

Project Marinus Whole-of-State Business Case

Report to the Tasmanian Government

April 2025

Department of Treasury and Finance

Acknowledgement of Country

In recognition of the deep history and culture of this island, the Tasmanian Government acknowledges and pays respect to all Tasmanian Aboriginal people.

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Glossary

Term	Definition
AC	Alternating Current
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
ARENA	Australian Renewable Energy Agency
CCGT	Combined Cycle Gas Turbine
CEFC	Clean Energy Finance Corporation
CGE	Computable General Equilibrium
CoPS	Centre of Policy Studies
CPA	Contingent Project Application
FBC	Final Business Case
FID	Final Investment Decision
FTE	Full-Time Equivalent
GGs	General Government Sector
GSP	Gross State Product
GW	Gigawatt
GWh	Gigawatt hours
HRL	High Reliability Level
HVDC	High Voltage Direct Current
Hydro	Hydro Tasmania
ISP	Integrated System Plan
kWh	Kilowatt hour
MIIs	Major Industrials
MLPL	Marinus Link Proprietary Limited
MNSP	Market Network Service Provider
MoU	Memorandum of Understanding
MW	Megawatt

Term	Definition
MWh	Megawatt hour
NEM	National Electricity Market
NWTD	North West Transmission Developments
OCGT	Open Cycle Gas Generation
PACR	Project Assessment Conclusions Report
PADR	Project Assessment Draft Report
PBC	Preliminary Business Case
PHES	Pumped Hydro Energy Storage scheme
PNFC	Public Non-Financial Corporations
PSL	Prudent Storage Level
PV	Photovoltaic
RED	Renewable Energy Dividend
Regulator	Tasmanian Economic Regulator
RIT-T	Regulatory Investment Test for Transmission
SHA	Shareholders Agreement in Relation to Marinus Link Proprietary Limited
Tascorp	Tasmanian Public Finance Corporation
TasNetworks	Tasmanian Networks Pty Ltd
TNFPS	Total Non-Financial Public Sector
TNSP	Transmission Network Service Provider
ToR	Terms of Reference
TREAP	Tasmanian Renewable Energy Action Plan
TRET	Tasmanian Renewable Energy Target
TVPS	Tamar Valley Power Station
VRE	Variable Renewable Energy
VWAP	Volume Weighted Average Price
WACC	Weighted Average Cost of Capital
WCRI	Wholesale Contract Regulatory Instrument
WEP	Wholesale Electricity Price
WoSBC	Whole-of-State Business Case

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Executive summary

1.1 Introduction

The Whole-of-State Business Case (WoSBC) is a comprehensive analysis of Marinus Link and other major energy projects in Tasmania, prepared by the Department of Treasury and Finance.

It aims to assist the Tasmanian Government in deciding whether Marinus Link Stage 1 and the associated on-island transmission network upgrades are in Tasmania's overall interests and should proceed.

The need for such a "business case" arises due to:

- the unique nature of Tasmanian Government ownership of the vast majority of the State's electricity assets;
- the legacy of the State's energy intensive industries; and
- Tasmania's relatively small economy, State Budget and population and the sheer scale of the investments.

Such characteristics are not present in other Australian jurisdictions. In addition, the potential impact of Marinus Link and other major energy projects on the electricity bills of Tasmanian customers is of major interest.

The WoSBC is a "point in time" assessment, prepared ahead of the Final Investment Decision (FID) recommendation by the Marinus Link Pty Ltd (MLPL) Board to its three Government shareholders for the first cable, expected in late May 2025.

A suite of other information and advice, such as Hydro Tasmania's Final Business Cases (FBC) for the Tarraleah redevelopment and the Cethana pumped hydro projects and important regulatory and procurement updates, is expected to be provided to the Government after the completion of the WoSBC, but before August 2025 when a FID is required from all shareholders. This additional information will also be critical for the Government's decision-making.

Concurrent with the Marinus Link Stage 1 FID, a FID will also need to be made by the Government for the proposed North West Transmission Developments (NWTD) Stage 1 that support Marinus Link, with a FID recommendation from the TasNetworks Board also expected in May 2025.

Hydro Tasmania's Tarraleah redevelopment and the Cethana pumped hydro scheme are on different timeframes and FIDs for these projects are expected in 2026. Both Houses of Parliament need to approve Hydro's major projects under the *Hydro-Electric Corporation Act 1995*.

Given the information and advice yet to come from Government business boards, and regulatory, procurement and other updates, the WoSBC does not make a recommendation on a course of action regarding Marinus Link Stage 1. By the time the Government needs to make the Marinus Link and NWTD Stage 1 FIDs, some of the key assumptions are expected to have changed. The WoSBC's objective is to provide detailed analysis and a holistic assessment of all related projects to inform and assist the Government in its future decision making.

1.2 Background

The National Electricity Market (NEM) is transitioning from baseload coal and gas generation to renewable energy sources.

Tasmania is well-positioned to support the NEM with this transition with its high-capacity wind resource complemented by Hydro's existing hydropower generation suite and the potential for highly flexible, long duration pumped hydro schemes. This has led to the proposal for more interconnection than provided by Basslink.

