

Submission
No 80

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

Name: Mrs Christine Rose

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Peter and Christine Rose

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
12 July 2023

Dear Committee,

HumeLink fails NSW and regional communities with flawed, short-term economics; lack of community consultancy and licence; and increased exposure to Bushfire issues

Thank you for the opportunity to make a submission to this important inquiry into the feasibility of undergrounding transmission infrastructure for renewable infrastructure projects. This inquiry represents a once-in-lifetime opportunity to ensure better social and economic outcomes for regional communities and the State. .

We strongly support undergrounding transmission infrastructure for renewable energy projects, as it is a far less damaging option than the currently proposed 360 kilometers of high voltage HumeLink pylons which are as tall as the Sydney Harbour Bridge and will severely impact the health of our local communities, the environment and the economy of a large area of Southern New South Wales. Local communities are experiencing anxiety about the HumeLink proposal and feel intimidated and bullied by the current process and powerless at the hands of foreign owned company Transgrid. Regardless of community concerns and fruitless community consultation, Transgrid has persistently pursued only their one option with a scare campaign, peddling exaggerated, fabricated costing of undergrounding – and its impact on residential electricity bills - to win government support for its tower proposal. These cost claims were shown to be utterly wrong in Transgrid's report last year but are still regularly repeated by government officials as "truth" and used as a rationale for discrediting undergrounding.

Recent costings provided by independent consultants and real-world experience overseas clearly show that the differential cost between undergrounding and overhead transmission is much smaller than Transgrid's inflated estimates, which have already proved to be wildly inaccurate. HumeLink, fails on all counts, as it appears to be driven solely by minimising upfront costs and railroading approvals to expedite profits, with little or no consideration of environmental, community or economic impacts. Unfortunately, HumeLink, fails on all counts, as it appears to be driven solely by minimising upfront costs and railroading approvals to expedite profits, with little or no consideration of environmental, community or economic impacts. In fact, the current proposal for HumeLink, which will be the State's most expensive energy project ever, is a \$4billion economic disaster for regional NSW that fails to assess its impact on key regional industries such as tourism and agriculture. Compared to undergrounding, the outdated tower

technology proposed for HumeLink are prone to outages and blackouts, requires regular and ongoing maintenance to remain safe, and significantly increases the risk of bushfire in the community. Transmission towers are inefficient compared to undergrounding in that waste precious renewable energy supplies through leakage. The AEMO says that as electricity flows through the transmission and distribution networks, energy is lost due to electrical resistance and the heating of conductors. The losses are equivalent to approximately 10% of the total electricity transported.

The only ones benefiting from Transgrid's proposed 360 kilometre high-voltage overhead transmission lines appear to be its foreign corporate owners who will see a 40% jump in revenue, according to Victoria Energy Policy Centre, Victoria University.

Tourism is a major growth industry for regional NSW. Revenue from tourism was \$14.3 billion in 2019 alone, and visitors increased by 41% from 2014 to 2019.

While the Snowy Mountains and Tablelands have been selected as iconic locations to promote regional Australia, their tourism status was not treated as a serious consideration in Transgrid's Humelink proposal. Instead Transgrid pushed ahead with its plan for a massive eye-sore, with towers as tall as the Harbour Bridge and pylons cutting an ugly 360km long, 70-metre-wide scar through old growth forests, state forests and working farms, from Wagga Wagga to the edge of the beautiful Southern Highlands.

In its current form, the HumeLink Tower proposal will devastate habitats for more than 80 threatened or endangered species of flora and fauna, while undergrounding provides a far less destructive alternative at marginal extra cost. The HumeLink towers project will impact an area of 5713 hectares of land (based on Transgrid's referral to the EPBC Act), including clear-felling areas of native forests and bushland with serious impacts on habitat, greenhouse gases and global warming.

Local communities are deeply offended by the lack of genuine care for their plight, their homes, their connection to the land and their histories in our tight-knit communities.

We are seeing profound increases in community mental health issues – a problem that, as you would be aware, is of particular concern among our regional communities. We are worried about increased bushfire risks and are angered by environmental destruction and other environmental health impacts that will occur in the area.

HumeLink will impact third and fourth-generation farmers who have weathered many ups and downs due to their love of the land, only to be defeated by a foreign-owned company forcing massive towers and high-voltage transmission lines to run directly through their productive properties, assisted by government agencies and unfair processes.

We are dismayed at the clear-felling of bushland cultivated by the farmers ourselves, often supported by Landcare, the risk of bushfires, electromagnetic fields which are genuine health risks (a fact always denied by Transgrid representatives).

