



AEMC

INFORMATION

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Coordination of generation and transmission review - proposed access model

Context for this review

The *Coordination of generation and transmission investment (COGATI)* review is focused on examining *when* the transmission frameworks will need to change, and, if so, *what* they will need to change to. This review is undertaken pursuant to a terms of reference received in 2016 from the Council of Australian Governments (COAG) Energy Council.

The current review has two key focusses:

1. developing the specification of the **proposed access model**, which implements dynamic regional pricing and financial transmission rights
2. facilitating **renewable energy zones**, which are a useful first step on the path to holistic access reform and can be implemented earlier.

These focus areas are being undertaken through two different work streams, however both of the proposed models are consistent with each other.

Access reform will coordinate generation and transmission investment

The electricity sector transition that is currently under way is changing the dynamics of the power system, including the generation mix. Traditional thermal plants are closing, and more renewable and asynchronous generators are coming to the power system. The transformation of the electricity system is also leading to a small number of large and more centrally located generators being replaced by a large number of relatively small, flexible, asynchronous and geographically dispersed generators. In the next 10 years alone, generation roughly equal to the current size of the NEM (50 GW) is expected to connect to the grid. The national electricity market will replace most of its current stock by 2040.

In addition, the networks across the NEM are becoming more meshed and interconnected, with this resulting in increased inter-regional trade and sharing of reserves between jurisdictions.

Substantial and timely transmission infrastructure is therefore likely to be required. These changes mean that there is a need to have a better way of co-ordinating generation and transmission investment decisions in order to better facilitate the transition that is occurring.

Transmission access reform is therefore vital for the NEM to effectively evolve, transition and co-ordinate investment resulting in least-cost outcomes for consumers.

Our proposal for access reform

Our proposed reform model involves changing two interrelated aspects of the current transmission access framework.

1. **Wholesale electricity pricing**



Generators and storage receive a local price that better **reflects the marginal cost** of supplying electricity at their location in the network

2. **Financial risk management**



Generators and storage are better able to **manage the risks of congestion** by purchasing a financial transmission right

This model shares considerable similarities to common market designs in other countries such as the US and New Zealand, but also reflects the unique characteristics of the NEM. These differences include the fact that the NEM is a relatively long stringy power system, as well as the fact that the formal wholesale spot market sits alongside the contract market. The contract market influences bidding strategies in the wholesale market itself (and vice versa).

Under **wholesale pricing**, scheduled parties such as generators and storage would receive a 'local price' that more accurately represents the marginal cost of supplying electricity at their location in the network than the single regional reference price that they currently receive. Retailers and other non-scheduled market participants would continue to be settled at a common regional price for wholesale electricity. The Commission expects this change to lead to better locational operational and investment decisions that would make the transmission network more efficient and reduce costs for consumers.

Financial risk management would involve enabling scheduled market participants exposed to their local price to purchase financial transmission rights to better manage the existing and growing risks of congestion and transmission losses at their location. Financial transmission rights should improve investment certainty for generators and storage, and may also reduce their cost of capital in the longer term. Financial transmission rights should also improve participants' willingness to offer energy contracts, improving contract market liquidity, both within regions, but also across regions.

Under our proposed access model, transmission planning and investment would continue to be conducted using the current transmission planning and investment decision-making process including the Integrated System Plan (ISP), Annual Planning Reports and Regulatory Investment Tests for Transmission. The Energy Security Board's (ESB's) work on actioning the ISP goes hand in hand with our COGATI reforms. The ISP and related processes will establish the amount of financial transmission rights available for purchase, and the subsequent sale of those financial transmission rights provides better information for transmission planning.

Implementation

Transmission access reform is needed soon to ensure that the NEM can evolve effectively. Access reform is needed to facilitate the transition that is currently under way.

The Commission believes that July 2022 is appropriate for implementation of dynamic regional pricing and financial transmission rights. There will need to be a transitional period in which incumbent generators would be granted, rather than pay for, financial transmission rights.

The ESB is also considering further market changes in its post 2025 project. The Commission is conscious of these interactions and has sought to design an access reform model that, while adapting the NEM to meet the trends arising from the transition, also provides flexibility for the exploration of different future market designs. The Commission considers that the access reforms proposed in this paper are likely to be an appropriate, no regrets step that is suitable for any post-2025 design of the market.

Our approach to quantitative modelling

The Commission has developed an approach for quantitative modelling in response to varying stakeholder objectives for this modelling. We are seeking stakeholder input on this approach, including 'paper trials' that will be undertaken, to help inform specific policy design choices and weigh the potential impacts of this reform.

Next steps

The Commission invites stakeholder feedback in response to the questions raised in the discussion papers. Submissions are due by **8 November 2019**. In addition, a public forum will be held in Melbourne on 18 October to discuss the reforms. Stakeholders should register for the forum or its web-cast via the Commission's website.

A final report covering both access reform and renewable energy zones will be submitted

to the COAG Energy Council and published in December 2019. It is anticipated that the proposed changes to the rules consistent with the proposed model will be submitted to the Commission to be progressed through the rule change process in early 2020.

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