



UPC Renewables Australia

ACN 616 856 672

ABN 27 616 856 672

Suite 2, Level 2, 13 – 17 Castray Esplanade

Battery Point, TAS, 7004

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AEMO

By e-mail: ISP@aemo.com.au

Re: UPC Renewables Australia response to AEMO's Integrated System Plan Consultation Paper of 17 Dec 2017.

UPC Renewables Australia Pty Ltd ("UPC") is the Australian entity representing the global UPC Renewables Group that was established in the early 1990s and has developed, owned and operated over 3500MW of large scale wind and solar farms in 10 countries in Europe, North America and Austral-Asia with an investment value of over \$5Billion USD. We have always been a pioneering Renewable Developer, developing the first commercial wind farms in Italy and Indonesia as an example. Our mission is to meet our world's growing energy needs with clean electricity and improve the lives of local people and communities. As a developer, owner and operator, UPC is vested in the community for the long term. UPC established in Hobart, Australia in early 2017 and has an Australian development portfolio of several GWs including the Robbins Island and Jim's Plain windfarms in north-west Tasmania and solar developments on mainland Australia.

UPC is pleased to have the opportunity to respond to the Integrated System Plan (ISP) Consultation Paper. We consider this work is both crucial and timely in regard to the continued growth and investment in the clean energy sector in Australia. We support the work being done, as the ISP, in combination with the focus on Renewable Energy Zones (REZ) will allow the best renewable resources to be utilised, to ensure the lowest cost of energy in the future. The ISP is welcomed as limited transmission is presently recognised as a key constraint to opening up further renewable energy investment at large enough scale to adequately allow a transition away from existing coal-fired powerstations as they approach their end of life.

It was refreshing to see AEMO taking a sensible approach and adopting emission profiles that are more consistent with the profiles necessary if Australia is to participate fairly in the challenge to ensure global temperature changes stay below 2 degrees Celcius. We confirm that businesses like UPC are assessing their investment decisions on this basis and that national planning that is inconsistent with this is unhelpful.

We respond as follows to each of the specific questions that have been raised in the paper:

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

- We consider that the paper and modelling need to consider the cost of doing nothing, particularly in the context of “least-regret” decisions. Far too often analysis we see in the sector applies a high discount rate for investment (Doing Something) and no discount rate is applied for doing nothing. The energy sector at large, needs to be preparing for the inevitable transition from aging fossil-fuelled generation, in some manner. It will take years for the appropriate energy resources and corresponding transmission solutions to be developed and we need to start this transition now.
- The social and environmental impacts of various REZs, and priority transmission solutions, needs to be considered as this may influence the prioritisation of both REZs and Transmission solutions identified under the ISP.
 - Some factors to consider in regard the planning and construction of large scale, energy generation facilities and associated transmission infrastructure are the social costs involved in the transition, particularly where the projects are in economic proximity to residents of regions that are losing traditional generation facilities. Other factors include community support and social license, regional economic growth or downturn potential, jobs transition and re-skilling potential, to name a few. These should be considered in a holistic planning approach.
- A National Energy Market remains critical for ensuring lowest cost of energy for all consumers, compared to a regional or state-based Network. Investment in more interconnection will allow a diverse range of high quality projects to reach the market. As renewables often have regionally related time correlation of generation, investment in transmission will reduce the risk and national storage costs. The capacity to achieve geographic diversity of renewable energy generation will influence both energy reliability and price for consumers across all states.
- States cannot be left stranded by lacking interconnection. This is unacceptable from a risk perspective, increases the risk of development of projects in that region and places the stranded States at a strategic disadvantage in the competition for jobs and capital. Critical infrastructure, particularly state interconnectors, needs to be of a highest priority, to achieve the associated security of supply. One such example is the urgency for at least one further interconnector into Tasmania as a priority.
- It is imperative to start planning the energy transition now. We cannot foresee how an equilibrium of supply and demand through the looming energy transition period can be achieved otherwise. Replacing large fossil fuelled generators with diverse clean energy generators will take years. It is therefore critical that this investment in new generation is started well before closure occurs. This new generation investment cannot occur without appropriate intervention as an oversupply of generation will occur before closure. Left alone to the market, investment in replacement capacity will only occur after closure

in a period of elevated power prices. Given a choice of depressed power prices caused by policy intervention or elevated prices caused by inaction we are confident that consumers would expect and prefer depressed prices.