If Marinus Link is constructed, this provides opportunities for Tasmania such as: significant economic development and employment; new electricity supply options; the potential for higher commercial returns for Hydro; and enhanced energy security.

In order to support the advancement of the project, the Australian, Victorian and Tasmanian Governments entered into a Shareholders Agreement (SHA) for ownership, governance and funding of MLPL and Marinus Link Stage 1.

Equity stakes in the company are 49 per cent held by the Australian Government, 33.3 per cent by Victoria, and 17.7 per cent by Tasmania. The equity splits are unrelated to the cost allocation arrangements for Marinus Link Stage 1. Under the current arrangements in the SHA, Tasmanian customers will contribute 27.6 per cent of Marinus Link Stage 1's revenue requirements, and Victorian customers 72.4 per cent.

No agreements have been reached for any of these parameters for Marinus Link Stage 2.

The Australian Government also agreed to assist with concessional funding through the Clean Energy Finance Corporation (CEFC) to reduce costs to electricity customers. Concessional funding applies to Marinus Link Stage 1, NWT Stage 1 (which is fully paid for by Tasmanian customers) and for part of Hydro's Tarraleah proposed redevelopment costs.

1.3 Methodology and assumptions

In line with its Terms of Reference (ToR), the WoSBC considers three cases:

- 1 “No Marinus” - a baseline scenario with no additional interconnection and associated on-island transmission infrastructure, with a refurbishment of the existing Tarraleah power station.
- 2 Marinus Link Stage 1, NWTG Stage 1 and a full Tarraleah redevelopment.
- 3 Marinus Link Stages 1 and 2, NWTG Stages 1 and 2, the Tarraleah redevelopment and the Cethana pumped hydro project.

These cases represent potential future “states of the world” for analytical purposes. They are not intended to be predictive and there are other possibilities, including different staging and composition of Hydro Tasmania’s major projects which are still working through their individual business cases. Similarly, Marinus Link Stage 1 and the NWTG Stage 1 could be progressed in the absence of Hydro’s major projects.

In order to ensure that the Government has access to the WoSBC as it considers the MLPL and TasNetworks’ board FID recommendations on Marinus Link and NWTG Stage 1, the WoSBC approach allowed for information gathering and analysis throughout 2024, with modelling and inputs predominantly finalised by end-Q4 2024.

The assessment covers a 25-year period from 2025-26 to 2049-50, capturing both the construction and operational phases of the proposed projects.

The WoSBC uses two scenarios from the Australian Energy Market Operator’s (AEMO) draft 2024 Integrated System Plan (ISP) - the Step Change and Progressive Change scenarios which differ in expected renewables investment, economic growth and electricity demand and the timing of emissions reduction.

Using different ISP scenarios allowed for the modelling of on-island transmission projects triggered by specific load growth levels to be built by TasNetworks. Scenario adjustments are also made to on-island generation builds by Hydro Tasmania.

NEM modelling was undertaken to independently assess the impact on wholesale electricity prices and the potential for new renewable generation investment in Tasmania and Victoria. That modelling and information from MLPL and TasNetworks has been used to inform potential price impacts for customers. Economic modelling has also been conducted to estimate the whole-of-economy impacts from the projects, including induced or secondary market impacts, allowing for the substitution of resources between industries in response to demand changes.

Critical considerations in the WoSBC assessment are the limitations of modelling and significant uncertainties and future risks. Given the 25-year projection timeframe, the WoSBC scenarios assessed do not represent the range of possible or even likely outcomes. Models provide valuable insights, serve as tools for analytical analysis and inform decision-making but cannot definitively predict future outcomes.

Risks include market, technology, competition, financial, and numerous project management risks. Sovereign and regulatory risks, such as changes in the operation of the NEM, and technology and competition risks, including advancements in battery technology, could materially impact long term outcomes. These risks are significantly greater for Hydro as its revenues are determined entirely by market outcomes. By contrast, the transmission projects have a greater degree of certainty as they are subject to revenue regulation by the Australian Energy Regulator (AER).

Given the significant scale of the energy-related investments and the relatively small State Budget and balance sheet, unexpected outcomes may be detrimental and so the risk and potential consequences of these outcomes will need to be carefully considered. Treasury undertook a range of risk and scenario analysis in the WoSBC including project cost increases and lower revenue outcomes to demonstrate the range of uncertainty.

1.4 Marinus Link Stage 1, NWTG Stage 1 and the Tarraleah redevelopment

1.4.1 Economic and social outcomes

Marinus Link Stage 1 and other major projects are very significant investments even by national standards. Depending on the scenario, the combined value of these investments ranges from \$4.4 billion to \$10.4 billion in real \$2022-23. Significant economic gains are expected. The projects have the potential to increase Tasmania's international exports if a green hydrogen plant progresses.

