Review on coordination of generation and transmission investment: discussion paper released for consultation

The Australian Energy Market Commission (AEMC) today called for submissions on the best model for renewable energy zones so new low emissions generators can join the power system at the lowest possible cost.

The electricity market is transforming, with a large number of new connections like wind, solar, farms and storage including pumped hydro, all set to connect in coming years while older generators are retiring. In a discussion paper released today the AEMC sets out options for clustering new generators in zones to reduce the costs of new transmission infrastructure needed to connect these generators to the grid.

AEMC Chief Executive Anne Pearson said the discussion paper highlights the need for understanding the ultimate impact on electricity prices when making any changes to how transmission infrastructure is planned, built and operated.

A large amount of proposed generation, in the order of 45 GW, is expected to enter the national electricity market. Much of this would need new transmission infrastructure. Given this influx, it makes sense to coordinate investment in generation and transmission in renewable energy zones where this keeps costs down.

The Commission’s analysis shows how different designs for renewable energy zones can have different outcomes for consumers.

“Some coordination models can lead to consumers bearing the risk if transmission lines are built for a renewable energy zone which doesn’t actually eventuate - a ‘build it and they will come’ approach. In other models, that risk lies with the generation business. That’s why we’re carefully weighing up the pros and cons of different models, and asking stakeholders for their views,” Mrs Pearson said.

This work is part of a review, tasked by the COAG Energy Council, to consider better coordination of generation and transmission investment, including development of renewable energy zones as raised by the Finkel Panel review.

It is part of the AEMC’s broader work program which is reviewing regulatory frameworks to support the changing mix of generation. Last month we released recommendations to make the power system stronger as the generation transition to new technologies accelerates. This report is about how to manage transmission investment to connect new generators at least cost to consumers.

“The transmission investment process could change in a number of ways. The Finkel Panel made recommendations for a more guided and co-ordinated approach to transmission investment, and AEMO has started to develop such an approach through its integrated system planning process, including the creation of renewable energy zones,” Mrs Pearson said.
“In support of this work, our paper raises questions for consultation with stakeholders on what needs to be addressed to integrate renewable energy zones into the regulatory framework at least cost.

“In asking these questions we can work out the best way to co-ordinate generation and transmission investment so consumers benefit,” she said.

The discussion paper also considers two key developments which may require some changes to how transmission is regulated in the future.

First, the Commission found there may be significant congestion on transmission networks in the future as more generators connect to the grid. The paper asks for stakeholder feedback on the current state of congestion and how this might change as the energy transformation continues. We are also seeking views on how this could be best addressed.

Second, the discussion paper notes the increase in new types of generation capability, such as large-scale battery storage, connecting directly to the transmission network. One notable example has already connected – Tesla’s battery at the Hornsdale wind farm. In relation to these new technologies some areas of regulation may need harmonising.

The AEMC is seeking stakeholder views on these developments, ahead of a final report due in mid 2018 which will include any recommended changes to the transmission regulatory framework.

Stakeholder submissions on the discussion paper are due by 18 May 2018.

Background

The COAG Energy Council has tasked the AEMC to report on a set of drivers that could impact on future transmission and generation investment.

This discussion paper is part of stage 2 of the Coordination of generation and transmission investment review. Its work includes looking at the development of renewable energy zones as raised in the Finkel Panel review.

In undertaking this review, the AEMC is working with the Energy Security Board (ESB) and other market bodies on closely linked projects, in particular AEMO’s development of an integrated system plan, the AER’s review of the guidelines for regulatory investment tests for transmission and distribution, and the ESB’s national energy guarantee.

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