

Does PQ have view of transition of load e.g. mining machinery?

We expect over time many industries, including mining and manufacturing, will transition from fossil fuels (e.g. diesel) to “green” energy sources. In many instances this could result in greater demand on the interconnected electricity network and the need for additional renewable generation. Powerlink is alert to this situation and is working with customers and other industry stakeholders (such as the State Government and AEMO) on integrated plans to support the transition to the new energy future. Renewable Energy Zones which target the efficient utilisation of renewable energy resources will be a key part of these broader plans.

Co-location of hydrogen infrastructure? How do we identify / promote this?

We are working with various developers and the Queensland Government on plans for these Hydrogen developments. This includes considerations of the transmission system, existing generation sources and renewable generation potential. While Powerlink cannot decide the locations where proponents choose to locate their developments, we are certainly aiming to influence the key stakeholders to ensure that developments are carried out in ways that minimise costs, optimise use of suitable renewable generation and add value to customers. We are taking a very proactive stance in working with Government on suitable Renewable Energy Zones which target the efficient utilisation of renewable energy resources.

Have you given any thought to the cost of disposing of batteries and environmental impacts? Also replacing wind structures with steel - which comes from Coal?

We take our environmental responsibilities very seriously and we are continually working to understand and minimise the carbon footprint of Powerlink’s assets and operations for our communities. As part of our asset management approach we plan for end of life and any necessary decommissioning and rehabilitation requirements.

No mention of the "resilience" of the REZ to climate change? The quality of the renewable resource may change with climate change.

We are aware of the issues surrounding renewable developments and the risks of climate change. We use the most up to date research to identify suitable areas for Renewable Energy Zones and have a strong focus on the diversity of generation sources. Queensland has an abundance of renewable resource, predominantly wind and solar, with many diverse locations across the State. While there is no guarantee of the future performance of any one location, we believe the diversity of generation sources and locations will benefit Queensland customers. In addition, we are working with the Queensland Government on major storage facilities including the Borumba Pumped Hydro Project. This is aimed at supporting diverse intermittent renewable energy sources to ensure the future security and reliability of the Queensland electricity system.

On 14 March 2021 67 MW of rooftop solar in South Australia was turned off to increase demand and maintain a secure grid. Do Powerlink support Queensland following the same action of turning off rooftop solar to maintain system security?

We are closely monitoring the reducing level of “minimum demand” in Queensland, predominantly resulting from the continuing uptake of roof-top solar systems. Reducing minimum demand is a big

issue for Queensland and the wider National Electricity market. South Australia has experienced the first instances of the need to increase demand to maintain power system security at certain times and has managed these events by controlling the output of roof-top solar systems. Powerlink has been working closely with a range of stakeholders including the Queensland Government, Energy Queensland, and AEMO on managing this issue of minimum demand on behalf of Queensland customers. AEMO plays a very specific role in managing the day-to-day operational security of the NEM and in managing issues that result from low levels of the minimum demand. Powerlink is actively working on connection of large scale batteries and Pumped Hydro Energy Storage (PHES) to address the impact of minimum demand. The aim is to maintain a secure power system at all times, however, specific issues around controlling roof-top solar may form part of this in the future but are not directly within Powerlink's control.

What is Powerlink's strategy for a black system event taking into consideration a retirement of dispatchable coal-fired generation in Queensland from 2028 and only limited "committed" large-scale battery and pumped hydro storage projects?

Under the National Electricity Rules, AEMO has direct responsibility for managing the black-start requirements for Queensland (known in the Rules as system restart facilities). From time-to-time AEMO calls for expressions of interests from market participants to provide system re-start facilities. While we are not directly involved in this process with AEMO, we are aware that AEMO is giving consideration to the use of batteries and other renewable facilities in the provision of future system restart services. As part of preparedness activities, Powerlink (and the broader energy industry) prepares for and practices responses to system events (including system black) and has clear recovery plans.

Renewable energy zones require an investment of hundreds of millions of dollars in new transmission in Queensland. This affects the current 8% transmission component of a consumer's power bill. How much of the new transmission will be non-regulated transmission assets compared to regulated Powerlink assets? For example, the \$258 million new transmission line to the Kidston Renewable Energy Hub in North Queensland included a \$147 million investment by the Queensland Government - an investment which is not part of Powerlink's Regulated Asset Base.

Delivering value to customers is one of our key priorities. In relation to Renewable Energy Zones, we are working on arrangements to enable new transmission assets to be largely funded by the generation proponents (non-regulated). Some support may be provided by the Queensland Government in initially developing scale efficient transmission infrastructure to ensure that renewable generators connect in locations that optimise the use of both the transmission system as well as the critical renewable energy resources. Without this support, the development of renewables may be less efficient due to incremental investments in potentially sub-optimal locations.