Gannawarra Shire Council

Submission

AEMO DRAFT 2020 Integrated System Plan

Background

In Australia, renewable energy is growing at a per capita rate ten times faster than the world average. Between 2018 and 2020, Australia will install more than 16 gigawatts of wind and solar, an average rate of 220 watts per person per year.

> The main impediment to continued renewables growth is transmission. Transmission constraints have severely restricted the development and performance of large scale solar farms in the Murray River REZ – Victoria's key location for solar generation. Without significant transmission upgrade the development potential of the Murray River REZ will not be realised.

Australia's development is nearly three times faster than the next fastest country, Germany. Australia is demonstrating to the world how rapidly an industrialised country with a fossil-fuel-dominated electricity system can transition towards low-carbon, renewable power generation.

The renewable energy targets are great news for Victoria and great news for the environment and we congratulate the Andrews Government for their commitment to renewable energy. Additionally the development of renewable energy in particular solar in the Murray river REZ has the potential to create in excess of 5,000MW of new generation, a massive boost that has the potential to greatly assist Victoria and Australia to meet renewable energy targets.

The **Murray River REZ** already has **2,614MW** of planning permits issued for projects ranging from 5mw to 510mw. There is also strong interest in another 3,150MW from developers keen to invest in the region. (Mildura, Swan hill, Gannawarra & Loddon shires). It is certainly not unusual as the Murray River REZ has a significantly higher level of solar resource than other areas in Victoria. When we talk about options of least regret the Murray River REZ is clearly Victoria's premier location for large scale solar generation and has the land availability and social licence to maintain significant system capacity for the future needs of eastern Australia's power system.

AEMO has taken the dramatic move of slashing the allowable output from five solar farms in Victoria and NSW by half, because of issues over "system strength". The network is in urgent need of attention to ensure the Murray River REZ provides the NEM and stakeholders with secure power generation to support Australia's future power system needs.

Current and future project potential of the Murray River REZ

Location	Permitted projects	Capacity	Interest
Gannawarra	8	1154mw	1580mw
Mildura	6	1003mw	750mw
Swan Hill	3	217mw	620mw
Loddon	1	240mw	200mw
Total	18	2614mw	3150mw

The Future; Confirming the need to develop the Murray River REZ

Kerang in the Murray river REZ is home to Victoria's FIRST large scale solar farm and battery storage – it is critical that the EDIFY Energy project feeds into the Victoria – New South Wales interconnector. The EDIFY Project is for 300mw of generation but currently restricted by the transmission network. The Murray River REZ V6 and the South West New South Wales REZ N2 have a critical role to play in the interconnector project.

An updated study on current and future generation costs by the CSIRO and the Australian Energy Market Operator confirms that wind, solar and storage technologies are by far the cheapest form of low carbon options for Australia, and are likely to dominate the global energy mix in coming decades.

The first report, GenCost 2018, identified that wind and solar were by far the cheapest forms of new generation technologies, clearly cheaper than coal, and even when combined with storage, remained easily the cheapest form low carbon electricity options.

A draft of the updated study, GenCost 2019-20, confirms that wind and solar and storage remain the cheapest technologies, now and into the future, and much cheaper than the technologies promoted by the Australian government – gas, carbon capture, and nuclear.

Its capital cost estimates – which assume continue cost reductions for solar, wind and dramatic falls for batteries, remain little changed from the 2018 version, although wind cost reductions are lower than expected last year.

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Views on the development options and actions

1. Has AEMO considered the most appropriate development options for Australia's future energy system?

a. A variety of outcomes have been highlighted in the 2020 DRAFT ISP. Looking closely at the Victorian options there are a number of observations that are clearly a standout for the Murray River REZ;

b. The Murray River REZ provides significant generation capacity and solar resources over and above other solar REZs in Victoria. The generation capacity and solar resource should gain more weighting especially when linked with Darlington Point. This connection provides many advantages particularly in generation capacity, system flexibility and efficiency and in network security.

c. While AEMO has identified the need for upcoming actionable projects there seems to be limited information about the current and future generation capacity of the Murray River REZ and the key role that area can play in Australia's power network. The north west of Victoria has enormous generation capacity across a very wide region; from Kerang to Mildura. Along with the generation capacity comes system security in a generation sense. The Bendigo to Kerang line is predicted to host around 2,000MW of generation. The Kerang to Mildura line is predicted to host around 3,000MW of generation and battery storage. This generation has the potential to compliment the "KerangLink" or VNI 7 by providing generation security to the "Expansion A" model which will also feed NSW and South Australia via Buronga.

d. VNI 7 has the potential to improve generation security by linking via Buronga and linking with Darlington Point (N6) in New South Wales. The two main generation areas are V2 in Victoria and N6 in New South Wales. Kerang in V2 has the potential to be the major junction to Red Cliffs/Buronga and Darlington Point/Wagga. This should provide generation and system security, future expansion opportunities, improve intra - and inter-regional load sharing, significantly improve system back-up and significantly reduce wildfire risk that currently exists in south east New South Wales and North East Victoria.

e. The transmission network between Bendigo and Kerang could provide a high level of generation capacity if this section was upgraded. It has the potential to provide power back to Melbourne and Bendigo in a very short timeframe, reducing system urgency of a wider network upgrade. This may be considered as a stage 1 immediate option to increase capacity. This part of the network has many large projects permitted and waiting on further transmission improvements prior to development. The developers are highly regarded energy companies and unlocking the constraints in the Murray River REZ will have significant benefits.

2. Has AEMO properly described the identified need for upcoming actionable ISP Projects? If not how can that description be improved?

