptions

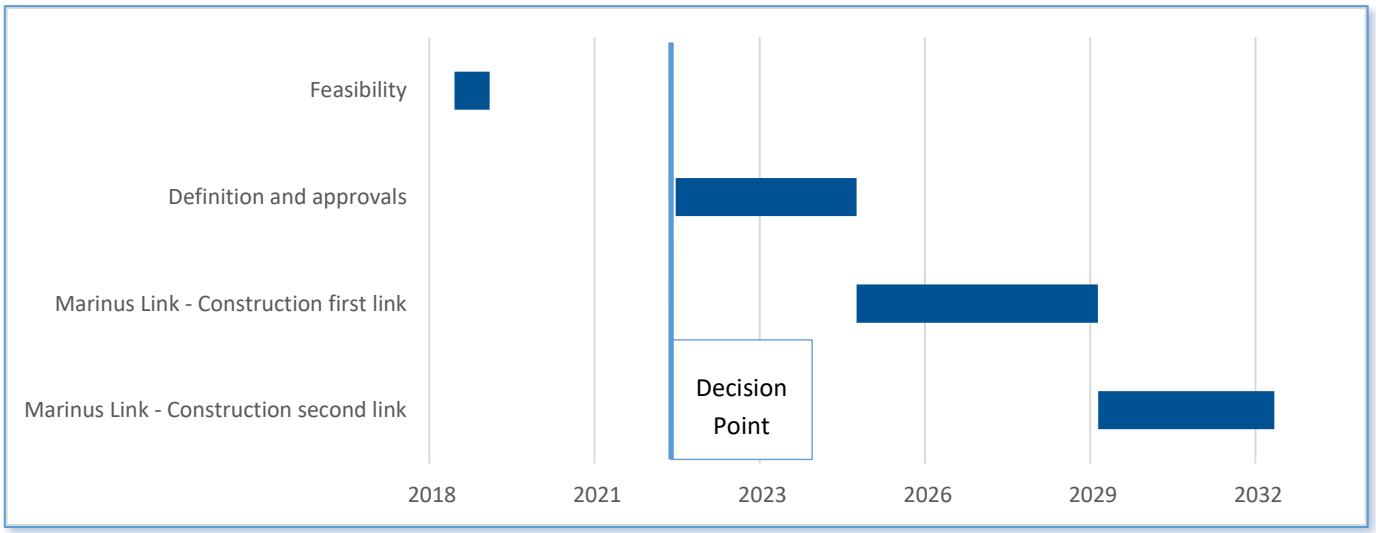


SOURCE: AEMO 2018 ISP Assumptions workbook

The most significant benefits of the project are likely to begin to be realised from the retirement of a significant amount of coal-fired generaiton and while the detailed business case is still being prepared, TasNetworks's IFR suggests that the business case would be optimised by timing the commencement of operation of Marinus Link with the withdrawal of approximately 7GW of coal (under ISP scenarios). Under ISP scenarios this would roughly coincide with the closure of Yallourn Power Station, as shown in Figure 6.

Under a business-as-usual approach, the withdrawal of 7GW of coal is therefore the critical date around which the project timeframe would be developed. Assuming a point estimate for the withdrawal of Yallourn consistent with AEMO's ISP Neutral scenario, an indicative project timetable would be as shown in Figure 7.

Figure 7: Indicative project timeline – optimised economic benefits – ISP Neutral scenario

