

**Submission
No 188**

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

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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

14 July 2023

Dear Committee,

Underground to avoid building a multibillion-dollar firetrap through NSW communities

Thank you for the opportunity to make a submission to this necessary inquiry into the feasibility of undergrounding transmission infrastructure for renewable infrastructure projects. Your deliberations and recommendations on this issue represent a once-in-lifetime opportunity to ensure better outcomes for future generations of NSW citizens.

Executive summary:

Key points

- Outdated transmission tower technology significantly increases the risk of deadly bushfires and makes it harder to fight them, threatening lives, property and native animals
- Humelink cuts through large areas still recovering from the 'Black Sunday' bushfires of 2019-20
- Bushfire risk will increase with Climate Change, making towers and lines even more dangerous
- PG&E's modelling in California shows undergrounding lines reduces their risk of igniting wildfires by approximately 99 percent
- The cost of bushfires in Australia can run into billions of dollars and will be well in excess of the cost associated with undergrounding

There is no doubt that Transgrid's current Humelink proposal for high voltage overhead transmission towers from Wagga Wagga and the Snowy Mountains to the outskirts of the Southern Highlands will make fire-prone southern NSW even more susceptible to devastating bushfires.

Suppose the project goes ahead in its current form.

In that case, I guarantee you that, based on my own experience and evidence from numerous inquiries, lives will be lost, properties devastated, and countless threatened and endangered wildlife sacrificed as a direct result of this project over its 80 to 100-year lifespan. These risks will increase dramatically with global warming, as seen over recent years.

Underground energy transmission is the best practice worldwide, and Australian scientific studies support this. Underground energy transmission is more reliable, safe and efficient and will not be impacted by extreme weather or increase the risk of catastrophic bushfires.

Transgrid's insistence on building the foundation for our State's renewable future on dangerous 19th-century technology instead of undergrounding is based on flawed economics and short-term thinking without proper consideration of known risks and associated costs.

While Transgrid is telling the community nothing can be done, and the towers will be built, the NSW Government must take a leadership position and ensure this foreign-owned company doesn't railroad decision-making and build a multibillion-dollar firetrap through the middle of our communities.

Power lines regularly cause fires

Faults in electrical distribution networks are one of the primary sources of significant bushfires. Power faults cause two to four per cent of all rural fires in Australia. However, when weather conditions elevate fire risk, up to 50 per cent of primary fires are ignited by faults in distribution networks.

A study by Wollongong University found that powerline-caused ignitions were the most over-represented cause of bushfires, with the most houses destroyed. We have also seen AusNet Services Group report to Energy Safe Victoria and the Australian Energy Regulator that there were 79 'fire-start' incidents in the six months between January and June 2016. Of these, 59 were attributed to lightning strikes; contacts with birds, animals, or objects, HV fuse failures; and other infrastructure failures. It is noted that the arc distance for a 500kV overhead power line that is hit by lightning is up to 50 meters from the tower's base.

But the problem with overhead powerlines isn't restricted to the increased threat of starting fires, but the impediment they present in fighting them too.

High voltage powerlines effectively stop the management of bushfires in the vicinity because the space over and under them are no-go zones for firefighters, and many of the dams used to refill aerial firefighting fleet in southern NSW will become no longer accessible to these key emergency services. With aerial response to bushfire management a commonly used fire control method, if HumeLink's current proposal is actioned, it will not be an option for many fire-prone areas.

Some landowners who have high 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.

In neighbouring Victoria, the threat of electricity assets and towers to bushfire-prone communities and wildlife is well recognised, with the 2009 Victorian Bushfires Royal Commission highlighting that the *"State has a history of electricity assets causing bushfires. In 1969 and 1977 the failure of electricity assets—including the clashing of conductors, conductors contacting trees, and inefficient fuses—caused major bushfires. This history was repeated on 7 February 2009, when five of the 11 major fires that began that day were caused by failed electricity assets; among the fires was that at Kilmore East, as a result of which 119 people died."*

The economic cost of bushfires

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

[The Fire on the Farm](#) report by the World Wide Fund for Nature-Australia and the University of Sydney estimates that the 2019-20 bushfires cost agriculture \$4 to 5 billion.

In the US in 2019, to escape the billions of dollars from claims of fire victims, energy company PG&E filed for bankruptcy. After a preliminary report by the state regulators said that its equipment was responsible for several fires that destroyed the town of Paradise and killed 85 people in 2018. Since then, the company has 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 that burying lines reduces their risk of igniting wildfires by approximately 99 per cent.

In addition to considering the likely loss of human life and native animals, the Committee must look at the economic cost of bushfires that projects like HumeLink will potentially and unnecessarily cause.

These costs could run into billions of dollars, well over the cost of undergrounding.

Recent costings provided by independent consultants and real-world experience overseas show that the differential cost between undergrounding and overhead transmission lines is much smaller than Transgrid's inflated estimates, which have proved wildly inaccurate.

Conclusion

What will the NSW Government say to families if lives are lost, and their homes and livelihoods are destroyed because these outdated transmission lines either cause a fire or prevent a fire from being controlled when a better alternative like undergrounding is known and ignored?

The bushfire risks from transmission towers are well known and documented but are being deliberately ignored in favour of flawed economic modelling and outdated thinking by a privately owned company.

I urge this Committee to recommend undergrounding as the best way forward for renewable energy transmission in NSW to avoid being responsible for more devastating bushfires like the 'Black Summer' blazes.

Do not let a private company railroad these crucial decisions, which can be expected to devastate NSW over the coming years and decades.

Regards,

Harry Lucas