Independent modelling for the WoSBC estimates the value of additional economic activity from the suite of projects, in terms of Gross State Product (GSP), at between \$1.8 billion and \$4.4 billion in total over the first decade from 2025-26 (the equivalent of between 4.4 per cent and 10.8 per cent of Tasmania's estimated GSP for 2023-24). Whether all these projects proceed, however, ultimately depends on their commercial viability, environmental and other approvals.

Employment in Tasmania is estimated to be substantially higher with these projects, peaking between 2 100 and 2 900 additional full-time and part-time jobs. Over the first decade from 2025-26, employment is estimated to be between 700 and 1 700 higher on average each year, compared to levels without Marinus Link.

Positive and negative social and community impacts can be expected from the different projects, based on earlier social impact studies. The principal positive impacts are likely to arise from the increased training and employment opportunities. The availability and cost of local accommodation and access to some government services during the construction period may be issues to manage.

Another issue will be resource constraints in the Tasmanian economy, noting the State's low unemployment rate, the number of large construction projects scheduled simultaneously and the associated risks of cost escalation and project delays.

1.4.2 Impact on electricity bills

The construction of Marinus Link Stage 1 and other major projects will impact on Tasmanian electricity customer bills through two main channels: the costs to build the new transmission infrastructure; and market outcomes for wholesale energy costs.

Transmission costs currently account for less than 10 per cent of residential and small business electricity bills, with energy costs around 29 per cent. Based on modelling undertaken by TasNetworks for the WoSBC, Tasmanian electricity customers can expect to pay higher transmission network prices arising from the costs to build Marinus Link, and the associated NWTB. However, the arrangements to pass the concessional finance benefits on to customers means the impacts are lower than they otherwise would be.

Marinus Link and the NWTB Stage 1 increase transmission prices by an estimated \$70 (3 per cent) for a residential customer on a typical bill of \$2 200 (in real \$2023-24). Transmission prices increase by \$140 for a typical small business customer. These annual transmission price impacts largely reflect "one off" increases once the transmission infrastructure is in operation and for the same level of consumption do not vary significantly from year to year. These costs are found to be broadly offset by modelled lower wholesale electricity prices compared to "No Marinus". If it proceeds, the Tarraleah redevelopment-related customer rebate assumed in the WoSBC (related to the concessional financing arrangements negotiated with the Australian Government) is also very important in offsetting customer costs. The lower wholesale electricity price is due to modelled increases in Tasmanian electricity exports to Victoria putting downward pressure on Victorian wholesale spot and contract prices, especially at times of high demand. This is because energy prices for most Tasmanian customers are linked to wholesale energy prices in Victoria either through market contracts or the regulatory framework. This is assumed to continue in the WoSBC analysis.

However, assuming energy prices for Tasmanian customers remain linked to the Victorian market, residential and business customers are modelled to face electricity bills over the next 25 years that are 20 per cent higher, on average, than current bills, in real terms. This is due to rising wholesale electricity prices projected across the NEM under the WoSBC modelling.

These wholesale electricity price impacts greatly outweigh the transmission-related electricity bill implications from Marinus Link and the NWTD. Importantly, these will arise whether Marinus Link is constructed or not, under current frameworks. Wholesale prices are also modelled to be much more volatile, leading to potentially large fluctuations in electricity bills from year to year. Future Government policy on the Tasmanian regulatory framework and customer rebates, together with decisions of the Tasmanian Economic Regulator, will be critical in determining the final electricity bill outcome for Tasmanian customers.

Tasmania's Major Industrial (MI) customers would face very large increases in transmission prices under Marinus Link Stage 1 arising from their high usage of the network. The MI customers combined are estimated to see average price increases from 2030-31 to 2049-50 of almost \$20 million (45 per cent) with Marinus Link Stage 1, compared to "No Marinus", well above the 2024-25 total costs of approximately \$42 million. This increase would primarily occur upon project commissioning and would come at a time when there appears to be a range of pressures building on major industry nationwide. While there would be upward momentum in their energy prices in line with broader NEM trends, it is unclear how energy prices for MIs would be affected by Marinus Link because their long-term energy contracts are subject to individual commercial negotiation and include a range of commercial considerations that apply only to these large customers.

1.4.3 Financial impacts on Government businesses

The financial implications of Marinus Link Stage 1 and other major projects on the Government businesses vary. MLPL is expected to provide modest positive returns to shareholders, including the Tasmanian Government. The current construction cost estimate for Marinus Link Stage 1 to 2029-30 is \$3.9 billion (in real \$2022-23), noting there are significant additional financing and other costs. The concessional regulated revenue model proposed by MLPL, combined with the expected financing arrangements with the CEFC, support sufficient cashflows for MLPL to fulfill its debt obligations and other expenses for Marinus Link Stage 1, and enable modest returns on equity.

Based on the current cost estimate and schedule, post-FID equity contributions totalling approximately \$106 million for MLPL may be required from Tasmania, around the same value as the State's contribution to date (\$103.5 million). This will need to be considered as part of the 2025-26 State Budget process. In addition, pre-commissioning risks are high and the participating Governments are exposed to increasing financial risks and potentially very significant additional equity calls if the project's post-FID conditions, such as environmental and planning approvals, are not satisfied or the project is terminated. The previously agreed sole underwriting of such risks by the Australian Government fall away once Notices-To-Proceed are made to suppliers subsequent to a positive FID in the third quarter of 2025.

