

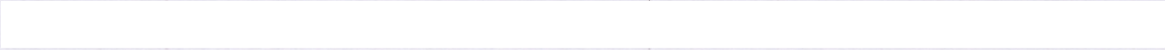
**Submission
No 18**

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

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Submission to Inquiry into the Feasibility of Undergrounding the Transmission Infrastructure for Renewable Energy Projects



OPENING STATEMENT

We wish to convey our sincere thanks to the Parliament of New South Wales for convening this vital inquiry into the feasibility of undergrounding the transmission infrastructure for renewable energy projects.

We wish to convey our sincere thanks to the Chair, Ms Suvaal, and Members of this Committee for committing their time and energies to this question which is absolutely vital to the human and natural wellbeing of the land for which we all have stewardship.

The question of what to do with new transmission lines goes far beyond being a “critical infrastructure project”. It is a project with profound implications for the interaction between humans, animals, plants and land for at least the next two centuries. It will set boundaries and precedents, checks and balances between the power centres of corporations, governments, planners and people. This question is deserving of the most sober, rational, dispassionate and wide-visioned consideration from this Committee.

Our submission to the Committee consists of two parts: firstly, a brief account of the impact of HumeLink on us personally if it were to be an overhead line; and secondly, a table comparing the environmental impacts of underground and overhead, based on the Specialist Study Areas of the HumeLink Environmental Impact Statement.

PART 1: Personal and community impact of HumeLink if it were to be an overhead line.

Health & Safety

We live on a 100 hectare property between Batlow and Tumut overlooking the beautiful Gilmore Valley. We have an organically certified lemon orchard and also run cattle and sheep. A section of our property is a designated biodiversity conservation area registered with the NSW Biodiversity Conservation Trust.

We are impacted by the proposed HumeLink overhead transmission line which would connect Snowy 2.0 to Sydney and other population centres. The company tasked with constructing this line, TransGrid, has informed us that the HumeLink easement for their preferred route will not come onto our property. However, the easement will parallel an existing 330kV line (“O51”) across the only road to access our property, approximately 200 metres from our front gate. TransGrid refuses to deny that there will be an additional one or two 500kV lines constructed in the short to medium term. The former CEO of Snowy Hydro, Mr Paul Broad, has publicly and unambiguously stated that Snowy 2.0 will not be sufficient for renewable energy needs. In his view there must be a Snowy 3.0 and 4.0. At this time we and our neighbours face the immediate prospect of having to cross under 2 high tension lines (1 x 330kV and 1 x 500kV) with a total easement width of around 120 metres,

expanding in coming years to 4 high tension lines with a total easement width of almost 300 metres.

This poses an extraordinary threat to us in the very real eventuality of bushfire. Our property and those of our neighbours were catastrophically impacted by the Dunns Road bushfire on the 4th January 2020. On this occasion we followed the order to evacuate 2 days before the fire hit. But in the 35 years we have lived here we have witnessed many serious fires near us and we know there is an entirely possible scenario where a fire can quickly start and the smoky conditions would make it life-threatening for us to evacuate or for emergency services to reach us, due to the risk of arcing ("flash-over"). These risks are well-known in firefighting and many safety protocols are in place blocking movement of emergency and other vehicles across high tension easements.

Similarly, extreme weather conditions resulting in the collapse of one or more towers are a known phenomenon, and again we could be trapped for a lengthy period in this scenario. When combined with fire, this eventuality would be life-threatening for us and our employees.

While the line itself would not be on our property, its position virtually over our front gate could present electrical shock dangers to animals and humans in the vicinity, and health risks from the electromagnetic field induced by several million volts of alternating current just overhead. This is a frightening prospect.

Land Values and Project Costing

We urge the Committee to carefully scrutinise the comparative costings of overhead versus underground methods across the broader view. Many of the environmental and social issues created by overhead lines carry with them a dollar figure. The principal ones in our estimation are:

- *Degradation of land values.* This applies not just to land across which easements travel. Landholders in that situation at least have some access to compensation, even if it may be inadequate. Many others like us will have no legal access to compensation but will nevertheless suffer significant loss of land value because of the proximity and danger of the transmission lines. We also ask the Committee to consider what will happen to the land values of the approximately one thousand properties on the western side of Tumut which face the prospect of a clear view of successive lines of 70-metre towers and cables on the next ridge only 2-3 kilometres away. Other urban areas will be similarly impacted. Compensation in this situation is astronomical and probably unthinkable, but the impact remains. Undergrounding removes all these costs.
- *Impacts on local economies.* Farm and forestry operations will suffer losses to their efficiency and productivity if overhead lines are present nearby. Undergrounding removes these losses. Tourism, which is a significant and growing industry in our region, with major flow-ons to local retail businesses, would suffer a major and permanent setback if the landscape were disfigured by these huge powerlines. Could these businesses ever be compensated? Undergrounding would avoid these impacts.

