

To: The Essential Services Commission, Victoria

26 July 2023

<https://engage.vic.gov.au/marinus-link-application-for-an-electricity-transmission-licence>

From: Save Our Surroundings (SOS)

Subject: [Marinus Link, Transmission Licence](#), High Voltage Direct Current (HVDC), 320kV, owned by Tasmanian Govt, \$3.8 billion current estimated cost.

The Essential Services Commission is reviewing an application from Marinus Link for an electricity transmission licence. SOS opposes the licence because it will:

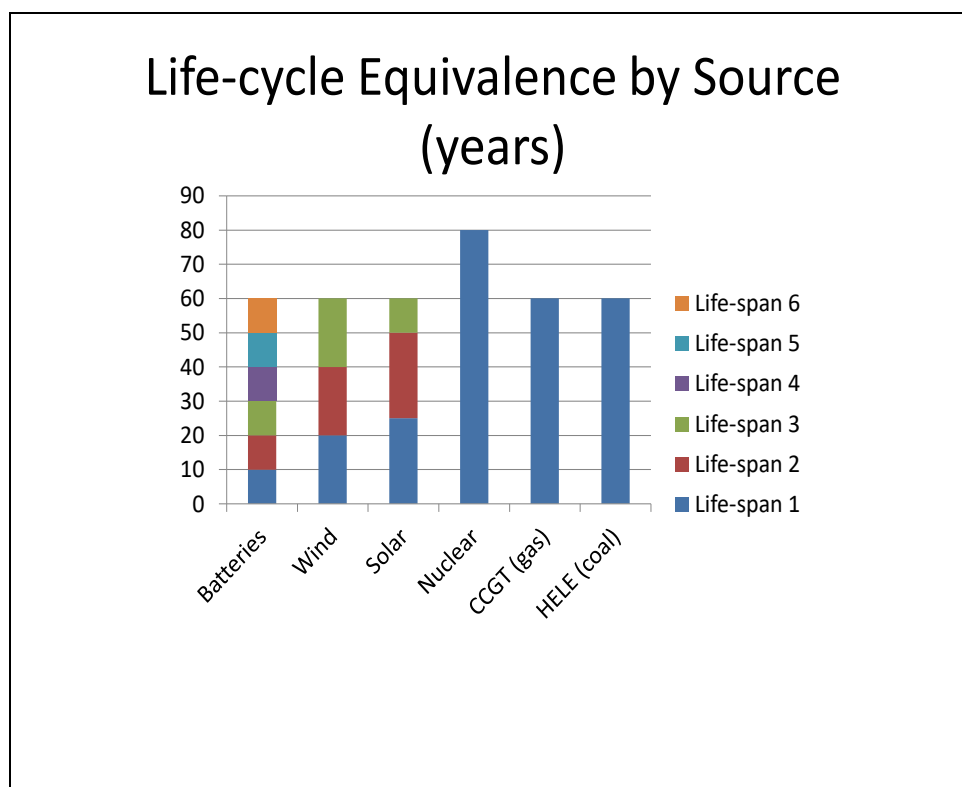
1. increase electricity costs for all National Electricity Market (NEM) consumers as the cost of the link will ultimately be paid by them
2. support the Robbins Island and Jim's Plain industrial wind project, which is unviable without such taxpayer/consumer expenditure as "a direct link to Victoria at \$1.5billion to \$2billion would have made the project unviable and so was abandoned by the developer."
3. estimated cost of the Marinus Link has already gone from an estimated \$1 - \$1.5b in July 2020 to \$3.8b today. If built, the final cost will be considerably greater, based on experiences with Snowy 2.0 Pumped Hydro scheme (initially \$2b and now heading towards \$20b) and the proposed 900km electricity inter-connector between Robertson SA and Wagga Wagga NSW has already gone from an original \$1.53 billion to \$2.43 billion in July 2021 and by September 2021 the cost estimate was \$3.3 billion and is still rising steeply today.
4. the link is unnecessary as the existing link already carries all the excess electricity to Victoria that Tasmania generates from its hydro electric power plant. Adding unreliable and intermittent industrial wind and solar electricity generation, even with very costly net electricity consuming short life battery energy storage systems (BESS), causes NEM instability and increases the cost of delivery to consumers.

In our original Save Our Surroundings research paper, "Wind and Solar Electricity Generation are the Answer. Seriously? November 2020", since updated in May 2021, October 2021, February 2022 and November 2022 to include more current events that continue supporting the evidence we previously provided, we stated that:

- The relatively short life-cycle of PV solar systems (20 to 30 years) and wind turbines (15 to 20 years) compared to the alternatives of coal, gas and nuclear plants (60 to 80 years) means that a PV solar plant or a wind turbine plant need to be replaced/upgraded 2 to 3 and 4 to 5 times (plus Battery Storage 5 - 6 times) respectively during the lifetime of the alternatives, which generates more costs into the electricity network each time. Over a 60 years period this frequent replacement of solar and wind plants will continue driving up electricity prices for decades to come. One USA study shows that wind and solar over **60** years is **SIX** times more costly per 1,000MWh than natural gas combined cycle turbine technology. {analyses done by EPC Consulting on the AEMO ISP 2022 and ISP 2018 also confirm a system levelised cost of electricity (SLCOE) at least a factor of 4.3 times [ref: www.epc.com.au]}