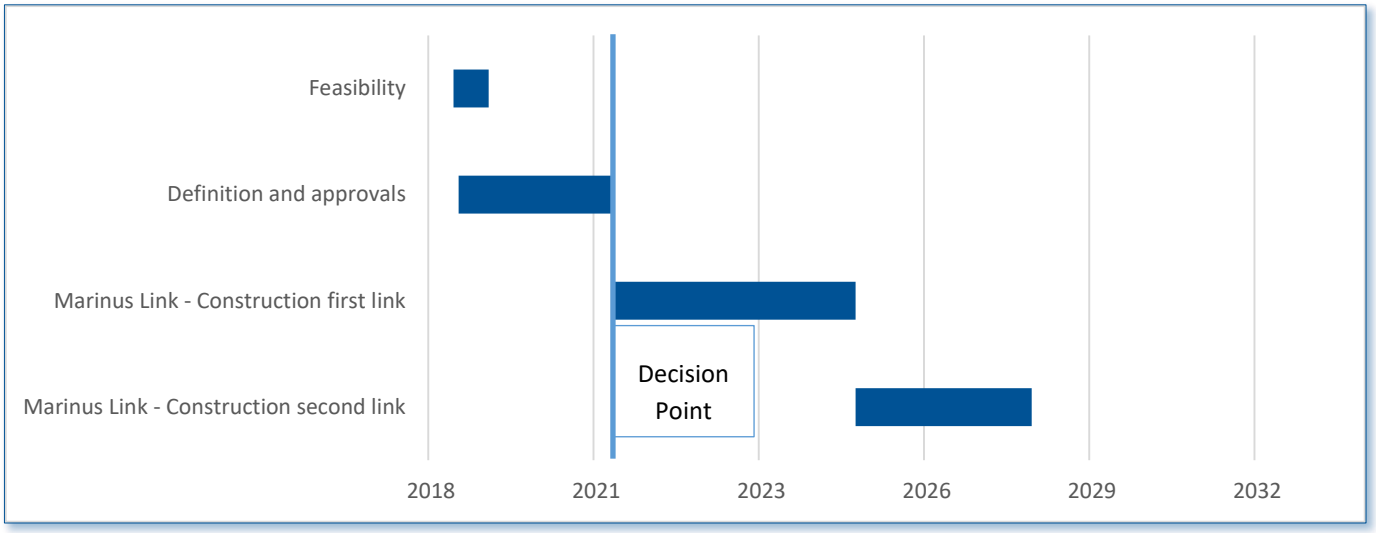


With no intervention or adjustments to the business case to value the option of having additional reliable generation available early, there is no justifiable basis for the Tasmanian Government to bring forward this project schedule.

> *The Tasmanian Government is aware that a just-in-time approach creates very significant risks to reliability and security of supply in other NEM regions and is open to amending the project schedule to assist in mitigating this risk, if Tasmania's own risks in doing so can be appropriately managed.*

A possible alternative indicative project schedule that would have Tasmanian firm generation available in Victoria earlier as a risk mitigation option, is shown in Figure 8.

Figure 8: Indicative project timeline – optimised economic benefits – ISP Fast Change scenario



Regardless of the approach pursued, the Tasmanian Government will reserve its right to decide whether to proceed to construction until it is satisfied that the best interests of Tasmanian electricity customers and taxpayers will be served by the project.

The period between 2025 and 2032 is the "risk window", as shown in Figure 9. The two risks that occur in this period are:

