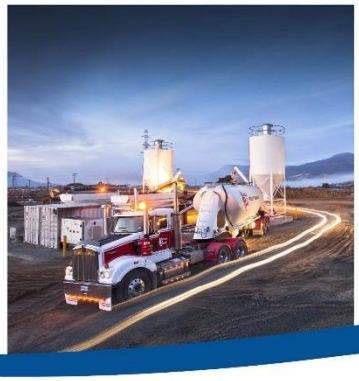
Tasmanian Government Submission
to Infrastructure Australia

September 2018

Economic Infrastructure Priorities Update



Infrastructure Tasmania

Tasmanian Government

Contents

Introduction

Infrastructure Australia (IA) is updating the Infrastructure Priority List (IPL), with the next edition to be published in February 2019.

As part of the update, IA is calling on Australian governments and non-government bodies to identify infrastructure problems and opportunities of national significance. IA has indicated that proposals for all types of infrastructure, including programs of related works and programs for network optimisation, will be considered.

This submission provides the Tasmanian Government's update on existing priority projects and initiatives, together with new initiatives recommended for addition to the IPL.

As was the case when the last submission was being prepared, in the period since IA released the current IPL the Tasmanian economy has continued to grow and perform strongly.

State Final Demand figures show that Tasmania has had one of the fastest growing economies of any state. At the end of March 2018 quarter, the economy had grown by 4.0 per cent compared to the time the previous year, and above the national average of 3.2 per cent growth.

Population growth is also the highest it has been in nearly eight years, as more people than ever choose Tasmania as the place to live, work and raise a family, with recent reports showing Tasmania's population growth is almost 65 per cent above the decade-average rate.

The state of the economy is pleasing and the Tasmanian Government is continuing to invest and plan for future growth. The 2018-19 State Budget includes a record $2.6 billion of infrastructure expenditure across the Budget and Forward Estimates to build Tasmania's future. This investment is in:

- roads and bridges ($1.1 billion);
- hospitals and health ($475.6 million);
- human services and housing ($205.3 million);
- schools and education ($192.2 million);
- law and order ($169.7 million);
- tourism, recreation and culture ($142.2 million);
- ICT to support service delivery ($54.2 million); and
- other infrastructure ($21 million).

The Tasmanian Government recognises that this level of infrastructure investment presents some challenges, including industry capacity to deliver. In this regard, the Government has also committed to the following this year:

- delivery of a 10-year Infrastructure Pipeline detailing the major Government infrastructure projects and spending proposed across inner budget agencies and Government Businesses; and
- a 30-year Infrastructure Strategy to assist with long-term planning, so that the next generation of Tasmanians can understand and, importantly, grasp the opportunities of the future.

Further, the Minister for Infrastructure has commenced conversations with the construction sector and procuring parties to ensure the commercial sector and all levels of government collaborate to deliver this significant program of investment.

Tasmania is entering a golden age of investment and the Government is working to ensure that the opportunity is delivered and maximised for future generations.

Existing Priority Project and Initiative Updates

Tasmania currently has five initiatives/projects on the IPL – Derwent River crossing capacity, Burnie to Hobart Freight Corridor Strategy, Relocation of University of Tasmania STEM facilities to Hobart CBD, Tasmanian sewerage infrastructure upgrades, and Second Bass Strait Interconnector.

Four of the five projects were proposed by the Tasmanian Government, with the fifth put forward by the University of Tasmania and supported by the Government.

An update on the progress with and status of each priority initiative is provided below.

Derwent River Crossing Capacity

This priority initiative recognises that the current Bridgewater Bridge, which links the dual carriageway highways of the Midland and Brooker and is a segment in Tasmania's National Highway network, does not meet contemporary loading and design standards as part of the National Land Transport Network. The bridge provides one lane in each direction and has a posted speed limit of 60 km/h. The existing bridge (70+ years old) and causeway (originally built in 1829) are aged, with there being an ongoing risk of network disruption due to the Bridge's vertical lift mechanism, which has a history of failure on lifting.

The Bridge is strategically important in the distribution of freight from the Brighton Transport Hub into the northern and central suburbs of Hobart, but also plays an important role for commuter traffic and as a gateway for tourist visitors travelling from Launceston to Hobart.

