

Dear stakeholders,

It is disappointing to hear that the project has received a yes response. I have been working hard to provide Bass strait region with firmed power at \$15/MWh to green manufacturing, fuels and metals at multigigawatt scale this decade. The board of Marinus Link are nothing more bankers with no experience underwater or in manufacturing semiconductors such as transistors. I propose either of two alternatives that provide power transfer across bass strait at under \$1.5/MWh. The first is a 20cm+ diameter secure underground tunnel containing aluminum conductor and superconductor bypass at around 66kV DC costing less than \$50M including AC connection at each end. The second is a 2+1 lane 10m wide road tunnel containing up to 20GW DC link, connected to wind turbine farm above for ventilation and escape. The cost of this road tunnel is \$2B and is easily funded by accumulated heavy road freight freight equalisation scheme savings.

There only appears to be \$32m of legitimate expenses in a previous determination (Environmental study + land acquisition) see attached. I'm wondering why the environmental study spending wasn't part of the ARENA grant of many millions of dollars - it wouldn't cost more than a few million to do environmental studies. Please confirm delivery of these em

2.1 Forecast capital expenditure

Marinus Link’s proposal forecasts that Stage 1, Part A will require \$196.5 million (\$nominal) in capex.¹⁸ Table sets out the proposed expenditure for early works.

Table 1 Proposed expenditure for early works activities (\$m nominal)

Category	2021-22	2022-23	2023-24	6 months to 31 Dec 2024	Total
Landowner and community engagement programs, including Traditional Owners, and stakeholder relations	4.0	6.0	9.0	4.1	23.2
Land and easement acquisition	2.6	1.8	2.5	1.1	8.0
Environmental impact assessments	2.7	7.4	9.9	4.6	24.5
Technical designs and specifications	17.4	12.2	11.7	2.6	43.9
Procurement strategy and execution ⁵	2.4	4.6	8.8	3.1	18.9
Program and project management	4.5	8.2	10.4	4.7	27.8
Corporate costs and support	6.6	13.9	21.0	8.7	50.2
Sub-total	40.1	54.2	73.3	28.9	196.5
Less Grant funding	-9.4	-27.2	-19.4	-11.6	-67.6
Net expenditure	30.7	27.1	53.9	17.2	128.9

Source: Marinus Link, *Marinus Link - Revenue proposal - Stage 1 part A early works - 31 July 2023*, 31 July 2023, pp.4-5.
Note: Numbers may not sum exactly due to rounding.

We have accepted Marinus Link's proposed forecast capex of \$196.5 million for 2021-22 to 31 December 2024. Table 2 AER determination of forecast capex (\$m nominal) sets out our

Home > Projects > Project Marinus: Further Bass Strait Interconnection

Project Marinus: Further Bass Strait Interconnection



\$10m

Funded by ARENA



\$20m

Total project cost

Project overview

Lead Organisation

TasNetworks

Location

Tasmania

ARENA Program

[Advancing Renewables Program](#)



Start date

4 September 2018



End date

30 January 2020

Project Partners

None



This system security project was completed on 30 January 2020.

Summary

The Project Marinus project led by TasNetworks will receive up to \$10 million of funding from ARENA to further investigate how the Bass Strait interconnection might form a key part of Australia's future electricity and telecommunications grid.

Interconnection between Tasmania and the rest of Australia could unlock further dispatchable hydro electricity and enable [pumped hydro energy storage](#) and significant wind generation opportunities. Such potential could see an abundance of low cost, reliable and clean energy moving between Tasmania and Victoria, helping the National Electricity Market (NEM) transition to a low carbon future.

TasNetworks has released its final Business Case Assessment Report for Marinus Link that outlines that the link could be commercially and technically feasible.

This project consists of:



[System security and reliability](#)
(Primary)

Project Knowledge

[Project reports](#)

[Tasmanian and Victorian Second Bass Strait Interconnector Reports \(Project Marinus\)](#)

[Project Marinus Business Case Assessment Report](#)

Contact

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This Marinus determination is not an isolated determination. There will be determinations on Snowy 2 and associated transmission lines. Instead of a \$20B determination, I would expect a determination around \$300m. The reason for this is that others and myself believe sodium batteries will be available at under \$15/kWh around the time of completion, thus valuing a 350GWh battery, with much faster charging than 2.2GW and much higher efficiency than pumped hydro, at around \$500m. In addition I am planning firmed solar, that can even fill in for wind, at \$15/MWh thru NSW. Highway car charging and residential use will be higher: <\$60/MWh. This will allow an Hobart electric car to drive thru a bass strait tunnel to Sydney at 250km/h in 5 hours for around 1MWh (<\$60). It will allow a <150MWh electric Concorde to fly Hobart to Gold Coast 1 hour flight during the 2032 Olympic games

for <\$10,000. I hope to run 100Gbit/s internet to each household with their underground DC power cable. Under current rules I can not charge \$20/month for internet because the NBN, which is at least 100x slower, takes a massive cut of all competitors' income. When I worked at CSIRO I actually wrote an ignored document that did not support the NBN being publicly funded. I'm afraid that competitors to the new electrical infrastructure will be slugged massive fees. As for getting my \$50m (plus any budget blowout) Marinus #2 approved, I believe I can reference the data in Marinus national and state environmental approval documents on their website so the cost of environmental assessment is around zero. I understand any official reply to Marinus will need to be a word document or graphic designed pdf file by August. I hope we can come to an understanding on the way forward by then. ■

I have technology that costs <\$10/MWh after finance called thin-gallium-arsenide solar cells on heavy-metal-free glass solar panels firmed with heated sand driving >40% efficiency high temperature steam turbine with direct pass through of daytime solar for >50% overall efficiency.

This technology can firm, with 100% efficiency, all renewables such as wind and wave power that provide more power in winter to balance reduced sunshine hours in winter.

Further I have designs for similarly low cost covert wave power down the west coast of Tasmania, Coast west of Melbourne and near Perth.

I have a design for a 2m diameter train tunnel (dual tunnels) from Hobart to Brisbane, using Sodium battery trains traveling at 320km/h at less than 50% atmospheric pressure in tunnel. As well as providing winter access to the snowy ski resorts, these tunnels link Hydro Tasmania, and Snowy scheme with superconductor to major cities and solar farms distributed along the route. If that was not enough the tunnels pass through the Northern tip of Flinders Island from Bairnsdale to Bell Bay. Along this route they can collect over ten gigawatts of offshore wind power directly above the tunnels, wind power that is a long way away from the views at Willsons Promontory. Small cars can go on the train. Cost for a business class lie flat seat is \$0.04/km and cost for a small car is \$0.16/km. As such the \$5B cost of the tunnel is paid by people and freight using the train, not electricity users. The Spirit of Tasmania can carry larger freight and can be fully electrified with a 500MWh CATL second generation sodium battery and 40MW of electric motors.

The real plan for Australia's 2030 zero-fossil-fuel grid is now ready for implementation.

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