# 2021 Transmission Network Forum Summary

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Powerlink hosted its annual Transmission Network Forum on Monday 15 November 2021. The forum was held as a hybrid event due to the impacts of COVID-19, allowing more regional and interstate stakeholders to join with in-person attendees.

The record attendance of more than 250 attendees reinforced the important role the transmission network will play in the future of energy in Queensland and the wider National Electricity Market.

The forum included an address from Minister for Energy, Renewables and Hydrogen and Minister for Public Works and Procurement the Hon. Mick de Brenni MP.

The Minister provided an update on the development of the Queensland Energy Plan (QEP) and delivery of Queensland Renewable Energy Zones (QREZ). He announced an important milestone with the release of the QREZ Technical Discussion Paper.

Powerlink Chief Executive Paul Simshauser delivered a 'State of the Network' address, sharing insights into the key challenges and opportunities facing Queensland's transmission network, including the network response to the major outage at Callide Power Station in May 2021, minimum demand and energy storage opportunities.

Executive General Manager Network and Business Development Stewart Bell gave an overview of the 2021 Transmission Annual Planning Report outlining energy and demand forecasts, generation outlook and network performance.

*"Powerlink, as you know, is well known for its approach to working incredibly closely with industry and incredible closely with its customers and stakeholders".*

*"The road ahead and the challenges we face are significant but not insurmountable. It will take all of us working together to overcome them."*

Minister de Brenni

Two interactive breakout sessions were then held, covering key areas of interest for Queensland's energy future:

1. Creating a robust Renewable Energy Zone (REZ) framework for Queensland
2. Navigating the industry's pathway to electrification and decarbonisation

The feedback from interactive workshops at the forum will influence Powerlink's ongoing network planning and decision making.

To view the forum presentations visit www.powerlink.com.au/engagement-forums.

# Stream 1 – Creating a robust Renewable Energy Zone (REZ) framework for Queensland

*Mahesh Narotam, Project Director Renewable Energy Zones, Powerlink*
*Leanne Caelers, A/ Executive Director, Renewables, Department of Energy and Public Works*

This session was jointly hosted by Powerlink and the Department of Energy and Public Works (DEPW). It built on the release of the QREZ Technical Discussion Paper and discussed the need for and benefits of QREZs, desired attributes and the different approaches used to deliver REZs in other jurisdictions.

Attendees were invited to provide input into the following questions:

- Question 1 – What does Powerlink need to consider to deliver QREZ now and into the future?
- Question 2 – What should a regulatory QREZ framework look like? How should this differ from other jurisdictions, if at all?
- Question 3 – How does Powerlink best utilise the network we have to deliver QREZs?

The following provides key themes of the feedback received for each question.

## Question 1 – What does Powerlink need to consider to deliver QREZ now and into the future?

### Wider community benefits and social licence to operate

- Social licence is important. How can Powerlink minimise impacts on communities and provide a more formal and upfront role in the planning process for QREZs? Need to investigate compensation models for impacted landholders.
- QREZs shouldn't be about maximising profits. The infrastructure should maximise the benefits for all of Queensland, not just renewable energy developers and investors.

### Certainty and transparency for developers and investors

- Try and be more upfront with the transparency with developers and provide a dollar per megawatt cost for a particular QREZ. Need to fairly share information with the market. Better insights into curtailment, marginal loss factors, Power Purchase Agreement (PPA) price estimates and timeframes.
- Important to give more geographic certainty and clarity on the location of proposed QREZs to better guide the market.
- Give insights into future load commitments – would you consider a load map? Need to attract future load as well as future generation.

### Utilise existing network capacity

- Need to use the capacity we have in the existing network for renewable development building new infrastructure.

### Incremental change to manage risk

- Incremental change will better manage the risks. Understand there is a big job to be done but don't commit in one big step. We can do little steps and then see where we are at and possibly chart a new course.
- There is support for renewable energy, but concerns around the speed of development which presents a risk to customers and participants in the market.

## Question 2 – What should a regulatory QREZ framework look like?

### Streamline the connection process, provide greater certainty

- Framework should look to streamline the connection process, to provide greater time and outcome certainty for developers.
- Provide more information on planned local generation retirement to create developer and community certainty.

### Support for market-based QREZ model

- Support for Powerlink to continue with its market-based QREZ model, seeking to identify a foundation generator and then seek to maximise output. Need to manage impact on regulated assets closely.

### Drive integration and alignment with future load development

- Should help integrate QREZ development with future industry and load development, including hydrogen industry.
- Framework should include incentives for industry development and electrification.

### Clearly define roles of QREZ participants

- Need clarity on the role of Powerlink, the Queensland Government, Australian Energy Market Operator (AEMO) and renewable developers.
- Don't create additional bodies or organisations if existing ones can deliver QREZs.

### Do we need a QREZ Framework?

- If the project pipeline is significant, do we need a QREZ Framework or should we just let the market guide development?

## Question 3 – How does Powerlink best utilise the network we have to deliver QREZs?

### Optimise utilisation

- Need to develop a clear definition of network utilisation and understand the difference between peak and average utilisation levels.
- Need to drive the operation of the network hard to ensure utilisation is maximised.

### Grid technologies

- Grid technologies will play an important role in the delivery of QREZs, including runback and protection schemes.
- Encouragement for Powerlink to continue rollout of Wide Area Management Protection and Controls (WAMPAC) schemes.
- Is there a role for the use of a virtual synchronous machine (VSM) as an alternative to a traditional synchronous condenser?

