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Dear Sir or Madam,

Re: Integrated System Plan Consultation – Invitation for Feedback

Renew Estate is an Australian company that develops medium to large scale renewable energy projects which will create long term and enduring benefits for Australia. Renew Estate is passionate about meeting the goals of all stakeholders and delivering appropriate and considerate uses of land, technology and investment.

Wirsol Energy (subsidiary of WIRCON Group) is Renew Estate's largest shareholder. The WIRCON Group is a globally operating group of companies that specialise in the development, construction and operation of photovoltaic systems (ground & rooftop mounted) and wind farms. Wirsol Energy (Wirsol) is part of the Wircon group and has over 1 GW of solar plant across the U.K. and Germany. It began its Australian development in 2017 with the purchase of a number of solar farm development sites. It currently has over five solar farm sites with totalling over 400 MW which will be commissioned during 2018. In addition it has a pipeline of solar projects developed by Renew Estate with plans to have over 1 GW of solar farms in Australia under operation by 2020.

Renew Estate and Wirsol are project partners in developing large-scale solar farm projects across Australia. The partnership between Renew Estate and Wirsol was established in July 2017. Wirsol, as the asset owner, committed over $300m of equity in 2017 (supporting a total investment of $760m) developing a pipeline of projects across the National Electricity Market (NEM).

Renew Estate and Wirsol Energy are pleased to submit the preliminary feedback on AEMO's Integrated System Plan (ISP) Consultation Report. Specifically this feedback relates to reference questions 1.1 and 1.2 from the report. We look forward to submitting more detailed feedback on the Integrated System Plan Consultation document as a whole by 28 February 2018.

Historic Network Development

Historically the transmission network was developed to allow the bulk transmission of electricity from a concentrated generation centres to a load centre. For instance in Victoria the transmission network was developed to allow the transmission of energy from the La Trobe Valley to Melbourne and beyond. Similarly in New South Wales generation in the Hunter Valley was transported to the major load centres of Newcastle, Sydney and Wollongong. Further development of the high voltage transmission allowed the states of Queensland, New South Wales, Victoria and South Australia to be connected via the high voltage network. Most recently Tasmania was connected via a high voltage D.C link – Basslink. This allowed each state to share excess generation when it was needed by other states and reduced the need for each state to carry their own spare generation just for its own state.

Renewable generation is located in more diverse locations and not in concentrated pockets. This provides an advantage of diversity of generation locations and sources. Solar conditions and therefore when solar farms are able to produce energy are not highly correlated across each state. For instance solar farm output may peak in South Australia at different times to solar farms in New South Wales. This allows sharing of capacity across those regions.

Solar farms tend not to be as concentrated in locations in comparison to thermal generators and therefore require a much more geographical spread network. Most solar farms are connecting into the existing network. Those connection options may soon become constrained without the full potential of the solar resources across the NEM being captured. An inexpensive expansion of the current network should be considered with costs shared between the generators, NSP's and customers.

Question 1.1: The material questions the ISP seeks to address are in Section 1.3.1. Are there any other questions the ISP should address?

Costs of Network Development

From a generation development perspective Wirsol and Renew Estate would like to see clarity from the ISP on how the costs of development in the networks will be distributed between Network Service Providers (NSPs), generators and customers. In particular where the NSP's should bear the responsibility of providing those services necessary to support the development of the network. NSP's expand and develop the network to cater for increasing loads with these costs passed back to customers through network charges. Over the next 10-20 years with large numbers of large thermal generators likely to retire the network utilisation will also likely to decrease which may lead to network assets being stranded. Renewable generators will need to be developed to replace that energy usage. The location of renewable generation is likely to be more geographically spread

Legacy generators have benefitted from the development of the network to allow them to connect. New generators now bear many of those costs which were previously considered to be necessary to allow generators to connect. Renewable generators are likely to be predominately connected to the distribution network due to the size of the development and connection costs.

Distribution network developments plans should be co-ordinated with transmission development plans to better identify how network constraints will be overcome and the opportunities for renewable connections.

We have seen a previous attempt in planning renewable energy areas in Victoria – the Victorian Scale Network Extension (SENE). This allowed generator projects to share connection costs which were initially paid by the first connecting party with costs then recovered by subsequent connecting parties. However, there was a time limit whereby these costs could be recovered before other connecting parties could connect without paying for the initial connection costs. This incentivised sitting on the sidelines and waiting for time limit to expire prior to connecting. No SENE projects have been developed in Victoria.

Similarly, in Western Australia where a number of generators (or loads) were located behind a network constraint, generators (and loads) could be grouped and pay to upgrade the network to provide access. However, this poses the problem of projects proceeding at different speeds and introduces the risk of a project/s dropping out which then elevates the network upgrade costs for the remaining projects as the costs are distributed amongst a smaller group.

The risks of development of renewable hubs should not be borne by the generators themselves. Some of these risks should be borne by the NSP as ultimately the NSP benefits by having as many connections to their network allowing them to recover those costs. Customers also benefit by allowing a greater number of generators competing to connect thereby lowering energy costs.

Development Timelines

One key issue in the development of any Renewable Energy Zone is the difference in timescales between transmission development and renewable generation development. Typically, a renewable energy project such as a utility scale solar farm would take anywhere between 18 and 36 months from identification to completion. For transmission developments this timeframe is closer to between 5 and 8 years. A more certain development program would allow generation developments to match the transmission development.

Wirsol and Renew Estate are happy to see the discussion in the current report around transmission investment and bringing forward investment in paths of least regret. This would be required in order to facilitate the Renewable Energy Zones proposed.

Network Service Providers

In order for investment into development to occur, certainty in policy direction and objectives is required. Affordability in this sense is directly related to the consistency of rules (and interpretation) from AEMO and NSP's. Although each NSP (transmission and distribution) follow the same basic process the requirements vary slightly and therefore each connection process becomes bespoke. This uncertainty leads to additional costs to projects. To cut down on costs and timeframes there needs to be more consistency between the NSPs during the grid connection process.

Regulatory certainty is important to developers so that contractors can be engaged without the risk of changes to the regulatory framework after the design and equipment orders have been placed. Any regulatory changes should allow a reasonable transition while recognising the status of projects under development.

MLFs

Renewables benefit greatly from geographical diversity. Large numbers of renewable energy generation in diverse locations around the network cause the intermittency in generation profiles to smooth out. The current network has been designed around "concentrated" sources of energy. The question is how to adapt the network to allow connection of renewable generation? If the REZ concept is trying to "concentrate" renewables in certain locations the resulting change in loss factors may have a significant impact on financial viability of some projects.

In the financial modelling of renewable energy project, the loss factors have a relatively large impact on the success of a project. It is recommended that AEMO also consider if nodal pricing may assist in the development of REZ's. The nodal model provides a more transparent locational signal to developers. . This should be considered as part of the development of a REZ.

Affordable, reliable and secure power could be achieved by a planned retirement of existing coal generation and replacement by diverse and distributed renewable generation. The Wirsol and Renew Estate project pipeline is looking to contribute to this to build the future National Energy Market. We look forward to submitting more detailed feedback on the Integrated System Plan Consultation document as a whole by 28 February 2018.

If you require any clarification of this submission please feel free to contact the undersigned.

Yours faithfully,

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