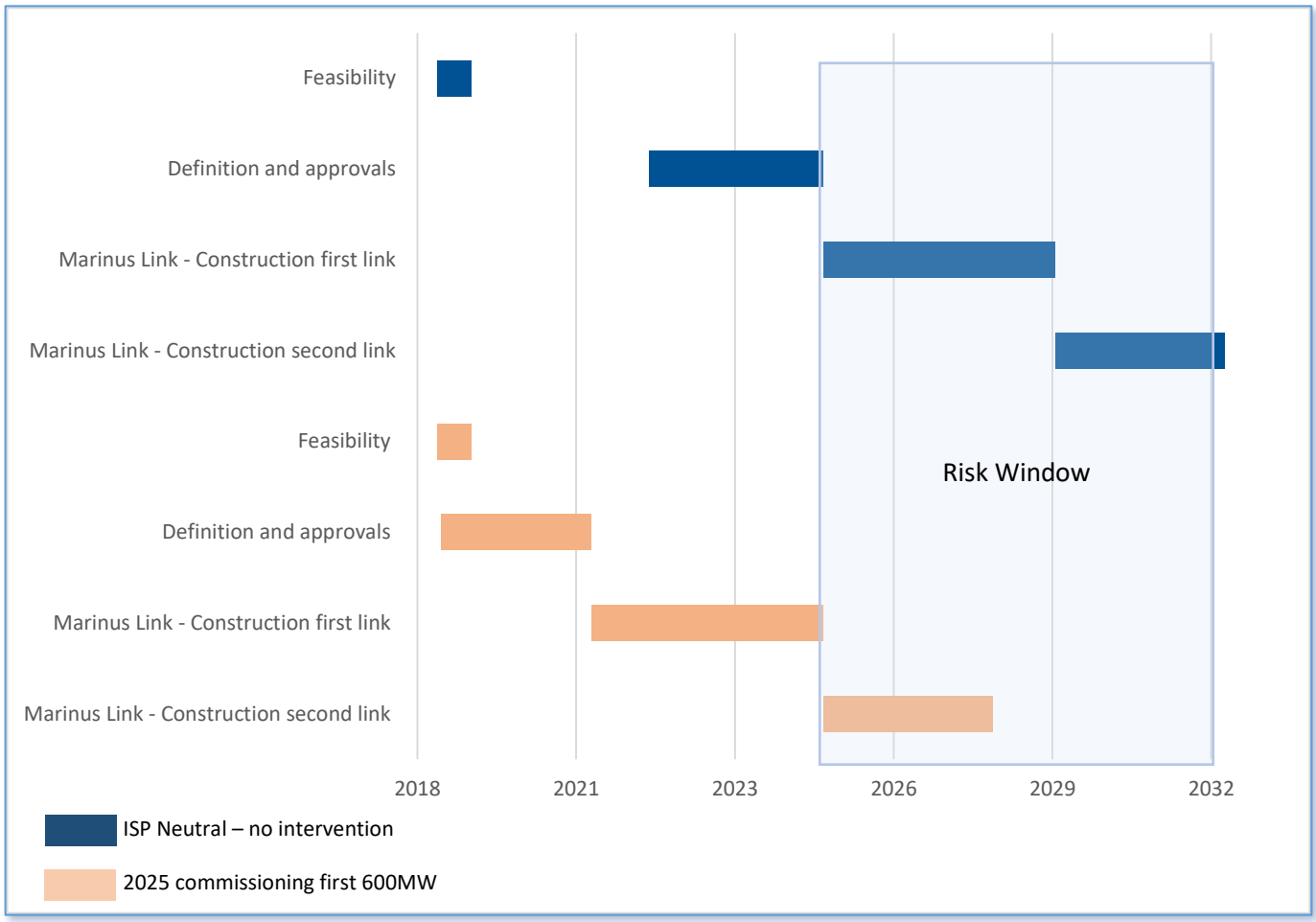
1. NEM Risk – risk to the NEM of firm capacity shortfall from earlier than assumed retirement of thermal generation;
2. Project Risk – risk to the investor that firm capacity will not be required in this period and revenues will not be available.

There are currently limited mechanisms to capture the real option value to the NEM created by an early completion of Marinus Link and so it is difficult to reflect this value in a business case.

If funding is made available to Marinus Link now, then work can continue on a schedule that can allow an earlier commissioning of the link if the market evolves in a way that requires it, but protects Tasmanian customers from the costs of the project when the business case – based on very uncertain and risky assumptions – might not support the earlier timeframe.

Once certainty is provided on the timing of Marinus Link, other projects such as BotN that will rely on the link will also be triggered and can advance through development and approvals in a complementary timeframe.

Figure 9: Comparison of timeframes and main period of risk



Tasmanian Government Position

Marinus Link and Battery of the Nation should advance to the next phase

The initial feasibility work shows that there is merit in continuing to develop Marinus Link. This supports continuation of work on generation projects that will be enabled by Marinus, including Battery of the Nation.

The projects are needed for the lowest cost, most reliable and lowest emissions future of the NEM and in some scenarios may be needed by the mid-2020s.

Marinus Link would create more than 500 direct and indirect jobs during peak construction and thousands more in related projects. More than 400 of these jobs are expected to be located in North West Tasmania.

In addition, significant economic stimulus would also arise from the new investment in BotN and other renewable energy projects that it enables. At the peak of flow on investment, this could result in more than 150 direct and 650 indirect jobs in construction and more than 200 direct and indirect jobs in operation.

Conditions for final commitment

Given the issues outlined above in terms of the allocation of costs, the benefits likely to be experienced by Tasmanians compared to nationally and the significant market and regulatory risks inherent in making this investment, Tasmania's preparedness to advance the project beyond the next phase will be contingent upon the following principles.