### Guide storage and load locations

- Powerlink has important role in providing guidance on the optimal location of battery and other storage including pumped hydro.
- Can Powerlink leverage its land holdings to support battery development?
- Need to continue to communicate with market participants on the strongest part of network close to load to drive optimal QREZ development.

# Stream 2: Navigating the industry's pathway to electrification and decarbonisation

*Jacqui Bridge, Executive General Manager Energy Futures, Powerlink*
*David Shankey, Deputy Director-General, Energy*

This session was jointly hosted by Powerlink and the Department of Energy and Public Works. It focused on current industry loads, how future loads (including hydrogen) may be electrified and the role the Queensland Energy Plan will play in future electrification and decarbonisation.

Attendees were invited to provide input into the following questions:

- Question 1 – How should Powerlink deal with uncertainty of the pace and scale of change when planning its network?
- Question 2 – What are the key elements that should be included in the Queensland Energy Plan?
- Question 3 – What is the role of Government in the energy transformation?

## Question 1 – How should Powerlink deal with the uncertainty of the pace and scale of change when planning its network?

### Greater engagement and sharing of information

- Important for Powerlink to closely engage with market participants and customers on the network into the future. Need to be transparent about how the issues we are facing as well as how they will be mitigated into the future.
- Need more transparency from Powerlink on market developments and the frequency of change. This will help guide the market on best locations to connect to the network.
- Collaboration with Energy Queensland, other transmission networks and private sector developers will be crucial.

### Have to be flexible

- Big focus on the need to build a really flexible network to deal with the operational capability and speed of transition.
- Role for market bodies and Queensland Government to implement greater flexibility in rules and regulations to foster an environment that can appropriately respond to rapid change.

### Scenario network planning

- With so much uncertainty, there is greater importance on the use of scenario planning to manage the transition. Cannot put all our 'eggs in one basket'. Need to scope multiple scenarios and then pick least regret option
- Can uncertainty be reduced by developing credible plans for many different scenarios. Data will play a key role. Need to test and do 'dress rehearsals' on different scenarios to guide future network planning.

### Risk needs to be appropriately managed

- There is a risk associated with cost allocation and stranded assets for customers if the transition is not managed well. Who takes the risk, and who pays for it? Is it the transmission network service providers (TNSP), the market participants or customers?
- Powerlink is in a difficult position in that it may need to start to build new assets prior to a demonstrated need, but has to minimise risk of stranded assets.
- Need to communicate the cost benefit of its choices, and highlight the potential costs of 'doing nothing'.

### QREZ development

- The development of QREZs will be important, but require more geographic and staging certainty.
- Need for clarity on pricing protocols and access rights for QREZs

### Important role for government in energy transition

- Governments will need to play an active role in guiding the energy transition, including the use of incentives to stimulate appropriate development.

## Question 2 – What are the key elements that should be included in the Queensland Energy Plan?

### Guide development of loads and generation

- Desire for the plan to outline Queensland's hydrogen pathway and how the industry will evolve over the coming 10 years. Want to see details on planning criteria for hydrogen and management strategies for key issues such as water supply.
- Should drive investment and development of diverse categories of generation, not just solar and wind.
- Outline how the uptake of electric vehicles will impact on the network.

### Help set consistent policy and legislation

- Clear opportunity for the Queensland Energy Plan to set clear and consistent policy settings to reduce uncertainty and support investment decision making.
- Plan should have direct consideration of transmission land use planning requirements – need to incorporate into planning regime and consider community engagement requirements.

### Creating benefits for Queensland communities

- Plan will need to recognise the impact on regional communities and outline longer term planning to ensure appropriate community benefits.
- Key areas to focus on include flexibility of compensation to more directly impacted landholders and appropriate environmental protections.
- Plan should also focus on employment and training opportunities to facilitate transference of skills and boost regional job opportunities.

### Clear guidance on path to net zero

- Strong focus on a path to net zero emissions then also a clear pathway including investment plans on distribution, transmission, generation and the impacts on the customers including assessments around scale and likelihood.
- Can the Queensland Energy Plan outline 'triggers' at certain points aligned with percentage of load electrification?

### Avoid over investment in the network

- Plan should have a strong focus on avoiding over investment in the network of the future and be able to demonstrate that Queensland electricity consumers are paying no more than necessary.

## Question 3 – What is the role of Government in the energy transformation?

### Stable and consistent policy

- Need for a stable and consistent policy to support investment decision and participation in the market. Predictability of policy will reduce perceived risk of investment in Queensland.
- Policy should give appropriate signals to the market on a range of factors from load and generation mix and location to electric vehicles.

## Ensure no one is left behind

- Focus on costs so no one is left behind as part of the energy transformation.  This is both in the context of costs to electricity consumers and impacted communities.
- Identify future skills required and facilitate training programs to help communities manage the energy transformation.

## Coordination, collaboration and communication

- Need for a state-wide communications campaign to promote objectives of the energy transformation and associated benefits.
- Need for strong community engagement to ensure a clear understanding of the impact on electricity prices, jobs and benefits for the community.
- Coordinate industry-wide engagement with market bodies (AEMO, Australian Energy Market Commission (AEMC), Australian Energy Regulator (AER)), Energy Queensland, generators and loads.

## Clear roadmap for hydrogen industry

- Guide hydrogen to the most efficient location with optimal transportation and storage.
- Important to make sure the whole of Queensland benefits from the hydrogen industry, not just those directly involved.

## Support new load growth in Queensland

- Role for government to attract new loads into Queensland to match generation and assist with network operation.

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