



08/04/2022

**Ms Alison Andrews
Chief Executive Officer
Transpower**

Submitted via email: REZ@transpower.co.nz

Dear Ms Andrews,

Renewable Energy Zones National Consultation 2022

Fortescue Future Industries (FFI) is currently establishing a global portfolio of green hydrogen production and manufacturing projects and operations that will position us at the forefront of the global green hydrogen industry.

FFI is a subsidiary of Fortescue Metals Group (Fortescue), an Australian company and a global leader in large-scale, ultra-efficient and highly complex developments with a proven track record in developing and operating assets in remote and isolated locations. Fortescue has a strong focus on decarbonisation, evidenced by its industry leading target to achieve carbon neutrality by 2030. FFI's NZ based team is growing with a keen focus on building renewable hydrogen projects and eco-systems in New Zealand.

We welcome the opportunity to provide comment on Transpower's Renewable Energy Zones National Consultation paper. FFI are broadly supportive of the approach proposed by Transpower for the efficient and effective integration of Renewable Energy Zones (REZ's) into the New Zealand power network. Establishing REZs is an important way to integrate new renewable energy into markets seeking to meet decarbonisation goals and support continued electrification demands. Increasing the availability of renewable energy across the NZ networks will first and foremost work to improve affordability and reliability of electricity in NZ, as well as unlock the ability for NZ to rapidly scale up green hydrogen production to begin to transition hard to decarbonise sectors such as aviation, heavy transport, industrial processes and shipping, while also improving New Zealand's energy security.

FFI is moving rapidly to explore and, with its local partners, subsequently secure project development approvals on a number of projects (where scale will be driven by the availability of economic and additional renewable energy) to produce green hydrogen and green ammonia across New Zealand. FFI is also exploring renewable energy projects and partnerships to underpin and enable our green hydrogen projects, and how this can contribute to and benefit domestic markets. Our analysis has shown that flexible demand combined with new renewable energy



sources can help manage times of constrained energy supply for New Zealand's electricity consumers.

Our global development plans are scaled to match our ambitious decarbonisation and green hydrogen production goals to;

- Globally achieve 15,000,000 tonnes of annual green hydrogen production by 2030
- Globally achieve 50,000,000 tonnes of annual green hydrogen production in the decades there after
- Decarbonise Fortescue by achieving net-zero in our operations and scope 2 emissions by 2030
- Assist Fortescue customers to decarbonise by achieving net-zero in our scope 3 emissions by 2040

While our global targets are ambitious, our development plans are not predicated on all our projects exporting green hydrogen to other countries and markets. Our projects are each assessed on a viability basis, including the ability to benefit from export markets underpinning the capital required to initially establish projects, but then enabling the domestic markets to transition and decarbonise once they are established.

We consider New Zealand to be an excellent region due to its stable investment environment, strong renewable energy potential and proximity to FFI's parallel projects under development in Australia. The demand for power for both electrification and hydrogen production will underwrite significant investment in new renewable projects. The level of investment required to support this demand will also enable or create significant employment opportunities over the coming decades.

Developing and connecting the renewable generation required to support this level of hydrogen production in New Zealand will require coordinated planning of the transmission networks, generation and co-located loads such as electrolysers. As the consultation paper rightly notes, the initial stage REZ development in new South Wales (NSW) in Australia has attracted massive levels of investment interest. If structured appropriately, New Zealand REZs will likely benefit from the same level of attention from investors.

An injection of large-scale (i.e., multi-GW's) of new renewable generation via REZs will bring immense benefits to New Zealand residential and industrial consumers (in addition to a decarbonised power system). New Zealand currently faces comparably high-power prices to similar nations due to continued use of gas and coal generation, including some risk from international suppliers. Wind and solar generation provide substantially cheaper electricity than coal and gas plants and increase energy independence by reducing its host countries exposure to external factors that impact fossil fuel markets. The impacts felt globally as a result of the 2022 Russian invasion of Ukraine are a strong example of why energy independence is a critical element of the energy transition.



Facilitating REZs & establishing a hydrogen industry in New Zealand

At a high level, the principled approach to REZs outlined in the consultation paper seems pragmatic and workable for industry. The streamlining of the connections process for new generation is a critical first step in enabling investment in REZs. Similarly, facilitating the sharing of connection assets can significantly lower costs and should be encouraged as much as possible. The Australian Energy Market Commission (AEMC) recently made a change to the National Energy Rules (NER) to better facilitate the use of connection assets and deeply considered the issues of the first mover advantage and sharing of assets¹. This process may provide some possible insights for Transpower to consider.

FFI support the transparent process proposed for REZ location selection. Both current and future needs must be considered by these processes to ensure that long-lead time infrastructure projects such as transmission developments are designed to suit the scale of the consumer base that they will serve over their 50-plus year life. With this in mind, FFI encourages Transpower to consider future energy scenarios that include a mature green hydrogen industry. Just in time investment will not give the industry the confidence needed to invest in the right projects to secure supply and manage price. This is broader than just power lines; it should include considerations such as the ability for industry to access resources and develop the supporting infrastructure such as water supply, heavy transport, ports, rail networks, and gas pipelines.

The New Zealand hydrogen industry is still in its early stages of development, with high levels of interest and discussion ongoing. This presents a great opportunity for industry, government and consumers to collaborate and plan for the emerging green hydrogen industry. A mature green hydrogen production industry will provide benefits beyond the products supplied to decarbonised industries such as aviation, heavy transport, industrial processes and shipping. Large-scale electrolysers connected to the grid can provide opportunities to support efficient investment in generation and network infrastructure by providing;

- Certainty in terms of demand underpinning the investment
- Flexibility to provide demand management services (e.g., dry year support and dispatchable load services)
- Efficiency of market operations and associated market pricing impacts

Thank you for the opportunity to comment on this consultation. We commend Transpower for this proactive consideration of REZ development, and in summary we:

- are supportive of establishing REZs in NZ, and believe the establishment of the Northland pilot REZ will provide a platform to develop from
- believe NZs decarbonisation transition requires electrification to be complemented by a local Hydrogen ecosystem, both of which support domestic energy security of supply
- support enabling efficient and timely investment in new renewable generation to deliver the required energy at prices that empower industry and regions to prosper
- welcome any opportunity to discuss how NZ's developing hydrogen industry can support electricity transmission network and system/market operations.

¹ AEMC, Connection to dedicated connection assets, July 2021, available at [Connection to dedicated connection assets | AEMC](#)



If you would like to discuss any of the items raised in this submission, please contact Tom Parkinson at tom.parkinson@fmgl.com.au or myself, on the details below.

Yours sincerely

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