The business case (shortly to be lodged) proposes decommissioning the existing causeway and bridge and constructing a new four lane bridge structure just downstream. This capacity increase will alleviate congestion in the am and pm peaks, and will avoid challenging upgrades to the East Derwent Highway.

The new Bridge would have an increased 110 km/h speed limit and the design specifications would overcome the oversize and mass restrictions that currently prevail. The Bridge currently has around 22 000 crossings per day and operates at 96 per cent capacity in peak times.

This initiative should remain on the IPL.

Burnie to Hobart Freight Corridor Strategy

Tasmania's businesses rely on high standard, on-island freight connections, supporting the efficient movement of freight to and from production areas, processing and industrial centres, and export points.

The Burnie to Hobart Freight Corridor (the Corridor) is the core of Tasmania's land freight network, connecting all major population, industrial and export centres. The Corridor supports the movement of high volumes of

freight and forms a part of nearly every major industry supply chain in the State. Around 70 per cent of freight trips across Tasmania use the Corridor for at least part of the journey.

In 2017, the Tasmanian Government released the *Burnie to Hobart Freight Corridor Strategy* to guide future planning and investment along the Corridor, and to ensure freight performance standards are maintained and enhanced over the long-term, in line with freight demand, user needs and emerging challenges.

The Strategy identifies the following outcomes for the Corridor -

A freight Corridor that:

- Is planned, managed and delivered to support broader freight system and supply chain outcomes for Tasmania.
- Supports efficiency, access and modal choice for freight users.
- Responds to and appropriately manages freight demand, considering freight volumes, user needs and the ability of road and rail to cost-effectively support a freight task.
- Is based on transparent investment frameworks and project business cases, supporting a coordinated evaluation of freight investment across the Corridor.
- Reflects contemporary freight analysis and information, including from key freight users.

The Strategy is underpinned by detailed freight demand analysis and comprehensive engagement with users of the Corridor, including industry and freight forwarders.

The Corridor operates as a parallel road and rail network. The majority of the Corridor's freight task is on road, with volumes highest between Burnie and Launceston, and over the Bridgewater Bridge. Road freight volumes are forecast to increase by around 36 per cent and rail volumes by 10 per cent, over the next twenty years, driven largely by the agriculture, construction and consumer goods sectors.

Contestability analysis indicates the proportional split of freight carried by road and rail along the Corridor is unlikely to change significantly over the long-term. Across most Corridor segments, even a major shift in freight from one mode to the other would have limited impact on capital upgrades or maintenance costs.

Over the longer term, low levels of service, driven by capacity constraints, are forecast on the Bass Highway between Burnie and Devonport, and Illawarra Main Road and Launceston, on the Bridgewater Bridge and on sections of the Brooker Highway.

On feeder routes, the highest freight growth will occur on the Bass Highway between Burnie and Smithton and the East Tamar Highway between Launceston and Bell Bay.

In urban areas, a general increase in freight volumes has the potential to impact on the efficiency of freight movements particularly during peak periods, with the Brooker Highway most likely to be affected.

The standard of infrastructure provided along the Corridor directly influences freight efficiency, productivity and costs to users. The *Burnie to Hobart Freight Corridor Strategy* targets large-scale investment to those areas where freight outcomes are maximised. The Tasmanian Government has prioritised replacement of the Bridgewater Bridge as the key Corridor initiative over the short-term, together with continued delivery of the Midland Highway 10 Year Action Plan and a Corridor-wide rail investment program.

The priority initiatives for road investment on the Corridor over the next ten years include -

- New Bridgewater Bridge - estimated cost $576 million (State and Australian Govt Funding commitment)
    - Replacement of the existing Bridgewater Bridge with a new, purpose-built four-lane bridge.
- Midland Highway upgrades - remaining $180 million from total $500 million commitment
    - Continued delivery of the Midland Highway 10 Year Action Plan, focusing on providing a minimum 3-star AUSRAP across the Highway.
- Perth Link Roads - estimated $92 million (funded and underway)
    - Western and southern bypasses to remove heavy vehicles from travelling through the centre of Perth, improving both safety and freight efficiency.
- Illawarra Main Road - estimated cost $165 million
    - 12 km of duplicated road, interchange and bridge upgrades.
- Bass Highway - Wynyard to Smithton (Key Feeder) - estimated $100 million ($40 million State and $60 million Australian Govt committed)
    - Targeted improvements to 73 km, including improved shoulder widths, vertical and horizontal geometry and junction upgrades.
- Bass Highway - targeted upgrades at Leith and Christmas Hills - estimated cost $38 million
    - Upgrades to improve safety, including new overpass and improved accesses.
- Bass Highway - Deloraine to Oppenheims Road - estimated cost $340 million
    - 34 km of duplicated road, including upgrades to major junctions and interchanges.
- Bass Highway -South Esk to Deloraine - estimated cost $165 million
    - 32 km of duplicated road corridor, with associated upgrades to significant bridges and overpasses.
- East Tamar Highway - Dilston Bypass to Bell Bay (Key Feeder) - estimated cost $75 million
    - 25 km central median implementation, with junction and overpass upgrades.

