

Friday, 9 March 2018

Australian Energy Market Operator
Lodged Electronically

AEMO Integrated System Plan Consultation Paper Submission

The Clean Energy Council (CEC) is the peak body for the clean energy industry in Australia. We represent and work with hundreds of leading businesses operating in solar, wind, hydro, bioenergy, marine and geothermal energy, energy storage and energy efficiency along with more than 4,900 solar installers. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

We welcome the opportunity to respond to this Consultation Paper. The way in which Australia plans for and funds our national electricity transmission network is fundamental to our capacity to make the transition to a clean energy future.

As the nature of electricity generation changes – away from a small number of emissions intensive thermal plants clustered around coal fields to a larger number of renewable energy plants with strong wind and solar resources – so too must the network.

The current mechanisms for planning and funding this shift in the electricity network are incremental, flat-footed, and inadequate for driving a long-term, strategic and efficient investment in our electricity super-highways.

This is why the CEC welcomes Recommendation 5.1 of the Independent Review in the Future Security of the National Electricity Market (Finkel Review) for an integrated grid (or system) plan to establish renewable energy zones (REZs). With clear, long-term guidance, the energy sector has the capacity to prioritise, plan and develop the transmission networks to support the energy generation required for secure, reliable, affordable and clean electricity for all Australians.

Renewable energy zones will support lower cost energy for consumers through economies of scale, facilitating more efficient access to high-quality renewable resources, enabling generators to operate at higher-capacity factors, and share energy across regions. If planned well, they will also provide community benefits by concentrating renewable energy facilities in areas away from population centres and land of significant environmental and agricultural production value.

This submission outlines the CEC's views on the strategic approach to transmission planning and key considerations for the development of renewable energy zones.

Network capacity is fast running out

Over the past year, investment in the renewable energy industry in Australia has reached record highs. In 2017, AEMO reported over 20,000 MW of proposed renewable energy projects registered with AEMO via its connection application process.

We are only at the very start of the clean energy transition, and yet the surge of potential investment, jobs and regional development is already being heavily constrained by the

limited transmission capacity. New renewable generators rely on the existing grid for connections. Transmission network service providers across Australia are already indicating that many of the proposed or potential projects will not proceed in the short to medium term due to inadequate transmission capacity in areas where renewable resources are abundant.

Renewable energy generators must take into account many factors in evaluating suitable locations for their developments, from wind and solar resources to topography, land zoning, geotechnical issues, biodiversity, cultural heritage, community impacts and social acceptance. But ultimately, the issue that most constrains developers is grid connection, and this means that developers may not be able to select the most ideal site across the full range of considerations because of the severe network capacity limitations in renewables-rich areas.

The Regulatory investment test for transmission is inadequate for the scale of the transition required

As a minimum, approximately 14,000 megawatts of generating capacity will be required within the next 20 years, simply to replace retiring coal generation plant. This number could be higher still if the emissions reduction ambitions were accelerated to reflect our international commitment to play our part in restraining global warming to 2°C.

Today, generation needs are forecast (rather than formally planned) by AEMO, and generation plant is developed by third parties, where those parties see a potential return on their investment. Transmission is planned and developed by the TNSP in each jurisdiction in such a way as to meet load growth, rather than the radically different locations and mix of generation sources.

The regulatory investment test for transmission (RIT-T) process which is currently used to determine proposals for system augmentation may be appropriate for incremental changes to the network over time, but it is ill-suited to the large, strategic, co-ordinated investments that will be necessary for the scale of build required in the next two decades, and a wholesale transition from thermal to renewable generation by 2050 or sooner.

One current example of this can be found in Victoria where significant augmentation to the North West 220 kV loop is required to connect gigawatts of renewable generation, comprising many individual generator proponents. However, it appears uncertain that a scale efficient transmission solution will be achieved, and this is delaying otherwise compelling projects and the investment and jobs they would deliver.

A key issue with the current RIT-T process is the widely-discussed “chicken and egg” dilemma, whereby investment in generation is currently required to lead transmission investment, yet proposed generators cannot ensure financial viability for a new project unless transmission connection is assured. It is highly likely that new proposed generators will continue to face project delays as transmission investment continues to lag behind the need.

It is clear that new transmission capacity must be delivered through a strategic, coordinated approach, rather than incrementally through the RIT-T. This should be done in such a way as to maximise the speed of the transition from fossil-fuels to renewables. Strategically planned transmission should lead generation development, where it is appropriate, as third party renewable generation proponents would have a clear view of where and when their investments are needed, and provide them the confidence to know that the transmission system limitations are also being addressed. There is potential for the establishment of a central planner role for transmission investment.

It is not suggested for the RIT-T to be abolished. However, an alternative model should be established for when the RIT-T does not deliver, as is the current experience.

The Integrated System Plan must have the power to strategically plan and prioritise investments

The role of the Integrated System Plan (ISP) should be enhanced to become the natural vehicle for guiding large-scale, co-ordinated transmission planning. It is important that the ISP provides a strategic approach to driving timely transmission investment for the integration of new renewable projects to come online. It is important that there is a framework for the implementation of the ISP.

By conducting the initial high-level analysis of prospective zones, the ISP could identify the priority areas for more detailed feasibility studies by the transmission network service providers, thus directing effort and resources on a narrower set of options.

The RIT-T should not interfere with the strategic transmission investments for the implementation of REZs or the scope of the ISP.

Community consultation must be part of the process to identify renewable energy zones

Community support is vital to the success of any major project, and this will be particularly so in the development of large renewable energy zones, in which many plants are clustered together.

Where feasible, these zones should be located away from populated areas, and in areas where communities are welcoming of the investment, jobs and economic activity that they will bring. Identifying these areas must be factored in as an important consideration in the preliminary analysis of prospective regions.

We thank you for the opportunity to provide our views on these matters, and we welcome the opportunity to engage further with the AEMO on this process. Please contact us with any queries regarding this submission.

Sincerely,

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