

Submission
No 47

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

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The Hon Emily Suvaal, MLC, Committee Chair
STANDING COMMITTEE ON STATE DEVELOPMENT
Parliament House
6 Macquarie Street
SYDNEY NSW 2000

Dear Ms Suvaal

INQUIRY – Feasibility of Undergrounding the Transmission Infrastructure for Renewable Energy Projects

I am concerned resident of NSW, frequent visitor to the South West Slopes region and an unofficial volunteer fire fighter (prior to joining the RFS in 2020 and the current HumeLink overhead transmission lines route me by significantly by increasing the risk of fire and removal of prime grazing.

I have followed the debate on the various transmission lines proposed across Australia and it is plain that true consultation is not occurring and that the concerns of the local community are not being listened too.

While Transgrid are happy to propose overhead transmission wires in rural areas saying undergrounding is too expensive, I note that they more than happy to install underground HV transmission lines in the city.

My major concerns about overhead transmission lines include:

Concern 1: Increased Fire Risk and Increased Danger to Fire Fighters (Both RFS and Volunteers)

I have witnessed in 2019-2020 the very real effects of bush fire, bushfire smoke laden with particulates and arcing of HV transmissions lines to ground. The impact of new overhead transmission lines will increase the effect of arcing. This will result in greater areas where RFS and the like will not being willing to fight fires by passing under the powerlines. The result being far greater impact of future fires.

Concern 2: Long-term Cost and Poor Value for Money for the State and People of NSW

Many reputable energy experts and academics such as Ted Woodley, Bruce Mountain, Simon Bartlett agree that building high voltage power line projects as above-ground transmission systems would be a terrible mistake, as the cost versus benefit analysis does not stack up

HumeLink, along with projects such as the Victorian VNI West and the Western Renewables Link, have been justified using flawed analysis, resulting in other options being overlooked. Whilst overhead lines can appear initially cheaper to build, this ignores the fact that these lines will cost much more to maintain in the future and can be hazardous. Overhead high-voltage transmission lines can aggravate the risks of bushfires, hinder the effective fighting of bushfires, and could leave the grid vulnerable in the event of a failure or attack. This will be exacerbated as we see the effects of climate change. Claiming overhead transmission lines cost less ignores any cost other than plain dollars and does not consider costs such as environmental damage, industrialisation of rural landscapes, damage to tourism, lack of social license, potential physical and mental health impacts on people living nearby, property and business devaluation, increased costs / decreased productivity to agriculture and

TransGrid appears to have employed staff and consultants with limited relevant experience. Direct evidence of this includes TransGrid staff stating that underground cables must have a track record of successful use at 500kV, and as TransGrid has no (experience with) 500kV underground cables, trialling them on critical lines, such as HumeLink, would pose an unwarranted network security risk.

The lack of experience and expertise has also resulted in the dissemination of much misinformation and inaccurate, escalated costs of undergrounding options, which have been used to justify the company's preference for the construction of overhead transmission lines. For example, TransGrid has stated that undergrounding is always considered an option in early project investigations, but is generally discounted due to technical feasibility issues and:

- Alleged unreliability of underground transmission lines
- Alleged high negative impact on the environment during construction
- Alleged high negative impact on the environment during maintenance
- Alleged issues with long-term sustainability and electrical output
- alleged prohibitive costs when considering construction, operational, and maintenance costs

This is further evidenced by statements such as that undergrounding, especially over large distances, is not a reliable solution and that underground cables are at a high risk of deterioration over time due to moisture seepage, which could damage and reduce the network's reliability and increase ongoing maintenance costs.

Above-ground high voltage transmission lines are old technology. Building HumeLink in this way will be like the National Broadband Network (NBN) all over, but even worse. In relation to the NBN debacle, a combination of decision makers with outdated and limited knowledge, who did not really understand the technology, cost-cutting, and political expediency, resulted in an overpriced, underperforming system that never delivered what it promised, especially to rural areas.

Just as with the NBN, HumeLink decision-makers have not been given the true and full facts, have been fed part truths and simplified truisms and/or have been pressured by political or economic agendas, and the whole and real costs of building HumeLink aboveground have not been considered. As with HumeLink, it was claimed the NBN would deliver a critical service to consumers at a cheaper price. Like HumeLink, the NBN project costs swiftly overran the estimates, and by 2019 the NBN was found to be costing many consumers more for basic internet access than ADSL plans of similar speed

Just as the NBN is swiftly being replaced with newer, more innovative internet systems, by the time HumeLink is built, it will be obsolete, and we, the people of NSW will be stuck with it underperforming and costing us dearly in so many ways.

I recognise the importance of renewable, clean energy and the need for infrastructure to support its transmission. But we need your help to negotiate better short- and long-term options for local businesses, communities, the environment, and future generations.

Underground electricity transmission is the best practice around the world. We urge you to support undergrounding HumeLink so that we, the people of NSW are not casualties as we transition to a low carbon energy future.

Regards