This investment will be supported by the continued implementation of Corridor-wide infrastructure and bridge upgrades aimed at improving access for higher productivity vehicles, and rail reliability.

The Tasmanian Government has also committed funding to undertake a feasibility study and prepare a Business Case for submission to IA for a new Tamar River crossing.

On the rail network, TasRail is in the fourth and final year of Tranche One of the Tasmanian Freight Rail Revitalisation Program. Approximately 70 per cent of the $119.6 million Tranche One project will be invested into the South and Western Lines that link Burnie and Hobart and the Fingal, Bell Bay and Boyer Lines that operate as feeder lines to the primary Corridor. Realised benefits to date include:

- Significant reduction in derailments (zero mainline derailments in the Corridor in 2017-18 financial year);
- First Above Rail profitability achieved in 2017-18 financial year; and
- Year on Year growth in freight volumes.

The Tasmanian and Australian Governments have committed a further $119.6 million to Tranche Two of the Tasmanian Freight Rail Revitalisation Program as part of a new, four-year investment program commencing in 2019-20, and to be completed in 2022-23. Over 90 per cent ($110 million) of funding will be directed to the Burnie to Hobart Freight Corridor (South and Western Lines) and its key feeder rail lines (Bell Bay, Fingal and Boyer), focused on the continued delivery of a sustainable and fit-for-purpose network. Priority areas for rail investment in the Corridor include:

- Replacement of near-life expired rail (approximately 59 000 metres);
- Installation of new sleepers (approximately 50 000 new steel sleepers);
- Remediation of failing formation (3 000 metres);
- Remediation of coastal erosion and landslips (10 sites in the Corridor have been identified as requiring remediation);
- Renewal/replacement of specific structures (220 culverts and bridges are included for renewal, repair or strengthening); and
- Level Crossing Upgrades (20 level crossing decks are planned for renewal).

Building on Tranche One, Tranche Two will further reduce single points of failure (addressing derailment risk), improve service reliability (ie on time running to satisfy customer requirements), reduce network maintenance costs and increase the performance of the Above Rail business. TasRail is currently finalising the business case for Tranche Two that will be submitted to the federal Department of Infrastructure, Regional Development & Cities for approval.

A sustainable and fit-for-purpose rail network requires ongoing capital and TasRail has identified the need for ongoing capital investment into the network at around current levels – in effect Tranche Three, commencing in 2023-24 and concluding in 2026-27. Any future rail projects will be subject to future government budget processes and robust business case assessment.

As parallel networks, freight investment in road and rail will continue to be evaluated to ensure funds are directed to projects that support and maximise Corridor outcomes. All future investment on the Corridor will be informed by user needs and service outcomes, and will be underpinned by detailed business cases.

This initiative should remain on the IPL.

Tasmanian sewerage infrastructure upgrades

This initiative aligns with the findings of the Australian Infrastructure Audit (April 2015), which noted problems with Tasmania's sewerage infrastructure. It contemplated upgrades and rationalisation of existing sewage treatment plants and upgrade and operation of a reduced number of plants in Hobart, Launceston and Devonport, as well as a strategy to improve operation of the combined sewerage and stormwater system in Launceston.