[ref: 17/08/20 "The excess cost of weather dependent renewable power generation in the USA" from EDMHDOTME]

- While wind turbines are getting bigger and solar panels cheaper to make, as well as more energy conversion efficient, the cost of electricity to consumers is not falling. The reasons for this appear obvious: land acquisition, transport and construction costs are increasing; 100% duplication by alternate backup generation; inefficient use of base-load coal and gas-fired power plants to backup the grid supply when the renewables outputs are low or zero; rising costs of extending and modifying the electricity grid to connect renewables; increased complexity of managing the grid due to instability caused by renewables' variable output; high level of subsidies even though renewables are a mature industry with over 25 years of field operation; the introduction of high cost, short-life batteries for short-term stabilisation of renewables plant output; frequent replacement of end of life renewable installations and battery backup; high increasing maintenance costs of wind turbines; very high costs of decommissioning renewables plants and disposing of their waste, some of which is toxic.
- The following chart graphically displays the relative life-spans of various sources of electricity generation. Each life cycle requires more resources to replace their output and results in more waste each time.



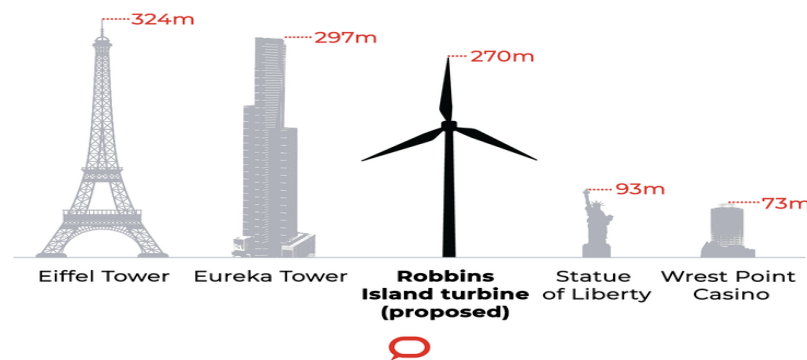
Created by SOS

- For example. The proposed **\$1.5 billion** wind Industrial Electricity Generating Plant (IEGP) for Robbins Island and Jim's Plain Tasmania will involve **163** turbines up to 270m tall for a nameplate capacity of up to **900MW**. For the project to go ahead the developer requires to be built: a bridge between the island and the Tasmanian mainland; a **500** metre wharf at the island; **115km** of new 220kV transmission lines; a new substation; the Marinus Link Interconnector undersea cable to Victoria at about \$1billion plus. A direct link to Victoria at \$1.5billion to \$2billion would have made the project unviable and so was abandoned by the

developer. Yet the Federal Government has included funding for the Marinus Link in the October 2022 Budget. The amount of government (taxpayers) subsidies is unknown, however, for another project it was stated as **\$660,000 per turbine per year**. Therefore the subsidy could total \$1.1 billion over just 10 years. So in reality, the project's viability depends on \$billions being spent by others (i.e. taxpayers and other consumers). No wonder Australia's electricity prices are near the highest in the world and can't come down anytime soon with years' of committed subsidies, which are still growing yearly.

[ref: robbinsislandwindfarm.com/projects/; 3/7/20 skynews.com.au/details/_6169082592001 "Taxpayers 'taken for a ride' with subsidised windfarm"; Bing search - pics of wind turbines from theconversation]

The proposed Robbins Island turbine height in comparison



- On 4/11/20 it was reported that the estimated cost of the proposed **900km** electricity interconnector between Robertson SA and Wagga Wagga NSW had gone from **\$1.53 billion to \$2.43 billion (by September 2021 the cost estimate was \$3.3 billion)**, most of which will get passed onto mainly NSW consumers.

How did Transgrid and ElectraNet get their initial estimate so wrong? Such extra costs are passed onto the consumer, which helps explain why electricity prices continually rise as more weather-dependent renewables are installed.

[ref: <https://www.transgrid.com.au/news-views/publications/> "Transmission annual planning 2018" p28 Table 14; The Daily Telegraph 4/11/20 page 4]

- C Millis, a USA Carolina state representative was the lead sponsor of [House Bill 745](#), which required proper decommissioning of utility-scale solar plants after they close, reclamation of the land to its original condition within two years, and posting financial guarantees to ensure the work gets done. For example, he said, a 3 megawatt project in Sacramento County, California, cost the owners US\$220,000 to clean up even after they got US\$375,000 for recycled materials. A 20MW solar project in Maryland cost **US\$2.1 million** to remove *after* off-setting the recycling revenue.

In Central West NSW alone there are several solar plants in place or proposed solar & wind projects with capacities ranging from 87MW to 600MW or more where the cleanup cost will be astronomical. No bonds are required or guarantees that restoration will occur. This is another cost that will be borne by the electricity consumer or local rate payers if the company or land holder fails to properly clean up the site.

[ref: carolinajournal.com/news-article/environmental-hazard/ "Moore County residents worry about solar's long-term environmental impacts - Carolina Journal"]

Regards

Save Our Surroundings