Tasmanians should not bear the incidence of the cost of benefits provided to the broader NEM.

The principal beneficiaries of Marinus Link and BotN outside of Tasmania. There are some benefits to Tasmania in terms of energy security and reliability; however Tasmania has already put in place arrangements that deal with previous energy security concerns.

In the longer term, market and regulatory arrangements are required that facilitate the optimal combination of investments and allocating the cost of those investments to the beneficiaries.

In the immediate term, the Australian Government may need to contribute to those costs, in the national interest and fulfilling a traditional role of government in the face of market failure. This is appropriate for projects of high national benefit but low local benefit.

Investment certainty in Tasmania and Victoria is required to facilitate building new generation.

The forecast withdrawal of thermal generation in Victoria and New South Wales, and the credible risk that this will occur earlier than AEMO has currently assumed, mean that arrangements that can support investment in an electricity system that is adequate, reliable and secure are required urgently.

A set of arrangements that underwrite additional interconnection and pumped hydro energy storage will facilitate an investment environment in both Tasmania and Victoria that can technically support new unscheduled generation without risking system reliability.

The Tasmanian Government notes that the Australian Government's UNGI program could be used to de-risk and accelerate Tasmanian pumped hydro projects.

The full benefits of Marinus Link and Battery of the Nation are recognised, including those that extend beyond current regulatory and market structures.

Given market and pricing arrangements are still evolving to recognise the value of reliability and firm supply, and the role that large scale storage will be required to play in the NEM, intervention and underwriting may be required to represent the full value of Marinus Link and pumped hydro to the NEM.

The Tasmanian Government notes and welcomes the proposal in AEMC's COGATI review to consider an AEMO Rule change due for submission in March 2019 as a first step to better defining the role of large scale storage systems in the NEM.

The introduction of a registration category specifically for storage will require a number of important considerations to be addressed. For example, what technical obligations should apply, which markets the provider can participate in (e.g. energy and FCAS), how they should participate in those markets (e.g scheduled, non-scheduled), and how they should be settled will all be critical issues, as well as the network charging regime to be applied.

Development of Marinus Link and Battery of the Nation should be complementary to, not competing with, other policy responses at a national level.

Marinus Link and pumped hydro are facilitating projects that can allow investment in unscheduled generation to occur without risking the reliability of the electricity system. The projects are not intended to compete with energy generation projects that might otherwise occur and which can then occur on a commercial basis.

Further, the BotN proposal is not competing with the Snowy 2.0 proposal. The ISP makes clear that both projects will be required in the optimal future NEM state, with Snowy 2.0 initially required to support new generation in NSW as that region's thermal generators retire, and BotN initially required to support new generation in Victoria.

Next Steps

Partnering with other governments

The work to date shows that Marinus Link and BotN are national scale projects that could have national benefits. They will need to be developed to fit into the future of the national energy system and their costs will need to be borne primarily outside Tasmania.

The Tasmanian Government is keen to work with the Australian and Victorian Governments in particular to explore how the major energy projects can be taken forward.

Key decisions

The next steps in developing the major energy projects in Tasmania will require detailed consideration of a few key decisions. These wil include:

- What operating model would be best for the link? Should it be regulated or unregulated?
- What does the operating model mean for the development of BotN projects?
- Who should own and operate the link? Should it be public or private, or a combination?
- What are the roles of the Tasmanian, Australian and Victorian Governments in the projects?
- How will the changes to the NEM coming from the ESB's work affect the projects?
- How can the opportunities created for new investments in wind and other renewable generation best be captured and delivered?

The next phase of work for the Tasmanian Government will address these key issues.

Marinus Link

The *feasibility phase and Business Case assessment* is currently being completed and is jointly funded by TasNetworks ($10M) and ARENA ($10M). This phase is due to be completed at the end of 2019. It will inform some of the outstanding key questions.

This work will be completed under the existing ARENA grant deed.

The *definition and approvals phase* – will involve developing the full technical specifications for the project, including its technical performance parameters and final routes and connection points to the existing Tasmanian and Victorian networks. It will also involve obtaining all required environmental and planning approvals.