In the period since this initiative was listed the Tasmanian Government, the Chief Representative of TasWater's Owners Representative Group and TasWater have signed a Memorandum of Understanding (MOU) to progress further reforms of Tasmania's water and sewerage industry. To be enacted, TasWater's local government owners will need to agree to the Tasmanian Government becoming a shareholder and then legislative changes will be

required to bring the MOU into legal effect. The MOU sees TasWater using its best endeavours to increase its infrastructure investment to $1.8 billion, up from $1.5 billion, over the 10 year period from FY2016-17 through FY2025-26, with the Tasmanian Government contributing $200 million in new equity over 10 years. The Tasmanian Government has also worked with TasWater to freeze prices for regulated water and sewerage services in financial year 2019-20, with maximum price increases of 3.5 per cent each year thereafter to 2025. The Tasmanian Economic Regulator will retain its independent role in assessing capital and operating expenditure for prudency and efficiency, and approving maximum customer prices.

Since the sewerage infrastructure upgrades were listed, TasWater developed its first Long Term Strategic Plan for the 20 year period 2018-2037. The Plan is built on engagement with customers and regulators to determine their priorities and ensure that the planned infrastructure investments deliver the greatest outcomes across the State. Developing this plan has led to refinements of previously listed projects.

The project to rationalise treatment plants in Launceston, to assure compliance for 20 per cent of Tasmania's wastewater and improving the health of the River Tamar, was listed at a value in excess of $300 million. Refinement of the Launceston projects has reduced the estimated capital cost through more detailed assessment of leveraging existing assets, to produce an expanded set of strategic upgrade options. This includes a hybrid approach of rationalising a subset of Launceston's sewerage plants and individual plant upgrades to meet current and future environmental discharge standards and the growth needs of the Greater Launceston area. The total project cost estimate is in the range of $200 million (individual plant upgrades) to $365 million (full rationalisation). The project is planned for the years 2020-21 through to 2025-26. 'No-regrets' improvements for key sites, including the upgrade of Ti Tree Bend Sewage Treatment Plant at a cost of $61 million, are planned to be completed by FY2022-23. These 'no-regrets' improvements would significantly reduce the nutrient loads entering the Tamar Estuary.

The Pardoe Sewage Treatment Plant is one of the largest treatment plants in Tasmania and treats trade waste from some of the State's largest industrial customers (Fonterra, Simplot and Petuna) that make up a significant proportion of the flow and load to the Plant. The Pardoe project may include rationalising the Latrobe and Port Sorell treatment plants. The level of treatment is to be determined by discussions with EPA Tasmania based on the sustainable discharge of the Pardoe plant into Bass Strait. The total cost of the project is in the range of $15 million (primary treatment) to $44 million (secondary treatment). The detailed business case will be completed by the end of FY2020-21.

In the Greater Hobart area, TasWater owns and operates 14 sewerage systems, servicing approximately 40 per cent of the State's sewerage customers. However, the proposal for broad rationalisation of sewerage treatment plants in Hobart has been refocused to concentrate on the highly sensitive locations or areas where significant economic benefits can be achieved. Key projects include:

- Macquarie Point – the location of the sewage treatment plant, and the associated odour impact zone, is hampering development of the adjacent 9.3 Ha Macquarie Point former railyard site, one of the last remaining vacant urban infill locations across the capital cities. Investment at the site over the next 20 years has been estimated at over $2 billion, generating hundreds of jobs through construction and activation. The relocation of the Macquarie Point plant to Selfs Point industrial area is expected to cost $145 million.
- Museum of Old and New Art (MONA) - the adjacent Cameron Bay sewerage treatment plant is incompatible with the proposed development of the MONA site, including a 172 room five-star hotel, theatre, spa centre, outdoor concert stage and library, as well as conference and auditorium facilities. The

report detailing alternative options to address the odour impacts for the Cameron Bay STP is due for completion in June 2019.

- Sorell and Midway Point – Discharges from TasWater's two sewage treatment plants in this area have caused significant impact on nearby oyster leases and the estuarine environment. EPA Tasmania has directed that discharge to Pittwater cease by 1 July 2022. Preliminary master-planning on options for relocation, rationalisation, expanding recycled water schemes and modifying discharge arrangements has commenced.

