



INFORMATION

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Transmission access reform

Access reform is integral to Australia taking the cheapest, fastest and fairest path on its transition to a low-emissions power system. It will integrate new technologies into the national grid in a way that's reliable, secure and works in consumers' best interests.

The Commission will publish three levels of information on access reform

The AEMC will publish three papers on access reform as part of its Coordination of Generation and Transmission Investment (COGATI) review in March:

1. An **update paper** that explains the case for change, gives an overview of the access model's features, explains how this reform is part of, and coordinates with key Energy Security Board (ESB) reforms, and explains how the Commission will further develop and model the proposed access reform as part of ESB market design work during 2020.
2. A **technical specifications report**, providing a detailed blueprint of the current transmission access model. This blueprint incorporates stakeholder feedback to date, for example by making the financial transmission rights longer and firmer. This blueprint is the starting point for continuing design work with stakeholders over 2020.
3. A **benchmarking study** conducted by NERA Economic Consulting on the benefits and costs of transmission access reform based on the implementation of similar reforms in a number of jurisdictions. The study estimates benefits that considerably outweigh the costs, as well as provides commentary on learnings from other jurisdictions.

Access reform is critical for the sector's transition

The pace of change in Australia's energy market means Australia has outgrown the way it prices and delivers energy. It will replace most of its current generation stock by 2040. The system of the future is likely to be characterised by many relatively small and geographically dispersed renewable generators, connecting to windy or sunny parts of the network which have historically not required large amounts of transmission capacity.

Given this environment, it is crucial that generators and storage are provided the correct locational signals for their investment decisions, and the tools to manage the risk of transmission congestion and losses.

Current transmission access arrangements do not incentivise generators and storage facilities to locate and operate in a way most likely to minimise costs for consumers. Decisions on where to locate, and how to operate generation are not in lock-step with spare transmission capacity in the system or decisions on where and how much additional transmission capacity should be built.

This makes it harder to keep power prices down. The current framework also doesn't provide the tools for market participants to manage congestion and loss related risk on an ongoing basis. These problems won't be solved by building transmission alone. That is why the solution to the challenges facing the grid has two parts: 1) actioning the ISP so that the right transmission is built and 2) implementing access reform so that the network is used effectively.

Access reform is at the heart of the ESB's market design work

Reforming access to transmission is a fundamental part of any future market design and

the AEMC will develop and refine the blueprint for reform over the coming year, through the ESB's existing processes for market design.

This work will complement – and in some cases enhance and enable – options the ESB is considering in its market design work program, in particular the two-sided markets and ahead markets.

Together, actioning the ISP and access reform will provide a long-term solution that lowers prices for consumers, lowers risks for market participants and will result in lower emissions generation being dispatched. If transmission planning and access reform are implemented together, the financial investment in transmission will keep its value into the future.

Without access reform, there are significant risks that the transmission identified through the ISP will be built – but generators will continue to locate and operate in ways that mean we won't realise the full benefits of the transmission investments that are made.

Overview of access reform

The proposed transmission access model involves two key changes to better reflect the underlying value of electricity in prices:

- locational marginal pricing, which involves large-scale generators and storage receiving a spot price that varies based on their local supply and demand conditions – rather than the regional price.
- financial transmission rights, which participants can purchase to hedge against the differences in wholesale market prices that arise due to network congestion and transmission losses.

While locational marginal pricing is a significant change to the existing NEM design, it is not a radical concept: it is in keeping with our everyday experience of prices for other goods and services varying based on local supply and demand conditions.

Locational marginal pricing and financial transmission rights address a number of critical problems in the current arrangements:

- By pricing energy based on local conditions, market participants are incentivised to invest in, and operate, assets in a way that meets the physical needs of the power system. This will reduce costs, and ultimately consumer bills, as well as emissions.
- Financial transmission rights will allow market participants to better manage congestion and loss related risk, encouraging investment and improving the operation of the contract market. This will reduce prices for consumers.
- The approach makes sure that consumers pay fair value for energy. The regional price is typically higher than local marginal prices in the presence of congestion, meaning that under the current pricing regime, generators typically receive additional money compared to if they were paid the local marginal price. It is in the long-term interest of consumers that they, and not generators, receive this money.

Overseas experience is overwhelmingly supportive

The proposed access model is common and long-established overseas in a variety of settings. New Zealand implemented locational marginal pricing in 1996 and financial transmission rights in 2014; all seven US markets progressively implemented them between 1998 and 2014; Ontario is implementing them in 2023 in order to better transition to a renewable future. The role-out of the proposed model elsewhere points to its success.

We have engaged NERA Economic Consulting to review the evidence available on similar reforms in other jurisdictions and provide an estimate of the expected costs and benefits for the NEM. NERA's best estimate of the total benefits for consumers of the reforms is \$387m in savings per year – equivalent to 2% off the cost of wholesale energy, or \$10 off a typical household bill each year – offset by a one-off implementation cost of \$149m.

NERA found that the introduction of locational marginal pricing should not exacerbate market power. Across all jurisdictions examined, NERA found that local market power is rarely exercised in practice. NERA also found that contract market liquidity was not reported to substantially change as a result of the introduction of locational marginal pricing.

The evidence from these overseas markets is clear. The access model is fit-for-purpose in a variety of different market settings, and well-suited to enable new generation into the power system while managing the ongoing transition to a low-emissions sector.

The reforms incorporate extensive stakeholder engagement

We have conducted extensive stakeholder engagement as part of this review. We have considered 151 written submissions from 67 different stakeholders on four consultation papers; held six technical working group meetings; and two public workshops. We have also held more than 130 bilateral meetings and workshops with the ESB, AER, AEMO, consumers, TNSPs, incumbent and prospective generators, existing and prospective investors, government departments and other interested parties. We have given all of their feedback careful consideration and have taken it into account when developing this integral part of the solution to Australia taking the cheapest, fastest and fairest path to a low emissions energy future. For example, in response to stakeholder feedback we are undertaking quantitative modelling and the financial transmission rights have been longer and firmer.

The majority of consumer groups, the AER, the ESB, the ACCC, and transmission network service providers, along with a small subset of generators and investors, support the proposed access model.

A majority of investors and generators are not supportive of the access model, citing a variety of reasons which differ across the stakeholder group. Few alternatives have been proposed, and none, in the Commission's assessment which would better meet the needs of consumers.

Next steps

A blueprint for access reform, representing the current design, is provided in the technical specifications document.

We will continue to refine and further develop the access model blueprint with stakeholders over the course of 2020, taking into account the modelling that is occurring as well. This will allow us to develop draft rule changes that can be considered as part of the ESB's proposed reforms.

In addition, and in response to stakeholder feedback, we will quantitatively model the reforms by undertaking market modelling of the NEM. We have engaged NERA Economic Consulting for this task and will be completing the analysis in a transparent and consultative manner, engaging with stakeholders through the process.

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