- A positive consequence of additional generation available in the NEM, in readiness for future closures, will be reduced wholesale energy prices

1.2 The scenarios the modelling will use to inform the ISP are outlined in Section 1.4. Recognising the time limitations to produce the first ISP in mid-2018, are these suitable scenarios to address at a high level? Should these be expanded in more detailed analysis following the first high level ISP?

- The potential right to obtain international carbon credits or emissions reduction certificates will significantly influence the “slow change” scenario? It shouldn’t be allowed, it’s shirking Australia’s responsibility in lowering Australia’s carbon emissions, and exploits other nations, who’ll need their own carbon credits to meet their own carbon challenges in the future. To consider heading down this path has significant impacts on Australian investment, jobs, and economic growth.
- The Renewable Energy Target is not sufficient government policy to frame the “Fast Change” scenario – a higher policy outcome should be forecast, eg 50% renewable by 2030.

2.1 What are the key factors which can enable generation and transmission development to be more coordinated in future?

- The ISP and REZ strategic planning is a good start, but it needs to be more than “for info”, it needs to be a long term – bi-partisan supported, national strategic roadmap for the energy sector that enables public and private investment to be made against the identified priorities with confidence that the strategic intent will remain consistent into the future.
- Counterparty risk between developer(s) and transmission investors needs to be addressed. The proposed SENE Rules, which allocated a level of risk to consumers for the construction of new transmission should be reconsidered. What revenue stream certainty (what generation/timing commitments are needed from the relevant Developer group) for a transmission investor to build the required transmission solution to a REZ(s) and vice-versa, what certainty can developer(s) have that the required transmission solution will be built and available when generation is ready to be exported?

3.1. Does this analysis capture the full range of potential REZs in eastern Australia?

- We do not consider the identified REZs to be an exhaustive list, but it is comprehensive.
- Specifically we believe the North West Tasmania REZ to be one of the most cost/benefit positive zones for the investment in transmission for all of Australia. Especially using the same assumptions that Snowy Hydro uses of 5% cost of capital and a fifty year life of asset assumption.
- The challenge will be to adequately prioritise them in a manner that adequately addresses various criteria, including;

- a need for geographic and technology diversity for greatest, collective dispatchability across the NEM
- comparative strength of resource to achieve lowest cost of energy
- a spread of economic investment regionally
- available labour to transition or re-skill for regional jobs
- security and reliability of supply, both regionally and across the NEM
- We consider that REZ(s) in Tasmania and the associated interconnectors required will be rated very favourable against these criteria, particularly noting:
 - access to some of the best wind resource in the country, and the capacity to co-locate this with flexible hydropower in Tasmania
 - The need for electricity supply reliability and security in Tasmania primarily, but also in Victoria in the future.
 - The need to ensure that no state is left at a strategic competitive disadvantage in being able to contribute power to the NEM.
 - The resource is uncorrelated directly with wind on the mainland and linked with the Tasmanian hydro assets can actually be scheduled/dispatchable.

3.2. What other factors should be considered in determining how to narrow down the range of potential REZs to those which should be prioritised for development?

- In general, we recommend that the social, regional economic, environmental and community impact/consequences/opportunities associated with each option under the ISP and REZ planning should also be considered in prioritisation.

3.3. What are the potential barriers to developing REZs, and how should these be addressed?

- The ISP/REZ strategy doesn't propose how developers in a REZ should work together and with TNSPs/Transmission investors/Government to build transmission solutions and renewable project in co-ordinated timeframes. For the ISP to be successful it needs to address this commercial hurdle. The precedent Transgrid "New England Energy Hub" was an early indicator of the challenge that lies ahead for the implementation of this planning.
 - What, if any recourse is there if some/all potential, or planned development doesn't proceed in a REZ, resulting in a reduced revenue consequence for the transmission asset investor/owner?
- Will TNSPs proceed with the necessary ISP investments if no-one, or no government underwrites this revenue impact/risk?