The identified need is for additional transfer capacity between NSW and Victoria to realise net market benefits. Risk is playing a major role in identifying the need for further transmission investment based on potential closure of coal fired generation. Other key considerations are generation dispatch from areas with high quality renewable resources and resource sharing.

While the identified need is driving options there are other key factors that will provide significant benefits and therefore a creative long term vision is required to ensure the interconnector provides longer term benefits and recognises a range of considerations such as:

- Social licence will fast track development and ensure a smooth development phase. It will also assist to change the culture for climate change adaptation. It is worth noting that **"KerangLink"** VNI 7 is supported by the Murray River Group of Councils that includes the Moira and Campapse Shires.
- Land use. Much of the opposition to solar development has been based around land use in agriculture. A route with lower value land is certainly a benefit for local communities and the Nation's economy. Other land use considerations include proximity to wildfire zones, higher solar resources and native vegetation around forests and National parks.
- Investment to increase capacity of targeted network areas will reduce generation constraints in areas with high quality renewable resources and is expected to lower overall investment and dispatch costs across the NEM. Having the Murray River REZ and South West NSW REZ connected with pumped hydro will maximise energy generation well into the future.

Kerang to Bendigo could be considered as a stand-alone project. There is interest to privately fund this section of the network and this could be further investigated to provide some quick network solutions.

Perhaps AEMO could place more weight around social licence, land use, environmental risks and renewable resource and ensure the greater project is widely supported and all values realised.

3. What if any factors should AEMO consider when identifying which Renewable Energy Zones are best suited to further development?

This project is long term and a turning point for the development of a more effective interstate transmission network and for the development of renewable energy generation. Therefore it is important to consider a wider range of benefits given the enormity of the project and the significant benefits it will bring. The following should be key considerations in determining which Renewable Energy Zones are best suited to further development:

The input assumptions for Victoria used in the 2018 ISP Insights modelling are more in line with those in the 2018 ISP Fast change scenario than with the Neutral scenario.

- The data confirms that VNI 7 previously KerangLink is projected to deliver net market benefits earlier than previously assessed.
- This new interconnector, is estimated to provide net market benefits of approximately $147 million to consumers.
- Capacity to export surplus generation from Victoria, saving fuel costs in other regions. Providing efficient access to firm supply options, including Snowy 2.0, to support reliability outcomes in Victoria. Reducing intra-regional transmission capital expenditure, as the route selected passes nearby renewable energy zones (REZs) in Victoria.

These net market benefits are primarily delivered by:

f. **Solar resource**; generation capacity. This allows more efficient generation and makes the best use of available solar resources. The Murray river REZ has the highest levels of solar irradiation in Victoria.
g. **Social licence**. Social licence has the potential to improve the planning process, timeframes and acceptability. The councils in the North West have been key supporters of renewable energy and have been working for over ten years to drive this development forward. Having a group of supportive Councils is certainly a significant advantage.
h. **Development capacity**. The Gannawarra Shire has been a lead council and has projects with planning permit approval totalling 1154MW. As a collective (Mildura, Swan Hill, Gannawarra and Loddon shires) there is close to 2800MW with permits and around 3,000MW of serious interest. AEMO can be assured that VNI 7 will be the most logical REZ and provide long term generation development and capacity.
i. **Landscape and location**. Flat terrain and proximity to bushfire zones are important factors to consider. The recent wild fires highlighted just how vulnerable the transmission network is so location is important. The wider area around Kerang has never had a major wildfire.
j. **Future scope**. The ideal REZ needs to consider future options. The Murray River REZ and South West NSW REZ are large areas of land with scope for further renewable energy development. The landscape is flat and agriculture is predominately lower value cropping and grazing – ideal development zones.
k. The ability to provide system security and flexibility is important. The "KerangLink" option of VNI 7 would connect into the main NSW transmission line at Darlington Point. This midway connection is roughly the half way point of the NSW to SA line spreading the connection risks across Murray, Darlington Point and Buronga. Kerang becomes a main hub in North West Victoria with connections to Darlington Point and Red Cliffs/Buronga.

Views on the candidate and optimal development paths

4. Has AEMO combined the development options into the most likely candidate?

This map has referenced all of the state interconnectors and in particular VNI 7 and the direct connection to Darlington Point.

We believe this option provides the benefits that will ensure the NEM is in a strong position well into the future. From the information in the DRAFT ISP we believe the term “most likely candidate” certainly applies to Murray river REZ VNI 7. We believe the following combinations add strength to the VNI 7 option being the most likely candidate;

- Connecting the two strongest REZ’s of Murray river in Victoria and South West REZ in New South Wales. This ensures that large scale solar generation in both key REZ’s is included in the wider NEM based project.
- Connecting VNI 7 via Kerang to Red Cliffs/Buronga will strengthen the network and provide a backup should either line fall out.
- Upgrading the transmission network from Kerang to Bendigo will further strengthen the supply to Melbourne and add further value to the Murray River REZ.
- Is there any benefit in picking up Deniliquin in the interconnector to Darlington Point?

Your views on the ISP document and consultation

5. Are there any aspects of the Draft 2020 ISP that require further or clearer explanation so that results are transparent and can be easily understood?

The Draft ISP is a very large and technical document that does take time to read and understand. The executive summary is well laid out and the report itself is well formatted allowing the reader to work systematically through the report.

6. What, if any, modifications should AEMO consider for the proposed 2020 ISP stakeholder engagement plan and timeline?

Given the timeframes proposed in the report it is best to continue as planned unless there is a major concern within the project that require further information and consultation.