In relation to proposed plans to improve operation of the Launceston combined sewerage and stormwater system, a Combined System Overflow Investment Plan has been developed through the Launceston City Deal. The Launceston City Deal is an agreement between the Australian and Tasmanian Governments and Launceston City Council to position Launceston as one of Australia's most liveable and innovative regional cities. The 2018 investment plan put forward $85 million of projects that would achieve 85 per cent of the benefits of a full system separation, including $10 million for catchment works. In addition, $10 million (part of $61 million discussed above) would be spent upgrading Ti Tree Sewage Treatment Plant to accept increased stormwater flows from the catchment. Funding for the management of catchment works has been announced by the Australian and Tasmanian Governments as part of the *Tamar River Health Action Plan*. Full system separation has been costed at $435 million, and would cause significant disruption to Launceston's residents and businesses during project construction. Given the cost and disruption, this option is not under active consideration.

The MOU between the Tasmanian Government, the Chief Representative of TasWater's Owners Representative Group and TasWater pledges that the parties will work together to expand water and sewerage services to parts of the State that aren't currently covered by TasWater's network. This may include areas with broader economic benefits including accelerating residential growth and/or mitigating environmental impacts, such as Coles Bay adjacent to Freycinet National Park (sewerage), Hobart's Southern Beaches (water and sewerage) and South Arm (water).

This initiative should remain on the IPL. The Tasmanian Government supports the refinement of the projects under the initiative and will work closely with TasWater to ensure delivery of the projects meets the expectations of the community and regulators, and deliver important outcomes for Tasmania.

Relocation of UTAS STEM facilities to Hobart CBD

Development of the University of Tasmania's tertiary science, technology, engineering and mathematics research and training facilities in the Hobart CBD was put on the Priority List as an initiative in 2015. In early 2017, the initiative progressed to priority project status, with IA's approval of the business case put forward by UTAS. The University is continuing to progress the project, with support from the Tasmanian Government.

Second Bass Strait Interconnector

This initiative, which was added to the Priority List in the most recent update, is known as "Project Marinus". It involves a feasibility study into additional Tasmanian and Victorian Bass Strait interconnection. TasNetworks will determine the feasibility and business case assessment for the construction of a new high voltage direct current (HVDC) marine cable, or interconnector, linking Tasmania to the Victorian coast under the Bass Strait and

associated connection to the existing transmission systems. This new interconnector/s[1], also known as the Marinus Link, will be in addition to the existing Basslink interconnector.

TasNetworks will provide the Tasmanian Government and ARENA with an initial Feasibility Report at the end of December 2018 and a Final Feasibility and Business Case Assessment Report at the end of 2019. The total cost of Project Marinus is expected to be $20 million. Project Marinus forms part of a larger Project, which could eventually enable the development, construction and commissioning of Marinus Link.

Since commencing in December 2018, the Project team has been building government, industry and community support in Tasmania and Victoria, determining the possible route options, technology solutions and commencing the economic regulatory analysis and consultation. The project strongly aligns with projects simultaneously under development in the Tasmanian energy sector, notably large-scale wind development and Battery of the Nation analysis. TasNetworks is also working with the Australian Energy Market Operator as it develops its Integrated System Plan, building from the initial 2018 plan that identified the potential for Marinus Link in the mid-2020s. TasNetworks will continue to work closely with industry participants and agencies who are progressing related market activities, including but not limited to AEMO, AusNet Services and current and prospective generators.

Marinus Link

Further interconnection within the NEM could support Australia's transition towards a clean energy future by unlocking investment in dispatchable, reliable, low cost renewable energy through Tasmania's hydro and potential pumped hydro, and complementary wind resources, collectively referred to as the Battery of the Nation initiative. Benefits of a Marinus Link may include:

- Harnessing diversity of generation and load profiles across the NEM;
- Unlocking untapped, clean, low cost, dispatchable hydro, pumped hydro and complementary wind resources from Tasmania;
- Firming Victorian renewables;
- Managing risks of Basslink outages;
- Utilising modern HVDC converter technology to support the power system; and
- Economic growth, jobs and skills development.

Marinus Link is expected to proceed if the value to energy consumers and the broader community is found to outweigh its costs, and the project has a viable business case.

Battery of the Nation

Battery of the Nation is a multi-million dollar joint initiative between the Tasmanian and Australian Governments, through Hydro Tasmania and the Australian Renewable Energy Agency (ARENA). The project is investigating and developing a pathway for future development opportunities in Tasmania in wind, hydropower system expansion including pumped hydro and additional transmission and interconnection to the national electricity market (NEM).