TasNetworks faces commercial complexities due to the regulatory revenue framework combined with the current financing arrangements expected to fund NWTG Stage 1. The project has a construction cost estimate of \$950 million (in real \$2022-23) in the WoSBC. While TasNetworks as an entity is modelled to remain profitable over the projection period, and the commercial issues resolve in the very long term, for the first two thirds of its asset life, the NWTG will not receive enough revenue to meet its debt obligations and other expenses. At the time of writing, these commercial issues are being worked through by TasNetworks and a different final outcome is possible.

Hydro Tasmania has significant opportunities for its existing generation assets with additional interconnection. Consequently, Hydro's profits before tax are modelled to broadly double compared to "No Marinus". This reflects the high value of flexible, dispatchable hydro generation in the transition of the NEM from coal to renewables and expectations that further interconnection with Victoria will provide Hydro Tasmania with significantly enhanced opportunities to realise the market value of its existing assets. The modelled increase in Hydro's profitability in most scenarios is well in excess of the total Tasmanian network costs from Marinus Link and NWTG Stage 1, based on current project cost estimates, notwithstanding the simplistic nature of this measure.

However, this relies on Hydro being able to generate flexibly at market-based prices. Also, it will be facing increased competition from other renewable energy generators which are expected to play a larger role in Tasmania's electricity supply industry going forward. Hydro's potential revenue opportunities are also significantly exposed to a suite of market risks, including any changes to the operation of the NEM. Basslink's yet-to-be determined status as a regulated or market interconnector is a further uncertainty.

The Tarraleah redevelopment is a very large project, more than doubling its current capacity and increasing operational flexibility. The estimated construction cost in the WoSBC is \$1.9 billion (real \$2024), with a partial concessional finance facility available from the CEFC. The interest rate subsidy is required to be passed through to consumers under arrangements agreed with the Australian Government. However, the project faces cashflow challenges in its initial decade of operation and there is a range of project risks that will need to be addressed in its upcoming FBC. Given its high cost and the fact it does not materially drive Hydro's profit outcomes under Marinus Link Stage 1, the Tarraleah proposal will need to be carefully evaluated by the Government. Significant investment is required at Tarraleah even in a "No Marinus" scenario, due to its age and the condition of its assets.

1.4.4 Impact on Government finances and credit rating

The overall modelled returns from Government energy businesses are found to have a significantly positive impact on the State Budget post-commissioning of Marinus Link. However, there are numerous risks as noted earlier and returns are reliant on Hydro continuing to trade commercially. Additionally, a significantly higher level of concentration risk for the Government in the energy industry and annual volatility in projected returns to Government is expected, which will present issues in forecasting revenues accurately and for long-term Budget planning. The Government should exercise caution in “locking in” expenditure based on modelled Hydro Tasmania returns.

Importantly, the scale of the combination of the Tarraleah redevelopment and NWTD Stage 1 assumed under Marinus Link Stage 1 will significantly increase Public Non-Financial Corporations (PNFC) Sector net debt. When General Government Sector (GGs) net debt is combined with PNFC Sector net debt, Total Non-Financial Public Sector (TNFPS) net debt is modelled to peak at nearly \$19 billion in 2031-32, assuming both projects and Hydro's major projects are progressed. This estimate assumes a balanced GGS fiscal position is achieved quickly and contrasts with the average annual level of TNFPS net debt over the past 15 years of approximately \$2.6 billion.

The modelled level of TNFPS net debt is expected to put near term pressure on the State's credit rating, which will be exacerbated if the results from Hydro Tasmania do not materialise as expected or a return to a GGS fiscal balance is achieved more slowly.

On the upside, if the Hydro Tasmania projected profits eventuate and are sustained, this could alleviate ratings pressure in the long run, especially if the returns to Government help to reduce GGS net debt.

1.4.5 Tasmanian energy market impacts

Marinus Link will have wide-ranging implications for the Tasmanian energy market, including regulatory and retail competition issues and on energy security. A range of policy and regulatory frameworks including the setting of regulated prices and Hydro's storage level requirements are likely to need review. Marinus Link Stage 1 is modelled to drive increases in wind capacity and overall installed capacity in Tasmania, making the State a net energy exporter and moving towards achievement of the Tasmanian Renewable Energy Target (TRET). Additional renewables are important to maximise Hydro's trading opportunities. However, in practice, new renewables projects will still need to achieve environmental and planning approvals and achieve the necessary commercial viability.

While energy security in Tasmania is currently strong given the availability of Basslink and the Tamar Valley Power Station, Marinus Link Stage 1 will clearly enhance this position. Assuming some as yet unresolved technical challenges can be worked through, Marinus Link will provide important redundancy as a path for excess energy if a MI closes and for the eventual decommissioning (or a second failure) of Basslink, which is halfway through its asset life.