4.1. *Have the right transmission options been identified for consideration in the ISP?*

- We would suggest that the Tasmanian 2nd Interconnector is a priority;
 - To enable Tasmanian consumers to have appropriate energy reliability and security,
 - To enable the abundant hydropower and storage solutions in Tasmania to be tapped, and coupled with some of the best wind in the country, as necessary for implementing the “Battery of the Nation”,
 - Will allow Australia to increase dispatchable renewable energy to compliment wind and solar in the NEM.
- We note the intent to route the 2nd Interconnect to connect west of Melbourne at East Geelong, but we would highlight that connecting into the east side of Melbourne at Tyabb could better balance the regional system flows, rather than compounding Tasmanian wind/hydro power generation with significant Vic/SA wind energy already (or to be built) to come into the NEM from the west of Melbourne.
 - There is capacity at Tyabb for this purpose and a strong existing 220kV/500kV network to tie back too, requiring minimal, if any, augmentation.
- We would suggest that a 3rd Tasmanian Interconnector should come into Victoria and Tasmania further east than presently shown, because:
 - It picks up the wind REZ shown in NE Tasmania, which doesn’t presently have sufficient Tasmanian transmission solution(s) to export the generated power intrastate.
 - This provides further geographic diversity of generation for the mainland NEM utilising some of the best wind resource in the country.
 - It can tie into the strong 500kV NEM at the Latrobe Valley in Victoria for when further coal powerstations retire there, which will otherwise leave underutilised, existing and maintained 500kV connection and transmission assets and an economic downturn to the region.
 - It allows re-skilling, employment and investment opportunities into the Latrobe Valley, which will otherwise significantly face a decline in job opportunities, a displacement of workers and their families, reduced investment, all with the obvious social consequences to the region.
 - It can follow the established easement and pathway of Basslink onshore in Victoria
- We consider that there have been significant changes and events in the market since the publication of the 2016 NTNDP and that both 2nd and 3rd Tasmanian Interconnectors would be analysed far more favourably now.

4.2 How can the coordination of regional transmission planning be improved to implement a strategic long-term outcome?

- Co-ordination of commercially sensitive developer data for TNSPs across state boundaries for the purpose of interconnection works or cross-border connections needs to be addressed.
- Efficient and successful implementation of the priorities identified within the ISP needs to be achieved. Therefore the ISP should be more than information, and should be a planning/policy setting roadmap to achieve a long-term agenda for the necessary infrastructure development and investment.
- With priorities determined within the ISP, they should not then have to undergo a further RiT-T process by the TNSP(s), particularly noting the complexity of doing so across borders.

4.3. What are the biggest challenges to justifying augmentations which align to an over-arching long-term plan? How can these challenges be met?

- What, if any recourse, is there if some/all development doesn't proceed (resulting in a reduced revenue consequence for the transmission)?
- Will TNSPs proceed with the necessary ISP investments if no-one, or no government underwrites the revenue impact/risk?
- The current RiT-T process is unlikely to facilitate the implementation of priorities identified within the ISP.
- The regulatory tests need to use discount rates appropriate for the type of investment and NPV needs to be assessed over the relevant life of the asset, not just 20 years

4.4. Is the existing regulatory framework suitable for implementing the ISP?

- It is proposed that transmission investments recommended under the ISP still need to further undergo a RiT-T process by the TNSPs. This is not efficient or effective, and the subsequent RiT-T process needs to be modified for identified priorities under the ISP. A historic review of the RiT-T process shows that it is deficient, not including obvious externalities and using very high discount rates over only 20 years from project commencement. It is a stark contrast when you see Snowy Hydro 2.0 analysed using a 50 year revenue stream and a 5% discount rate and then see Basslink 2 analysed over a 12 year revenue stream and a 7-10% discount rate. Again we point out using any discount rate assumes that the risk of doing nothing is itself zero, which is questionable in the current market.
- The ISP is stated as a long term strategic development plan only, to inform decision making by developers and ISPs. Can it be more than that? Will it enforce prioritisation of investment in the identified REZs and ISP priorities?
- We note that since the AEMC's SENE rule changes in 2011 that there has now been some acceptance that the consumer will need to take some risk in regard the investment and implementation of both REZs and the priorities under the ISP. We note there is significant risk to the consumer under a "do nothing" approach.

UPC appreciates the opportunity to provide our input into the ISP and REZ planning processes and wish to state that we remain available to discuss or clarify our submission should you so wish.

Yours faithfully



Oliver Yates
Executive Director
UPC Renewables Australia

Email:

oliver.yates@upcrenewables.com



Web:

www.upcrenewables.com