The project is advancing studies in three key areas – Tasmania's contribution to the future state of the NEM, developments in pumped hydro storage and developments in existing hydro assets. Preliminary work has been

[1] The interconnector options being considered include a single cable or two cables within the Marinus Link development.

undertaken in the first two key areas, with the results confirming the significant contribution Tasmania can provide the NEM with low cost, sustainable and secure energy solutions. The two reports published by ARENA in June 2018 (The *Tasmanian Future State NEM Analysis* and the *Pumped Hydro Energy Storage Assessment*) confirm that:

- Tasmania has significant under developed hydropower potential – that may be accessed through the upgrading of existing assets and the development of new hydro storage capacity;
- Tasmania has significant undeveloped wind resource, which is high quality and diverse;
- The coordinated development opportunity of Tasmanian pumped hydro, wind and interconnection is cost-competitive against all other options for the future energy system – that if developed could translate to a 20 per cent reduction in energy costs in the NEM; and
- Tasmania's combined energy solutions are low cost, sustainable and secure.

In relation to Tasmania's pumped storage potential, the studies confirmed Tasmania's pumped hydro opportunities are very cost competitive with over 4800MW and 140GWh of opportunity at a cost to construct of $1.05 million to $1.5 million per megawatt installed. The Battery of the Nation pumped hydro studies continue, with the 14 high potential sites currently being short-listed to identify the prime sites, which could deliver up to 2500MW or a doubling of Tasmania's hydro capacity.

Credible options and cost of a possible Marinus Link

TasNetworks has identified two credible options in its recently released Project Specification Consultation Report (PSCR)[2]. The PSCR is the first step in determining whether further interconnection will deliver a net economic benefit as defined by the Regulatory Investment Test for Transmission (RIT-T) in the National Electricity Rules (NER).

Indicative costs for the two credible options, expressed in June 2018 dollars, are:

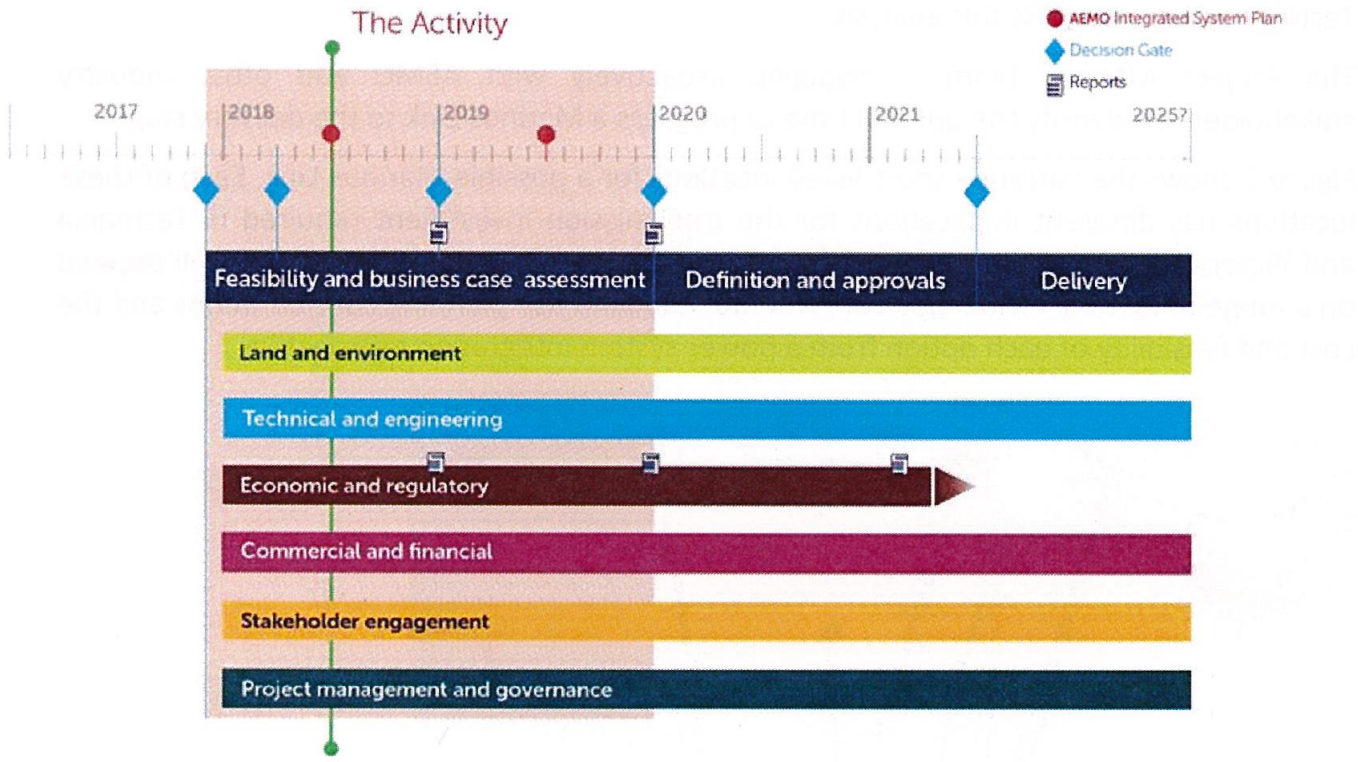
- Option 1 (600 MW HVDC plus AC network upgrades): Indicative cost range is $1.4-$1.9 billion
- Option 2 (1,200 MW HVDC plus AC network upgrades): Indicative cost range is $1.9-$2.7 billion