1.5 “No Marinus”

Should Marinus Link Stage 1 not be approved by the Tasmanian Government, under the MLPL SHA, shareholders need to consult on future arrangements.

It is possible that the Australian and Victorian Governments or the private sector may still wish to proceed with this or a similar project. This may lead to a worse cost outcome for Tasmanian customers, noting the NWTD will still be required. This should be considered as part of the Government’s decision making.

Without Marinus Link, Tasmania’s economic activity will be significantly lower, especially over the first decade as the high employment and GSP outcomes from the Marinus Link Stage 1 investments would be foregone. Private sector investment in wind generation is still modelled to be built in the State to meet Tasmania’s load requirements, but the TRET is not met under any scenario. In practice, less on-island generation is likely to make expansion of major industry in Tasmania more challenging, although this will depend on commercial offtake arrangements and any Government assistance (potentially for both supply and load).

Transmission prices will be lower without Marinus Link, saving typical residential customers an estimated \$70 compared to Marinus Link Stage 1. MI customers will face less financial pressure, with an estimated \$20 million in additional transmission costs no longer applying to that sector. However, wholesale electricity prices in the NEM are still expected to substantially increase, impacting Tasmanian customers even in a “No Marinus” scenario.

If Marinus Link does not proceed, MLPL may wind down, and Tasmania is likely to lose its \$103.5 million initial equity investment (with

the Victorian and the Australian governments also losing their investments). Compared to the Marinus Link Stage 1 case, the State’s credit rating is likely to face less pressure, given reduced TNFPS debt. However, Hydro Tasmania would not have access to significant new revenue opportunities, though it will also face reduced financial risks. It will be unable to take advantage of opportunities to improve the dispatch efficiency of its existing generation suite and will remain more of a baseload, rather than a capacity, generator. It will still need to refurbish the Tarraleah power station, noting concessional finance from the CEFC is unlikely to be available.

Under the “No Marinus” case, the status quo is likely to be broadly maintained from a regulatory framework and retail competition perspective with Hydro retaining its dominant energy market position. Given an expected lower build-out of new renewables, environmental and planning issues and community impacts will be lessened. However, the achievement of numerous Government policy objectives such as employment and economic growth, significant new private sector renewable energy investment, the TRET and a hydrogen industry or other major industry developments may not be achieved.

A key consideration is future energy security. While the State is currently on a firm footing given Basslink and the TVPS support, there are long-term implications of not proceeding with Marinus Link which require careful consideration. A future Government (or the private sector) is likely to reassess the need for a second interconnector in the 2030s, if not before. In that case, an escalation of project costs is likely; Hydro Tasmania’s initial revenue opportunities will have been lost; and it is unknown whether similar concessional and cost allocation arrangements would be available to the State in the future.

1.6 Marinus Link Stage 2, NWTD Stage 2 and the Cethana pumped hydro project

Under its ToR, the WoSBC is to have its primary focus on Marinus Link Stage 1 but information is to be provided where possible to support the Government's consideration of actions in relation to Marinus Link Stage 2 and other major projects.

There is minimal detail in the MLPL SHA regarding the process for Marinus Link Stage 2 and no funding arrangements for it or NWTD Stage 2 have been agreed. There is much greater uncertainty over project costs. There is also no funding support for Hydro Tasmania's Cethana pumped hydro project despite the benefits it provides to Victoria and the broader NEM.

These projects, if they proceed, represent a very significant economic stimulus for Tasmania, with modelled total investment of up to \$16 billion under the Step Change scenario. This investment is expected to add \$6.8 billion to Tasmania's GSP over the first decade and create 5 300 jobs at its peak. As a group, the projects would likely be the largest economic stimulus in Tasmania's history.

If Marinus Link Stage 1 arrangements are replicated for Stage 2, this will further increase transmission prices for Tasmanian customers, with residential bills rising by over \$100 (5 per cent) on average from 2030-31 to 2049-50 compared to "No Marinus", in real \$2023-24.

Small business customers see a similar percentage uplift, depending on their usage. The MIs will experience further pressure on transmission costs, with the estimated average annual transmission price for the MIs as a group increasing by up to a further \$10 million from Marinus Link Stage 1, in total approximately 60 per cent higher than "No Marinus".

The additional integration with the Victorian market is modelled to put further downward pressure on wholesale electricity prices in Victoria, benefiting most Tasmanian customers indirectly given current regulatory frameworks. This again broadly offsets the transmission price increase when combined with the customer rebate from the Tarraleah project. However, as in the other cases, overall energy prices are modelled to rise significantly with the NEM's transition to renewables and as Tasmania becomes even more integrated with the Victoria market. These energy price impacts are modelled to be much more significant than the transmission-related impacts and this also has implications for the MIs energy contracts. Ultimately, the customer electricity bill impact will reflect Government policy and decisions of the Tasmanian Economic Regulator.

