

Submission  
No 48

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

**Name:** Mr William Arthur

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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

To the Honourable Emily Suvaal,

### Advantages of Underground Transmission for Renewable Energy Projects

I am writing to express my deep concerns regarding the proposed installation of overhead power lines across our valuable farming country. Instead, I strongly urge you to consider the feasibility of burying transmission infrastructure underground. This alternative solution has numerous advantages, including substantial long-term cost-effectiveness, environmental sustainability, and enhanced community support.

Recognising the global trend towards underground transmission is crucial, as governments worldwide have embraced this approach due to its overall benefits and cost efficiency when also considering the environmental and social costs. Specifically, HVDC underground transmission, proposed for the Humelink project, offers lower losses in transmission compared to AC overhead lines. This leads to improved energy efficiency, which ultimately offsets the initial costs over the project's lifetime. The advantages of undergrounding are extensive, including:

1. **Reduced Fire Risks:** Unlike overhead lines, underground transmission eliminates the risk of electrical infrastructure causing fires. This is of paramount importance, especially in areas with steep and rugged terrain, as safe firefighting becomes a major concern. With underground lines, firefighting operations are not impeded by the presence of electrical infrastructure, ensuring greater safety for both the environment and nearby communities.
2. **Protection from Severe Weather and Fires:** Undergrounding provides essential protection to infrastructure during severe weather events and wildfires. Above-ground power lines are susceptible to damage from extreme weather conditions, posing risks of transmission interruption and further exacerbating the impact on affected areas. By burying transmission lines, we can ensure greater resilience and minimize disruption caused by natural disasters.
3. **Minimal Impact on Agriculture:** Underground transmission lines do not interfere with agricultural operations, allowing farmers to continue their work uninterrupted. Conversely, overhead lines can impede machinery use, irrigation, unmanned aerial vehicles, and even aircraft operation. By opting for underground infrastructure, we can preserve the productivity and efficiency of our agricultural sector while advancing our renewable energy goals.
4. **Environmental Conservation:** Undergrounding significantly reduces the impact on the landscape, private dwellings, and biodiversity. Unlike overhead lines that require

a substantial easement of up to 70 meters, undergrounding necessitates only a 15-meter easement. This reduced footprint minimizes the removal of trees and flora, preserving the natural habitat and reducing disturbances to endangered species. Moreover, the land above the underground cables can be revitalized following construction, allowing for the unimpeded movement of birds and local climbing animals.

5. **Visual and Health Benefits:** Underground transmission lines eliminate the visual impact associated with overhead power lines. This preserves the character of our rural landscapes, ensuring their aesthetic appeal remains intact. Additionally, underground lines produce minimal electromagnetic field effects, mitigating potential health risks and supporting the adoption of new technologies, such as precision agriculture technologies, which improve farming productivity.

While our government asserts that renewable energy sources, such as solar and wind, will reduce the price of electricity, it is essential to align the method of electricity distribution with these sustainable goals. Undergrounding transmission infrastructure not only aligns with best practices worldwide but also garners significant community support. By choosing the underground solution, TransGrid can benefit from social sanction, as it addresses all concerns raised by the community.

In conclusion, I implore you to consider the immense advantages of underground transmission for renewable energy projects. The long-term cost-effectiveness, environmental sustainability, and community support make it a clear choice. By burying power lines, we can ensure the safety of our communities, protect our environment, and preserve the productivity of our agricultural sector. I urge you to prioritise the well-being of our region and make a decision that reflects the best interests of our community and future generations.

Thank you for your attention to this matter.

Sincerely,

Mr William Arthur