All these issues are preventable by simply undergrounding the powerlines. Undergrounding solves a myriad of environmental problems and stacks up financially over the long term due to reduced ongoing maintenance costs.

Underground energy transmission is best practice around the world and Australian scientific studies support this. It is less susceptible to outages and blackouts because it cannot be impacted by extreme weather, and it lessens the risk of catastrophic bushfires.

Undergrounding has been adopted in Europe, California, and many forward-thinking jurisdictions, and even Transgrid's promotional video claims undergrounding is safer, more reliable and more efficient. Internationally, governments are choosing undergrounding based on analysis of all costs, including environmental and social costs and conclude that undergrounding transmission is the cheapest long-term solution.

HVDC underground transmission, proposed for undergrounding HumeLink, has less transmission losses than AC overhead lines, and so has offsetting energy efficiency benefits over the life of the project.

Undergrounding is also preferred due to its benefits including:

No risk of underground cables causing a fire.

No restriction or hazard on safe fire fighting. High Voltage powerlines effectively stop the management of bushfires in the vicinity because the space over and under powerlines are no go zones for firefighters.

Protection of the infrastructure from severe weather and fire events, will not impede agricultural operations, no impact on the landscape and amenity and significantly reduced impact on biodiversity as a much smaller easement is required.

Our governments are telling us that renewable energy, like solar and wind, will reduce the cost of electricity. Given this, it's critical that a better environmental option for transmitting electricity, like undergrounding, isn't rejected on the basis of cost.

The benefits to the environment and communities of undergrounding will last for generations.

Undergrounding will grant Transgrid 'social licence'. There will no longer be community opposition as concerns will be resolved with an underground solution. The community will work with the government and Transgrid to assist in any way possible to ensure delivery timetable is met. The planning for HumeLink was done assuming Snowy 2.0 would be available in July 2025. Snowy Hydro has now announced that Snowy 2.0 won't be complete until December 2029. This four and a half year delay means HumeLink can be delivered when needed as an underground solution.

If undergrounding HumeLink is rejected, because it will take longer to build, Transgrid will be solely to blame, and must be held to account. Transgrid has been continually working against the community on Undergrounding HumeLink – stalling and misleading government for the last 3 years.

Greatly reduced environmental impacts in comparison to Overhead infrastructure:

- Undergrounding will result in at an estimate 15m easement in comparison to a 70m easement with overhead lines.
- Much reduced removal of trees and plant flora.
- Reduction in endangered species types being killed. 82 threatened species are impacted by HumeLink.
- Land above underground cable infrastructure can be rejuvenated after construction.
- No towers and wires interfering with flight of birds or movement of climbing animals. No bird or climbing animal deaths will result. Thus eliminating concern for protected birds e.g. Wedge tailed eagles.
- Eliminates the risk of overhead lines causing bushfire. The black summer cost the nation \$230 billion and killed almost 3 billion koala, kangaroos and other animals.
- Eliminates air and ground fire control hazards.
- Eliminates the risk of interruption to power transmission in severe weather events and/or bushfires and therefore improves transmission security and resilience as required under the SLACIP Act.
- Minimal impact to private or public land after construction is complete.
- No overhead lines impeding agricultural operations, machinery use, irrigation, drones, or aircraft operation.
- No visual impact from the transmission lines and so no loss of visual and rural landscape character of regions.
- Little to no electromagnetic field impacts. Therefore, less risk of serious health impacts, plus no interruption to new technologies like precision agriculture that improve the productive efficiency of agriculture.

We recognise the importance of renewable, clean energy and the need for infrastructure to support its transmission, but this cannot be at the expense of truth and the very health of local communities and the environment.

Underground energy transmission is best practice around the world and Australian scientific studies support this. It is also more reliable, safer and more efficient.

The significant social, economic and environmental issues associated with HumeLink can be overcome by taking the transmission underground. While the direct costs may be greater, undergrounding could be a cheaper long-term option when you consider the ongoing maintenance costs, potentially higher transmission losses and outages associated with old towers technology, even before you factor in the cost of bushfires, and the environmental and community devastation associated with these huge towers and the clear-felling of forests and habitat.

Recent costings provided by independent consultants and overseas experience clearly show that the differential cost between undergrounding and overhead transmission is not as great as Transgrid's inflated estimates, which have already proved to be wildly inaccurate.

NSW needs to take the lead and support a renewable energy solution that all Australians and our natural environment deserve, while also supporting the health of regional and rural communities. As NSW and Australia move to a renewable energy future, it is critical that we build sustainable, efficient infrastructure based on proper planning, not flawed economic modelling and short-term thinking.

We 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

Peter Rose
Christine Rose