Financially, the suite of projects poses high risks but may provide improved long-term returns to the Government overall compared to Marinus Link Stage 1, noting again these are tied to Hydro operating on a flexible and commercial basis. Given its scale, the Cethana pumped hydro project is a crucial determinant of future outcomes and its profitability is highly dependent on uncertain and volatile NEM wholesale energy market outcomes. Like the Tarraleah redevelopment, it does not materially drive Hydro Tasmania's profitability under the WoSBC modelling. At a current construction cost estimate of \$2.6 billion in real \$2024, it will significantly increase the State's total debt and it would place further pressure on the State's credit rating in the short to medium term compared to Marinus Link Stage 1.

Overall, the Marinus Link Stage 2 projects will further enhance energy security and accelerate achievement of the TRET, but the additional energy security benefits provided by Stage 1 are likely to be sufficient and Stage 2 will not add material value.

Noting the numerous risks and significant scale of these projects, it is challenging to see the basis upon which Marinus Link Stage 2 and related projects could be progressed given the modelling presented in the WoSBC.

Given these risks and noting that the energy market benefits of the Cethana project and associated transmission infrastructure primarily flow to Victoria and the broader NEM, a path forward would require a potential renegotiation of the cost allocation between Victoria and Tasmania for Cable 2 revenues, as well as underwriting and/or concessional debt financing from the Australian Government.

1.7 Summary

The decision to proceed with Marinus Link and NWT Stage 1 will have significant implications for the State's energy market, Government finances, and overall economic development.

To proceed involves a range of risks around project completion and cost increases, the need for further equity injections and/or Government support, increased exposure to the NEM including changes to its operation, pressure on major industry and complex State Budget outcomes which vary over time. However, the decision to proceed also maximises the opportunities from the State's natural competitive advantages in renewable energy, improves energy security and increases economic growth. Hydro will have very significant revenue opportunities for its existing assets assuming it can transition from its current "baseload" energy role in the State. Electricity price outcomes are challenging under all scenarios, largely driven by the NEM energy transition overwhelming the transmission project impacts.

The decision to proceed with Marinus Link and the NWT Stage 1 should be taken on a stand-alone basis from Hydro Tasmania's major projects. Given their scale, expected profitability and impact on the State's total debt, Hydro Tasmania's major projects will need careful evaluation when their FBCs are presented, which is well after the FID for the transmission projects is required.

The WoSBC raises several matters that are likely to require future policy consideration by the Government. It is not the role of the WoSBC to put forward policy recommendations but given the commissioning of Marinus Link is approximately five years away, there is time for the Government to assess many of these other complex issues.

A more comprehensive summary of the WoSBC is contained in Chapter 10.



1.8 Project Marinus Whole-of-State Business Case Key Insights

Background

- The Project Marinus Whole-of-State Business Case (WoSBC) is a “point in time” assessment to inform and assist the Government with its decision on whether to proceed with Marinus Link Stage 1 and, given its co-dependence, the North West Transmission Developments (NWTD) Stage 1.
- Hydro Tasmania’s Tarraleah redevelopment and Cethana pumped hydro scheme are assessed in the WoSBC but these require separate investment decisions in 2026 and approval by both Houses of Parliament.
- A range of critical information will be presented to the Government following the completion of the WoSBC, including the Final Investment Decision (FID) recommendations from the Marinus Link Pty Ltd (MLPL) and TasNetworks Boards, expected by end-May 2025. Other key information, such as final revenue determinations and planning approvals, will also be outstanding. For this reason, the WoSBC does not make a recommendation on a course of action regarding Marinus Link Stage 1.
- The WoSBC models a range of scenarios over a 25-year projection period. Models provide valuable insights. However, they have inherent limitations, uncertainties and risks. Models serve as tools for analytical analysis and to inform decision-making but cannot definitively predict future outcomes and should not be taken to be forecasts.
- If Marinus Link Stage 1 proceeds, a number of areas identified in the WoSBC are likely to require future policy consideration. Given its scheduled commissioning is approximately five years away, there is time for the Government to assess many of these complex issues.

Economic impacts

- Marinus Link and the associated projects assessed in the WoSBC represent potentially the largest infrastructure investments as a group in Tasmania’s history.
- The combined value of these investments is estimated to range from \$4.4 billion to \$16.0 billion, depending on whether one or two Marinus Link and NWTD Stages are constructed, the extent of additional wind and hydro generation projects and whether a major green hydrogen manufacturing plant is constructed.

- Gross State Product is modelled to increase by between \$1.8 billion and \$6.8 billion in total over the first decade from 2025-26 (the equivalent of between 4.4 per cent and 16.7 per cent of Tasmania's estimated GSP for 2023-24).
- Employment reaches between 2 100 and 5 300 additional full-time and part-time jobs in the peak year. Over the first decade, employment is estimated to be between 700 and 2 700 higher on average each year, compared to levels without Marinus Link.
- This will lead to significantly increased training and employment opportunities. However, given the scale of the projects, resource constraints are likely to result in higher wages in the construction industry with flow-on impacts to other industries, with many workers likely to come from outside Tasmania.
- While there are differences across scenarios, Marinus Link and NWTD Stage 1 increase transmission prices by an estimated \$70 for a typical residential customer and up to \$140 for a typical small business customer (in real \$2023-24). The transmission prices charged to customers are significantly reduced due to concessional finance arrangements agreed with the Australian Government.
- The modelling finds that the higher transmission costs are broadly offset by lower wholesale electricity prices, compared to "No Marinus", as a result of increased Tasmanian electricity exports to Victoria, which puts downward pressure on Victorian wholesale spot and assumed contract prices. While less certain than the transmission impacts, this benefit arises because wholesale electricity prices for Tasmanian customers are linked to wholesale prices in Victoria through market and regulatory arrangements. Electricity customers also benefit from an assumed rebate relating to concessional funding available to Hydro Tasmania for its Tarraleah redevelopment project.

