**Submission No 175**

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

**Name:** Name suppressed

**Date Received:** 14 July 2023

---

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 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.

I am a resident of the Yass Valley Shire and will be affected by Transgrid's proposal to construct the Humelink Transmission Lines. The proposed route, although not on my property, will be approx. 1km from my property and my families' properties at I write this letter to convey my concerns for Transgrid's Humelink proposal, show my support for undergrounding these transmission lines and request that the committee recommend that Humelink be placed underground.

I have lived at Black Range my entire life and value the farmland and landscape in our area highly.

**Bushfire Risk:**
My family has farmed here for over 100 years and in that time have experienced numerous fire events in this region. Most recently the Cobler Road Fire. This fire destroyed land from Jugiong through to Devils Pass, including parts of our property. This fire was a reminder of how devastating these bushfire events can be. As a member of the Bowning rural fire services, I am concerned about the increased risk of bushfires that the towers and lines will bring. There is no doubt that these high voltage overhead transmission towers will make our fire-prone area even more susceptible to devastating and expensive bushfires.

The transmission lines will not only increase the threat of starting fires, but they will also impede our ability to fight them. High voltage powerlines reduce the management of bushfires in their vicinity because the space over and under them are no-go zones for firefighters. Also, many of the dams used to refill aerial firefighting equipment in southern NSW will become less accessible to key emergency services. These lines will decrease the ability of aerial response services to manage and control bushfires in our area.

In 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."*

It is my view that 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 request that the Committee look at the economic cost of bushfires that will potentially and unnecessarily be caused by projects like Humelink. I believe that these costs could be greater than any additional cost associated with undergrounding. Recommending underground transmission in NSW may be the only way to avoid being responsible for more devastating bushfires like the 'Black Summer' blazes.

**Agricultural operations and farmland:**
I also believe that 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 these overhead lines cutting through their land with 70m clear-felled easements imposing operational restrictions. These impacts could be significantly reduced by undergrounding.

**The Environment, Our Landscape & Visual Amenity:**
These lines will clear-fell a 70m wide path of bushland neighbouring our property. This will have serious impacts on wildlife & fauna in our local environment. It is hard for us to accept that the transmission of green power requires environmental destruction. It will also decrease the value of our land as the lines will destroy the views from the property. We feel like our landscape, which we moved here for, will be taken away from us.

**Community:**
Local communities are experiencing significant anxiety about the Humelink proposal. They feel powerless at the hands of Transgrid. The foreign-owned company has run a public scare campaign using exaggerated claims about the cost of undergrounding and its impact on residential electricity bills. These cost claims were shown to be inaccurate in Transgrid's report last year but are still regularly repeated by government officials as "truth" and used as a rationale for discrediting undergrounding. Engineers tell us that there have been major advances in underground cabling technology and that it is entirely feasible.

**Economy:**
Humelink appears to be driven solely by minimising upfront costs and railroading approvals to expedite profits. It appears Transgrid's only consideration has been upfront delivery costs and shareholder returns. The current costing doesn't incorporate the environmental, social or economic costs, of which there are many. There has been little consideration of environmental, community or economic impacts. Recent costings provided by independent consultants show that the differential cost between undergrounding and overhead transmission is much smaller than Transgrid's inflated estimates. It is also my understanding that Humelink's costings do not properly consider ongoing maintenance of towers to keep them safe over the 80-100 year life of the project.

Governments overseas and private companies in Australia have come to the conclusion that when you take into account all the non-market costs of overhead transmission lines (bushfires, biodiversity, loss of native landscapes, visual amenity, tourism, and agricultural productivity) for the next 80-100 years, undergrounding is the preferred option. All non-market costs need to be taken into account when weighing up the costs of this proposal.

Below I include some information that has been provided to me. I ask that the committee consider these points in addition to my comments above.

I urge the Standing Committee to recommend undergrounding Humelink. As we transition to net zero emissions, we need environmentally responsible transmission as well as generation.

**Points to consider in relation to the Terms of Reference of the Inquiry into the feasibility of undergrounding transmission:**

**a) the costs and benefits of undergrounding**

- 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 chosen due to its benefits including:
  - no risk of underground cables causing a fire;
  - no restriction or hazard on safe firefighting;
  - 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.

**b) existing case studies and current projects domestic and international**

- In Australia, private companies are putting transmission underground.
  - Existing projects
    - Murraylink, 180km
    - Directlink
    - Powering Sydney's Future Project - Transgrid 330kv underground 20km (Potts Hill to Alexandria)
  - Current Australian projects
    - Marinus Link, 90km
    - Star of the South, 60-80km

- International Projects
    - SuedLink, 750km 525kV – renewables Germany
    - SuedOstLink, 500km 525kV
    - California burying 10,000 miles of powerlines to reduce wildfire risk
    - Champlain Hudson Power Express (CHPE), renewables Canada - New York

**c) any impact on delivery timeframes**

- 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. Farmers at Tumut have said: '*If HumeLink goes underground, Transgrid can start tomorrow, and we'll even dig the trench for them*'.

- 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.

- AEMO's own modelling, even before significant delays to the completion of Snowy 2.0 were announced, said the optimal timing of HumeLink was 2028-29 in the Step Change scenario; and 2033-34 in Progressive Change scenario.

- 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.

**d) environmental impacts of undergrounding**

- 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.