

Submission
No 105

**INQUIRY INTO FEASIBILITY OF UNDERGROUNDING
THE TRANSMISSION INFRASTRUCTURE FOR
RENEWABLE ENERGY PROJECTS**

Name: Name suppressed

Date Received: 13 July 2023

Partially
Confidential

The Hon Emily Suvaal, Committee Chair,
Inquiry - Feasibility of undergrounding the transmission infrastructure for renewable energy projects
Standing Committee on State Development
Parliament House
6 Macquarie Street
SYDNEY NSW 2000

Date: 13 July 2023

Dear The Hon Emily Suvaal MLC,

Re: Feasibility of undergrounding the transmission infrastructure for renewable energy projects.

Thank you for the opportunity to make a submission to this important inquiry into the feasibility of undergrounding transmission infrastructure for renewable infrastructure projects.

After the devastation of the bushfires and COVID19 on the rural communities impacted by the proposed Humelink and Energy Connect transmission lines, undergrounding (referencing Humelink alone) these lines would put more than \$11 billion back into these regional economies who are struggling to recover from bushfires (which are caused by overhead transmission lines and/or unable to be fought around overhead lines) and COVID19 (they lost their tourism because people couldn't travel – and just when they are starting to recover, the Govt wants to build 500kV 75 metre high transmission lines through their rural towns).

If the Govt persists in putting these lines overhead, less than \$3.3bn will flow into local regional economies (reference Humelink). Regarding income and employment for the rural economies. Overhead steel transmission towers will come from China. If we put these lines underground, regional people will dig the trenches. We will supply the concrete. And we might even be able to produce the cable ourselves in a regional town. If we used superconductors, Australia could become the first in the world to manufacture and supply them on a commercial scale. Overhead lines lose more than 10% of the electricity to the atmosphere. Superconductors lose nothing. By going underground these projects could be nation building, not nation destroying.

You could leave Transgrid with their foreign shareholders with the inefficient superceded overhead infrastructure to distribute whatever electricity gets supplied their way. And the Govt could build and operate the new underground high voltage transmission infrastructure themselves. Underground is comparatively maintenance and fault free.

Perhaps as a consequence of the climate change the shift to renewables is trying to address, severe weather events have been collapsing overhead high voltage transmission towers.

- On 5pm Sat 12th Nov 2022 a 50 metre tower blew over at Tailem Bend, South Australia. Run by ElectraNet.
- On 31st Jan 2020, ~~six~~ 75 metre 500kV towers blew over at Cressy, near Geelong, in Victoria. 2 more were extensively damaged.
- In 2016, at Melrose in South Australia, 20 High Voltage towers collapsed.

Severe weather events don't bother underground transmission lines.

Undergrounding needs to offer something for Sydney city electorates. One of the only two existing overhead 500kV transmission lines in NSW has had houses built up to the edge of its 70 metre easement through Llandilo, Werrington County, and Orchard Hills (South Western Sydney). Just imagine the loss of life if just one of those 80 metre high 500kV transmission line falls over. I'm sure Transgrid has public liability insurance, but that won't bring those people back. Perhaps they built the houses there when they thought that these towers don't fall down. Amidst some of the most unprecedented and extreme weather events Sydney has recently experienced, these transmission lines should be placed underground too. If Australia creates the capacity to underground it can benefit everyone.

The most difficult aspect of undergrounding is passing the greater cost of undergrounding to the majority city consumers electricity bills. You would have people who can do the economic modelling better than I. Transgrid and the AEMR are suggesting that the proposed new overhead high voltage lines will save NSW households (I think) \$180 a year in the conversion over from coal fired to renewable. Again you need to do the modelling yourself, but from what I calculated, even with undergrounding they would still get their renewable electricity cheaper than the coal fired (I estimated \$50 cheaper). So not only would they still be getting renewable electricity cheaper, they would be helping to rebuild regional economies, preventing the destruction of thousands of hectares of native flora and fauna and protecting the livelihoods of their country cousins from bushfires and ugly overhead transmission lines right through the middle of their towns.

Also of note - the new transmission infrastructure is not proposed just to deliver electricity to NSW consumers, it is actually to transfer renewables interstate, and stabilise the national network. Again you need to do your own modelling. But from what I've done, it may well be that the costs of underground to protect your NSW constituents, might legitimately be able to be passed on to those who benefit in other states. Or read it another way, you should not let your NSW constituents suffer outdated overhead transmission lines to benefit consumers in other states.

In considering the cost of overhead vs underground – overhead appears cheaper partly because only those landholders through which Transgrid require easements from get compensated. In the vicinity of my property, 6 – 10 other residences within 1km of the proposed Humelink 500kV line (and in direct line of site) receive no compensation despite significant devaluation of their property values. In other cases (e.g. EnergyConnect) some landholders not compensated are actually affected worse than a neighbouring property who receives compensation despite their residence being further from the line and out of sight. The cost of overhead should take into account fair compensation for all affected landholders. If it did you might find underground to be a much cheaper option.

Regarding Transgrids contention undergrounding would delay the project too much – SnowyHydro is already years behind schedule and it is not even certain that it will be

completed. If the Humelink line went underground it could start almost immediately. It could largely be run alongside roadways, negating the requirement to acquire easements across private properties.

Finally, the Govt taking over the provision of a new underground high voltage electricity transmission network from Transgrid and Ausnet should not be of any concern. Transgrid are majority owned by the Abu Dhabi Investment Authority and two Canadian pension funds. In pursuit of their profits, they don't care what happens to our rural and regional communities.

I urge the Standing Committee to recommend that undergrounding is the best way forward for renewable energy transmission in NSW. As we transition to net zero emissions we need environmentally responsible transmission as well as generation.

Yours sincerely,