Electricity price impacts

- The annual cost of transmission associated with Marinus Link will be borne 72.4 per cent by Victorian electricity customers and 27.6 per cent by Tasmanian customers. The costs of NWTD will be met by Tasmanian customers only.

- However, under all modelled scenarios, overall wholesale electricity spot prices in Victoria and other mainland National Electricity Market (NEM) regions are found to rise very significantly in real terms, whether Marinus Link is constructed or not. This is due primarily to the exit of coal-fired power stations on mainland Australia and will be challenging for consumers and Governments in all NEM jurisdictions.
- Assuming wholesale electricity prices in the bills of Tasmanian customers remain linked to the Victorian market, over the next 25 years the modelling finds the annual electricity bill for a typical residential customer is higher by between \$450 and \$500, or more than 20 per cent greater than customers currently pay, on average in real terms. The percentage increases are similar for business customers.
- These NEM-wide impacts greatly outweigh the electricity bill implications arising from Marinus Link and the NEM itself. Overall, higher wholesale electricity prices account for over 90 per cent of the modelled average annual bill increases for Tasmanian residential customers over the 25-year projection period.
- Future Government policy on Tasmanian wholesale electricity prices and customer rebates, together with decisions of the Tasmanian Economic Regulator, will be critical in determining the final electricity bill outcome for Tasmanian customers with or without Marinus Link.

The Major Industrials

- Tasmania's Major Industrial (MI) customers would face very large increases in transmission prices from Marinus Link and the NEM. The MI customers combined are modelled to face average price increases from 2030-31 to 2049-50 of up to almost \$20 million with Marinus Link Stage 1, compared to "No Marinus", and further increases of up to \$10 million with Marinus Link Stage 2. In addition, future project cost increases, if they arise, will have a much larger impact on the MI customers.
- While there would be upward momentum in wholesale electricity prices in line with broader NEM trends, it is unclear how MI prices would be affected by Marinus Link and future changes in wholesale electricity prices. This is because their long-term energy contracts are subject to commercial negotiation and include a range of considerations that apply only to these large customers. There will, however, be a range of challenges for the MIs even in a "No Marinus" case.
- While energy costs are important, MIs are price takers on commodity markets for their inputs and also for the output they produce. In general, the MIs are relatively small in scale and have relatively high operating costs. These issues are not confined to Tasmania and pressures on major industry are also apparent in other jurisdictions. The manufacturing sector nationwide is expected to face further challenges from the NEM transition, with international competitiveness a key issue.

- Closure of a MI would have adverse impacts on Tasmania's economy, especially on employment in the region where it is located. It would also increase network costs for other customers under the current regulatory framework arrangements.

Marinus Link Pty Ltd

- As a regulated asset in the NEM, Marinus Link is expected to provide positive returns to Governments and the Tasmanian State Budget. Over the 40-year life of the asset, all equity invested by Tasmania is paid back, along with a modest return.
- If a positive Final Investment Decision is made, further equity contributions of approximately \$100 million may be required from Tasmania which will need to be considered in the 2025-26 Budget.
- Approximately 55 per cent of the project cost is yet to be validated and refined for final submission to the Australian Energy Regulator (AER). If approved by the AER, any cost increases will be met by customers, although the low cost of financing and modest equity returns reduces cost impacts.
- While considered a low risk by MLPL, there are material pre-commissioning exposures for all shareholders including termination penalties, with the current underwriting of these risks by the Australian Government falling away once Notices-to-Proceed are made to suppliers in the third quarter of 2025.

TasNetworks

- NWTG Stage 1 has numerous funding issues to be resolved. Under current arrangements, for the first two thirds of its asset life, the project does not receive enough revenue to fulfill its debt obligations and other expenses.
- TasNetworks as an entity remains profitable over the projection period, and the issues resolve in the very long term. However, its returns are lower when compared to "No Marinus". Broadly, the NWTG losses are offset by the returns to the Tasmanian Government from MLPL.
- These commercial issues are being worked through by TasNetworks and a different final outcome is possible, although this is likely to impact on customers who are also exposed to any project cost increases and adjustments to the proposed revenue model.

Hydro Tasmania

- Hydro Tasmania's existing generation assets are modelled to see substantial profit uplift if Marinus Link Stage 1 is commissioned. This reflects the projected high value of flexible, dispatchable hydro generation in the transition of the NEM from coal to renewables which will provide Hydro Tasmania with significantly enhanced opportunities to realise the market value of its assets.

