

**Submission
No 250**

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

Name: Ms Robyn Sweeney

Date Received: 14 July 2023

Robyn Sweeney

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,

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 an opportunity to ensure better outcomes for future generations of NSW citizens and our precious wildlife.

**HumeLink fails NSW and regional communities with flawed, short-term economics:
Impacts on tourism, agriculture and the environment.**

Environmental summary Key facts

- HumeLink has an action area of 5,714 hectares including clear-felling areas of native forests and bushland with serious impacts on habitat, greenhouse gases and global warming (Transgrid's per the referral to EPBC Act).
- HumeLink will devastate habitats and wildlife corridors for more than 80 threatened or endangered species of flora and fauna.
- HumeLink towers will worsen greenhouse gas emissions through large-scale land clearing and increased risk of bushfires.

Ironically, the construction of this multi-billion-dollar transmission project in the name of sustainability to reduce global warming, is now threatening to inflict untold damage to our precious native animals and plants through massive land clearing, destruction of wildlife corridors and increasing the risk of deadly bushfires.

With the State of the Environment report highlighting that the number of threatened plant and animal species has risen, and with further extinction of Australian species expected, it is critical all large, high-impact infrastructure projects in NSW must minimise destructive environmental impact. In its current form, the HumeLink Tower proposal will devastate habitats **for more than 80 threatened or endangered species** of flora and fauna. At the same time, undergrounding provides a far less destructive alternative at a marginal extra cost.

HumeLink will impact approximately 5,714 hectares of land, including clear-felling areas of native forests and bushland with severe impacts on habitat, greenhouse gases and global warming (per Transgrid's referral to the EPBC Act).

Transmission towers will also increase the risk of bushfires, as highlighted in several recent bushfire inquiries, which could devastate wildlife populations and create large quantities of greenhouse gases.

Impact on wildlife

The proposed path for the HumeLink towers is home to a range of endangered, threatened and vulnerable animals, including the Koala, Booroolong Frog, Superb Parrot, Dusky Woodswallow, Gang-gang Cockatoo, Yellow-bellied Glider, Eastern Pygmy Possum, Squirrel Glider, Greater Glider, Scarlet Robin, Flame Robin, Powerful Owl, Masked Owl and Booroolong and the near threatened Spotted Quoll.

Climbing and flying threatened and protected species, such as Wedge-Tailed Eagles, are particularly vulnerable to powerlines.

Also at risk are critically endangered flora such as the Leek Orchid, Blue Tongued Greenhood, *Pimelea bracteata*, a tract of the endangered ecological community, the White Box, Yellow Box woodland, remnant native vegetation areas, a nationally important wetland, and land that has been rehabilitated through government-funded Landcare projects.

The fragmentation of wildlife corridors that will occur from the current proposal, including vegetation clearance in established bio-links, will reduce the biodiversity of flora and fauna, which must be combined with the already existing pressures on vulnerable species through damage caused by feral animals. How much added pressure caused by overhead transmission towers will it take to see endangered species pushed into extinction?

Greenhouse gas emissions

Destruction of wildlife habitat is only one of the environmental impacts of the current HumeLink proposal.

The clear-felling of land along the 360-metre-long, 70-metre-wide corridor of the Transgrid preferred route directly conflicts with decades of scientific research demonstrating that vegetation clearance directly contributes to a warming and changing climate. As does the manufacture of carbon-intensive construction materials, such as concrete and steel, used to build HumeLink.

The increased risk of bushfires from the HumeLink create another potential source of carbon emissions. In fact, [assessments of the damaging 2019-20 summer bushfires suggest that more than a year's worth of Australian greenhouse gas emissions](#) were released due to the more than 18 million hectares of area burnt, as much as double previous estimates.

HumeLink will inflict untold damage to our precious wildlife and increase greenhouse gases.

Economic Impacts

Key facts

- Compared with undergrounding, the proposed HumeLink are inefficient, leak energy, require ongoing maintenance and are prone to blackouts.
- The project fails to assess the impact on key local industries such as tourism and agriculture.
- The towers represent a real and present danger by increasing the region's risk of bushfire.
- The only winner with HumeLink is foreign-owned Transgrid which will see a 40% jump in revenue.

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 \$4 billion 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.

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.

It goes without saying that this impact would be significantly reduced by undergrounding.