- *Insurance.* Our advice is that properties traversed by overhead high tension lines will not be able to be covered by public liability insurance because of the restriction to firefighting activity should a fire break out. This puts landholders in an untenable situation. If the Government steps in and underwrites them, this places the Government in a potentially very expensive situation. An underground line has zero fire risk and would remove this insurance anomaly.
- *Environmental offsets.* Our understanding is that of the current \$3.3 billion budget for HumeLink, \$930 million (28%!!) is set aside for purchasing environmental offsets. It is possible that TransGrid have already begun pre-emptively purchasing these offsets, thus already impacting offset prices. An underground line would slash this figure dramatically and decrease supply and demand distortions in the offset market.

The Committee will find, no doubt, that our experience with HumeLink is frequently echoed across all regions and all transmission infrastructure projects. The negative impacts on communities and natural environments (summarised in Part 2 below) have created a chronically adversarial atmosphere. It is no surprise, therefore, that “loss of social licence” has now become the defining feature of these projects and is recognised by everyone including the Federal Energy Minister, Chris Bowen.

This situation could be reversed and retrieved completely with a straightforward, unequivocal decision to place the transmission lines underground.

For that reason, we are very grateful to this Committee for taking a serious view of the alternative. We are confident that you will plainly see that on almost every metric of impact, as summarised in our table in Part Two of this submission, undergrounding transmission lines wins against overhead by a country mile. Till now, the corporations and regulators have seemed incapable of grasping these realities, probably because they operate on a different paradigm (viz. the cheapest and quickest solution) to that of a democratic government, tasked with the long-term view of investing in the common good for generations to come.

For emphasis we re-state with full gravity: The overwhelming majority of people in our community see the current proposal to build HumeLink as an overhead transmission line, a plan which has been intransigently adhered to by TransGrid for over 3 years against constant community opposition, and which government authorities and regulators have passively acquiesced to, as an abnegation of responsibility to care for people and environment, and a collapse of moral fortitude in the face of short term financial gain, corporate pressure and political survival.

Governments and regulators must not fall back on obsolete technology and narrow-viewed economic and engineering solutions. They must take the long view and employ world-best-practice strategies currently exemplified in Germany (Suedlink) and California.

The Committee will know that this view is shared passionately by all communities in the path of similar infrastructure projects.

PART 2: Table

The following 19 categories have been identified to receive special investigation in the Environmental Impact Statement for the HumeLink project. When these categories are applied to a comparison between the environmental impacts of underground and overhead lines, we believe the result is starkly in favour of undergrounding.

We list the categories below and show with a tick whether we believe it shows which solution is preferable, with some comments. Please note, we are not engineers, accountants or anthropologists, but we are confident your expert witnesses will broadly agree with our comments as laypeople and "stakeholders".

UNDERGROUND vs OVERHEAD

HUMELINK EIS CATEGORIES

...and the winner is

EIS CATEGORY	U/G	O/H	DRAW	COMMENTS
Aboriginal heritage	√			Minimal land disturbance by U/G easement. No footprint after construction.
Agricultural land	√			Zero impact on agricultural practices. O/H restricts agricultural practices.
Air quality			√	No known significant negative impact from either O/H or U/G.
Aviation safety	√			O/H is a major hazard, disruptor and restrictor of rural aviation.
Biodiversity	√			After construction zero impact. Full regeneration of narrow easement.
Bushfire risk	√			Zero risk of arcing. No restriction of vehicular movement including emergency services.
Economic			√	O/H is possibly cheaper at construction. Over longer term U/G becomes cheaper.
Electric & Magnetic fields	√			U/G as DC has minimal EMF.
Greenhouse gas & climate change risk	√			Mining, refining steel, concrete etc. for towers produces significantly more GHG than U/G cabling.
Historic heritage	√			U/G has no above-ground footprint after construction. More route flexibility.

p. 5 of 5

Hydrology & flooding			✓	No known significant difference.
Landscape character & visual amenity	✓			O/H towers and cables leave major permanent scar. Economic impact on property values & tourism + flow-on. U/G leaves no footprint after construction other than substations.
Land use & property	✓			Zero impact of U/G on land use. Almost zero impact of easement on property values. O/H significantly degrades rural & urban property values.
Noise & vibration	✓			Buzzing and humming a known feature of O/H. U/G is silent.
Social	✓			U/G has overwhelmingly positive social licence. O/H creates major ongoing negative social impacts, including mental health.
Soils, geology & contamination	✓			Wide O/H easement must be permanently cleared of trees & shrubs – expensive to maintain and risk of soil erosion and weed infestation.
Surface water & groundwater	✓			O/H easements, access tracks & tower pads can alter surface water flows – local erosion.
Sustainability	✓			Service life of towers and cables significantly shorter than U/G and more vulnerable to damage in extreme weather. Higher service costs of towers, cables & access tracks.
Traffic & transport	✓			O/H significant danger of electrocution to traffic in extreme weather (collapse) and thick smoke (arcing). U/G zero danger.

Thank you again for your consideration of our submission.

SR July 2023