These costs include the full scope of activities to develop the HVDC link and for supporting upgrades to the Tasmanian and Victorian transmission networks.

[2] Project Specification Consultation Report, TasNetworks 2018, URL: https://www .tasnetworks.com.au/TasNetworks/media/pdf/our-network/Project-Marinus-Project-Specification-Consultation-Report.pdf

Timing and location of possible Marinus Link

Figure 1: Possible timelines for the development and construction of a second interconnector



Given the planning, approvals, construction and commissioning requirements involved with this project, the total development timeframe is likely to be in the order of five to seven years. This timeframe includes the regulatory and planning approval processes, design and completion of the competitive tendering process, and manufacture, construction, testing and commissioning.

The project has three broad phases:

- **Phase 1**: Assessing the feasibility and business case for a second Tasmanian and Victorian Bass Strait interconnector;
- **Phase 2**: Project Definition/Approvals, which includes the activities required to support a final investment decision, including obtaining all necessary approvals and finalising a business case for Project Delivery - expected to be for an 18-month period, following completion of Project Marinus; and
- **Phase 3**: Project Delivery, which includes contract execution, construction and commissioning - expected to run from July 2021 onwards.

The exact timing and location of the project will be refined through extensive engagement with project stakeholders, as well as aligning with wider transmission planning and development of renewable energy zones as part of AEMO's ISP. Presently, AEMO has indicated that a Marinus link would be required by 2033 under a base

development plan, and with storage initiatives[3] potentially in the 2020s, based on updated analysis undertaken by Hydro Tasmania and TasNetworks. AEMO will continue to work with Hydro Tasmania and TasNetworks to progress this analysis.

The Project Marinus team is engaging proactively with AEMO and other industry stakeholders to identify the optimal time to progress a Marinus Link to the delivery stage.

Figure 2 shows the currently short-listed locations for a possible Marinus Link. Each of these locations has different implications for the transmission investment required in Tasmania and Victoria to support the increased transfer capacity. The choice of location will depend on a range of factors, including environmental and land use planning considerations and the cost and feasibility of each option from a power system integration perspective.

Figure 2: Possible locations for a second interconnector

[3] AEMO 2018, Integrated System Plan, P.92.

Proposed New Priority Initiatives for the IPL

The Tasmanian Government is recommending one new initiative – Pipeline to Prosperity – for inclusion on IA's updated IPL. This initiative would improve the productive capacity of Tasmania, transform cities and regions, and underpin growth and sustainability of Tasmania's economy and future. A summary of the initiative is provided below, with detailed information using IA's Problem and Initiative Identification templates attached.

The Tasmanian Government, through the Hobart City Deal, is continuing to investigate the development of light rail to the northern suburbs of Hobart, which is an initiative that was proposed in the Government's 2017 submission. In undertaking further investigation, the feedback received from IA in response to the 2017 proposal is being considered.

Pipeline to Prosperity

Problem Definition

Expansion of Tasmania's irrigation sector is possible, but is currently impeded by the availability of a reliable supply of water at a time required for application by agricultural enterprises. Tranches One and Two of the Tasmanian irrigation scheme developments have addressed access to reliable irrigation water in many areas of the State. There remain a number of areas in Tasmania that have limited or no access to irrigation water, and where rainfall run-off is available to be captured and used to increase the productive capacity and efficiency of Tasmania's agriculture sector.