In order to create the valuable option for the nation of being able to commission Marinus Link by the mid-2020s, this phase needs to start now.

The Tasmanian Government and its businesses have already invested more than $12 million in studying more interconnection and these studies have shown that the project has national benefits more than Tasmanian State-specific benefits.

Recognising the high national benefit but low local benefits, national funding is required to accelerate the project timeframe. An estimate of the costs associated with Marinus Link for the Definition and Approvals phase is given in Table 4.

Table 4: Indicative cost estimates for Marinus Link, by project phase

Phase & Components	**1200 MW option**	
	Estimated Cost – phase component	**Estimated Cost – total phase ($M)**
Feasibility Phase & Business Case Assessment (costs already provided for)		20
Definition and Approvals Phase		**115**
Decision Point		
Delivery Phase (indicative estimate)		3 000
Total cost estimate		3 135

Battery of the Nation

Hydro Tasmania has been assessing various sites in Tasmania that could be suitable for pumped hydro. Fourteen sites were originally considered and a short-listed group will be prioritised for further assessment. This list will be taken to detailed feasibility and business case assessment once a decision about Marinus Link is made.

As with Marinus Link, it is possible to accelerate the timeframe for bringing these projects online, compared to the natural project timeline. Taking these sites through an accelerated business case approval and to early financial close, creating option value, is estimated to cost $30 million.

Establishing new interconnection is the main enabler of building new pumped hydro. However, the significant level of uncertainty in the NEM at the present time also introduces risks to the business case for pumped hydro, notwithstanding that significant amounts of it have been identified as being needed.

For this reason, the business case needs to be de-risked through underwriting the firm output of new pumped hydro. The Australian Government's *Underwriting New Generation Investments* (UNGI) scheme could significantly contribute to underwriting new Tasmanian reliable generation.

Assessment Process

The development of Marinus Link and BotN will require significant approvals from a range of local, State and Australian Government authorities including for technical, land use planning, natural and cultural heritage and environmental purposes.

There are several approval pathways that could be pursued as a State and Commonwealth level. For approvals under Tasmanian legislation, pathways could include standalone consideration under each relevant Act, assessment as linear infrastructure under the Major Infrastructure Development Approvals Act 1999 (Tas) or a combined assessment such as via the new *Land Use Planning and Approvals Amendment (Major Projects) Bill 2017*, should it be passed by the Tasmanian Parliament, or a Project of State Significance under the *State Policies and Projects Act 1993* (Tas).

At the Commonwealth level, the project will likely require assessment against a number of matters of national environmental significance (MNES) in Tasmania, Victoria and Commonwealth marine environments under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). There is also potential that the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth) could be applied to the projects.

It will also be important to engage with the Victorian Government as part of this process and ensure that relevant Victorian legislative requirements are addressed.

The Tasmanian Government has commenced consulting with its Australian and Victorian Government counterparts to establish an efficient joint approvals approach.

Conclusion

A significant amount of work to date by Tasmania's electricity businesses shows that there are credible scenarios where more Bass Strait interconnection and Battery of the Nation projects could be supporting the nation's transition away from coal from the mid-2020s. This would result in lower cost, more reliable and cleaner electricity generation for the NEM than compared to alternatives.

Most of the electricity market benefits of the projects are likely to be delivered nationally. Tasmania has taken decisive steps to address its own electricity supply reliability issues and the benefits of more interconnection are to the national market, through reliable, low cost and low emissions supply.

Building the enabling and flow-on projects in Tasmania would provide significant economic stimulus, particularly in regional areas. More than $600 million in economic stimulus and more than 500 jobs would be created just from construction of a new link.

The projects have local support within Tasmania, with affected Councils and regional development bodies expressing their strong support. A range of public forums have also attracted considerable interest from residents.

All of these signs are promising and suggest that work should continue, as the NEM continues to evolve and its future becomes clearer.

If work on Marinus Link and Battery of the Nation continues to definition and approvals phase, the nation could have the benefit of the projects being delivered by the mid-2020s if they are needed.

If work on the projects is deferred because of the level of uncertainty surrounding the future NEM, then the opportunity of having the projects completed when they might be needed will be lost.


Tasmanian
Government