- The modelled profit increases from the Tarraleah redevelopment and Cethana pumped hydro projects are much less significant based on their preliminary business cases. These two major projects require debt-funded capital investment of approximately \$7 billion and will require separate investment decisions to Marinus Link and NWT Stage 1, expected to be in 2026.
- Hydro Tasmania's profits before tax are modelled to broadly double compared to "No Marinus".
- Risk and sensitivity scenarios such as project cost increases or lower than modelled future NEM revenues demonstrate that Hydro's financial results can deteriorate quickly under plausible future outcomes.
- However, the modelled increase in Hydro's profitability in most scenarios is well in excess of the total Tasmanian network costs from Marinus Link and NWT Stage 1, based on current project cost estimates, notwithstanding the simplistic nature of this measure.
- The increased returns rely on Hydro being able to generate flexibly at market-based prices, with profits modelled to be less strong in earlier years due to higher debt balances associated with its new major projects. Government returns are likely to be highly volatile and Basslink's yet-to-be determined status as a regulated or market interconnector is a further uncertainty.

Impact on Government finances and credit rating

- Modelling shows strong positive returns to Government, predominantly delivered through the profitability of Hydro's existing generation assets.
- However, the State is highly exposed to the energy sector, market risks and cost overruns. Given the risks, uncertainties and the volatility of returns, the Government should exercise caution in "locking in" future expenditure.
- If the full suite of major energy projects move ahead, especially those of Hydro Tasmania, the State's credit rating will come under pressure due to significantly increased debt levels. This will be exacerbated if Hydro Tasmania's expected returns do not materialise or a return to a General Government Sector fiscal balance is achieved more slowly.
- With the combination of the Tarraleah redevelopment and NWT Stage 1 assumed under Marinus Link Stage 1, Total Non-Financial Public Sector net debt peaks at approximately \$18.6 billion in 2031-32. When combined with the Cethana pumped hydro and NWT Stage 2 assumed under Marinus Link Stage 2, TNFPS net debt peaks at approximately \$23.1 billion in 2033-34. This contrasts with the average annual level of TNFPS net debt over the past 15 years of approximately \$2.6 billion.

Energy markets and energy security

- There are wide-ranging implications for the Tasmanian energy market, including regulatory and retail competition considerations. A range of policy frameworks are likely to need review.
- Marinus Link Stage 1 is modelled to drive significant increases in wind capacity and overall installed capacity in Tasmania, making the State a net energy exporter and moving towards achievement of the Tasmanian Renewable Energy Target (TRET).
- The TRET is modelled to be met under the Marinus Link Stage 1 Step Change scenario. This suggests that Marinus Link will be an enabler for the new private sector generation pipeline. However, the interim TRET is not achieved. In practice, commercial realities, the required regulatory approvals, together with government assistance, if forthcoming, will drive renewable generation and TRET outcomes.
- This is important as Hydro Tasmania's ability to maximise the value of its generation suite will require new renewable generation to be built in the State.
- Marinus Link Stage 1 will enhance energy security, although the State's current energy security status is strong given the availability of Basslink and the Tamar Valley Power Station.

- Marinus Link will provide important redundancy as a path for excess energy if a Major Industrial closes and, importantly, for the eventual decommissioning (or second failure) of Basslink, which is halfway through its asset life.

A "No Marinus" scenario

- Governments must consult on future arrangements in the event of a negative FID. It is possible that the Australian and Victorian Governments may still wish to proceed without Tasmania, as may the private sector (at likely higher cost to Tasmanians).
- Economic activity will be significantly lower, relative to the Marinus Link Stage 1 case.
- Transmission prices will be lower without Marinus Link but wholesale energy prices in the NEM are still expected to increase, impacting on Tasmanian customers.
- Tasmania is likely to lose its \$103 million equity investment in MLPL to date.
- While not proceeding would lead to lower debt and credit rating pressure, Hydro will lose significant new revenue opportunities and it will still need to refurbish the Tarraleah power station in some form.

- Government policy objectives such as new private sector renewable energy investment may not be achieved.
 - A future Government (or the private sector) is likely to reassess the need for a second interconnector in the 2030s, if not before. Costs will likely be higher and the current concessional finance from the Australian Government may not be available. Cost allocation arrangements between Tasmanian and Victorian customers may also be quite different.
 - There is also no Australian Government funding support for Hydro Tasmania's Cethana pumped hydro project, noting the significant benefits these projects bring to the mainland NEM.
 - Given the sizeable debt increase, customer cost and other implications, for Tasmania to progress Stage 2 these broader NEM benefits will need to be recognised by the Australian and Victorian Governments.
 - This would require consideration of different cost allocation arrangements between Victoria and Tasmania for Stage 2, as well as underwriting and/or concessional debt commitments from the Australian Government.
- Marinus Link Stage 2**
- There is minimal detail in the MLPL shareholder agreement regarding the process for Marinus Link Stage 2. No funding arrangements for it or NWTG Stage 2 have been agreed.