Productivity and growth of agriculture that is constrained to dryland enterprises has plateaued in Tasmania, with few opportunities to expand and diversify. The current lack of capacity to irrigate, or the unreliable nature of on-farm water capture severely impedes farmers' ability to plan long-term or modify farming practices to higher value enterprises.

Initiative Description

Tasmania has one per cent of Australia's land mass but 13 per cent of the rainfall run-off. It has a temperate climate, fertile soils, established processors, established domestic and international markets, strong research and development through the Tasmanian Institute of Agriculture and the University of Tasmania, and skilled and increasingly innovative farmers.

The Tasmanian and Australian Governments have invested significant public funds over the past decade in the development of new irrigation schemes across Tasmania. This includes 10 Tranche 1 schemes delivered during 2010-2015 and five Tranche 2 schemes, some of which are already operational, with all expected to be constructed and operational by December 2019.

The Tasmanian Government's *Sustainable Agri-Food Plan 2016-18* is the Government's system for sustainably growing the agriculture and food sectors in Tasmania. It will be integral to the achievement of the Tasmanian Government's target of growing the value of the agriculture sector in Tasmania tenfold to $10 billion per year by 2050. The continued development of Tasmania's water resources is an important part of achieving that vision.

In the period since the Government's 2017 submission, Tasmanian Irrigation has undertaken further investigations resulting in the *Pipeline to Prosperity* program. The program is a key component of Tasmanian Irrigation's vision to expand irrigation schemes in Tasmania that will allow the significant benefits of Tranches One and Two to be shared more widely across the agricultural sector and will drive the sustainable growth of key export and domestic commodities in the regions undergoing a transition from traditional activities such as forestry. The program includes 10 projects that will:

- Include new irrigation schemes where provision of water would change land use and the productive capacity of existing farming areas;
- Deliver additional capacity, increase water delivery efficiency, increase scheme reliability and sustainability; and
- Provide interconnectivity between existing irrigation schemes, allowing greater water trading and more efficient use of unused or underused water capacity.

The ten schemes of the Pipeline to Prosperity program comprise:

- 78,000 ML of water;
- 479 km of pipelines;
- Seven dams;
- 23 pump stations; and
- Four power stations.

Prefeasibility has now been completed for all concepts, and feasibility processes are underway, which includes detailed economic, environmental and social aspects.

Tasmanian Irrigation has engaged with stakeholders, including farmers, during the past 12 months. From January to April 2018, an EOI process was conducted to establish the level of demand for each of the concepts deemed to have a reliable water source and suitable land capability. Strong demand from Tasmanian farmers has emerged in the investigation stages of the program. Acceptance of irrigation as a viable enhancement to agricultural systems has increased, as landholders view the economic successes derived by subscribers to earlier schemes.

The material net benefit to be derived from increased agricultural production in Tasmania offered by the Pipeline to Prosperity program has been conservatively estimated to be in the order of $114 million annually. This occurs when the abundant Tasmanian rainfall can be harnessed in a sustainable and managed way via irrigation schemes and delivered to farms and farmers at an opportune time, and volume for seasonal application to agricultural enterprises.

Cost

Preliminary engineering designs suggest the estimated capital cost of the schemes is $496 million, noting the capital cost of concepts not progressed to shortlisting has not been calculated in detail. As project due diligence continues, some of the projects may not progress to construction due to factors which could include realised demand, cost of water supply, or previously unidentified environmental or engineering factors.

Under current and future arrangements, 100 per cent of the on-going operation, maintenance and future refurbishment costs will be borne by irrigators. The ongoing costs of the administration, asset management and operation of the scheme are embedded in the user-pays approach once water is delivered.

The proposal is looking to utilise the successful private public partnership approach developed and refined in partnership with the Department of Agriculture and Water Resources for previous Tasmanian Irrigation programs.

It is proposed that the private sector will contribute a minimum of 25 percent of the total capital cost and that the balance will be requested through the Australian and Tasmanian Governments. The Tasmanian Government has already committed $70 million.

More detailed information about the program is set out in the Stage 2 template attached to this submission.

It is recommended the Pipeline to Prosperity program is added to the IPL as a priority initiative.

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