Similarly, there has been little consideration about the impact of HumeLink on the region's productive farmlands, which are significant contributors to local employment and the State's food production and economy.

Numerous farms will see operations significantly impacted with HumeLink lines cutting through their land, which could again be significantly reduced by undergrounding.

As a Local Community Advisor for The Snowy Valley's Sculpture Trail, working on the project since its inception almost immediately after the Black Summer Fires, I am dissatisfied by the little value that HumeLink has placed on the aesthetic value of our surrounding landscape. The Sculpture Trail was designed to bring tourists to our region and part of the appeal beyond the cultural experience,

is the natural beauty of the Snowy Valley's area. Humelink needs to respect the hard work and economic expense outlaid by tourism operators who chosen this area for those same reasons. No-one finds giant transmission towers attractive.

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 Committee must look at the economic cost of bushfires that will potentially and unnecessarily be caused by projects like HumeLink. These costs could run into billions of dollars, well in excess of any additional cost associated with undergrounding, if indeed there is any.

Underground energy transmission is more reliable, safe and efficient and will not be impacted by outages during extreme weather or increase the risk of catastrophic bushfire.

Transgrid's insistence on building the foundation for our State's renewable future on dangerous 19th century technology instead of undergrounding, ignores the fact that electrical distribution networks are one of the primary sources of major bushfires. [When weather conditions elevate fire risk, up to 50% of major fires are ignited by faults in distribution networks.](#)

The problem with overhead powerlines is not restricted to the increased threat of starting fires, but the impediment they present in fighting fires. 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. For some landowners who have lower voltage transmission lines on their properties already lost significant parts of their property during the Black Summer bushfires of 2020 as a result of not being able to fight the fires.

The cost of bushfires is significant. Deloitte Access Economics put the tangible and intangible costs of the Victoria Black Saturday bush fires at \$7.6 billion. By extrapolation, the cost of the 2019-20 Australian bush fire season 'Black Summer', has been estimated at a cost of \$230 billion.

In the US in 2019, to escape the billions of dollars from claims of fire victims, energy company PG&E started undergrounding and has implemented a plan to bury 10,000 miles of power lines and equipment in areas with high fire risk. PG&E's modelling shows burying lines reduces their risk of igniting wildfires by approximately 99 percent.

Good planning pushed aside for short-term thinking and shareholder returns.

Transgrid is pushing through the overhead proposal, it appears Transgrid's only consideration has been upfront delivery costs and shareholder returns.

This is in direct contrast to the NSW's general valuation principle that all first-round impacts should be valued as changes relative to the base case regardless of whether the impacts are direct or indirect' (NSW Government Guide to Cost-Benefit Analysis, Policy and Guidelines Paper, NSW Treasury, March 2017). The current costing doesn't incorporate the environmental, social or economic costs, of which there are many.

To support its push, the Humelink claims competition benefits – though these are unlikely to be met because the market is changing quickly and eroding any economic argument with new projects. The Australian Energy Market Operator (AEMO) consulted with stakeholders on the inclusion of competition benefits in the Integrated System Plan (ISP) cost benefit analysis in October 2021 and,

as a result, concluded, "*AEMO has not included competition benefits in the assessment ...due to the significant uncertainty surrounding key assumptions*".

Humelink's costings also do not properly consider ongoing maintenance of towers to keep them safe over the 80–100-year life of the project, but instead focus only on upfront build costs. Maintenance costs would be significantly reduced by undergrounding.

Conclusion

It is inconceivable to think that in this century, the transmission of green power requires environmental destruction. While there is no doubt that we need renewable energy, the proposed transmission is not the answer. The cost of undergrounding is more than offset by enduring environmental benefits.

Recent costings provided by independent consultants and real-world experience overseas 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.

Taking transmission underground, as they have in Europe and California and Transgrid has recently done in Sydney's CBD, is a much more environmentally responsible option to ensure a renewable energy solution that our natural environment and future generations deserve.

The significant social, economic and environmental issues associated with HumeLink can be overcome by taking the transmission underground, as they have in Europe and California and Transgrid has done recently in Sydney's CBD.

While the direct costs may be greater, undergrounding could 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 real-world experience overseas 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.

I urge the Committee to strongly recommend the case for undergrounding and strive for a better renewable energy solution that not only Southern NSW, but all Australians and our natural environment deserves.

Regards,

Robyn Sweeney