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- Donald McGauchie AO Response to Draft ISP 2020 -

To whom it may concern,

Thank you for the opportunity to provide this submission to the Australian Energy Market Operator's (AEMO) draft Integrated System Plan (ISP) 2020 consultation process.

Development of the ISP 2020 represents a critical juncture in Australia's energy generation, transmission and distribution planning and execution.

As we stand today, decarbonisation has become the accepted long-term policy of all governments in Australia. Whether by design or otherwise, the current policy context makes future investment in large scale coal fired baseload power generation all but impossible. As a consequence, it is likely that the decline in capacity and reliability of existing coal fired, and therefore critical, baseload power will proceed rapidly, according to a timetable which may not align with any central analysis or planning.

It is therefore imperative that all governments work effectively together to develop and execute a detailed transition plan to allow for additional renewable energy generation, supported by efficient and sustainable baseload power generation capability. It is likely that this will include some combination of energy storage, an appropriate renewable energy mix, new hydrogen power generation and traditional baseload power generation options including gas, and coal where carbon can be captured and stored.

Under Australia's current policy framework, renewable wind, solar and hydro represent highly and increasingly cost-effective candidates for this transition. Concerns about intermittency of this power generation mandate the right mix of renewables across the system, a stable fully connected national energy grid and market, and appropriate underlying baseload capacity from traditional power generation and advances in power storage.

Based on the available evidence it appears that North West Victoria and South West New South Wales represent a technically superior environment for solar power generation for a number of reasons including:

- Climate – access to sun for the maximum period possible each year;
- Topography – flat wide-open country with few impediments to construction or generation;
- Agricultural land value – lower value agricultural land providing social license for power generation, including allowing mixed use grazing and solar generation opportunities;

- Land ownership – fewer larger farms allow for smoother land owner relationships with major power generators, easing project development and management; and
- Proximity – including to existing transmission infrastructure and major population centres.

These natural benefits are borne out by the substantial private investment in solar energy generation to date in these areas.

Small local governments in NW Victoria led by Gannawarra Shire have demonstrated a deep understanding of the potential benefits of investment in solar projects. They have worked hard to ensure community support for up to 1.5GW of solar generation projects to date, with demonstrated interest in and capacity for up to 6GW of total power generation projects across four NW Victorian shires – Loddon, Gannawarra, Swan Hill and Mildura.

Investment in this important pipeline, however, is being held up by limited transmission capacity including:

- Existing projects have suffered regulatory costs from grid constraints and marginal loss factor assessment;
- Projects which have been approved but not commenced cannot secure sufficient certainty of grid access to justify further investment;
- Planning for large scale and system wide reform and investment – such as major interconnector investments – does not appear to factor in potential for additional solar renewable projects in this region; and
- The relatively minor transmission upgrades necessary to allow these projects to proceed are being held hostage as part of the very long timelines required for larger interconnection projects – of which these minor works are a small component.

Most of these problems reflect the original design of Australia's energy grid which was intended to move power from a few major coal fired power generation centres, out to peripheral and low population density energy consumption areas such as NW Victoria. This is clearly a broader problem across the national network as renewable generation away from major population centres expands.

This problem is widely understood by stakeholders, consumers, power generators and system leaders. Restructuring the grid to achieve cost effective system stability, resilience and capacity for growth in new generation is the stated priority of all decision makers in the national energy market. This includes recent discussion of a Northern Victorian Interconnector with NSW, as part of the current ISP 2020 drafting process.

At present this consideration has identified three major system upgrade options which would assist in driving system growth, resilience and stability – Victoria NSW interconnector routes through Dederang, Shepparton or Kerang. How AEMO resolves consideration of these options will have a material impact on investment decisions regarding up to 6GW of identified solar power generation projects in NW Victoria.

I urge AEMO and its stakeholders to make a full consideration of the costs and benefits of each of these options in driving overall energy system growth, resilience and stability. In discussions with local government, the Victorian Government and AEMO I have been asked to provide some relevant items for consideration in drafting ISP 2020, and specifically with regard to development of necessary transmission infrastructure impacting NW Victoria.

I offer the below items for consideration from multiple relevant perspectives. I am a long-term partner in a family agricultural business in Loddon Shire in North West Victoria. The Kerang to

Bendigo 220kv transmission line runs through our property and we have joined with Pacific Hydro as land owner partners in a proposed 240MW solar generation project on our property, which has received community support and local government planning approval. In addition, as an experienced non-executive director and chairman of multiple ASX listed entities, I have personal experience reviewing, commissioning and overseeing major infrastructure projects including of national significance.

While it is beyond the capacity of this submission to offer technical advice regarding a full cost benefit analysis of Northern Victorian Interconnector route options, below are a number of considerations I have been asked to include in this submission regarding AEMO's assessment of these options:

- 1) Each of the three options mentioned, via Dederang, Shepparton and Kerang would benefit overall system stability to the benefit of consumers;
- 2) The option via Dederang, while close to existing transmission infrastructure, seems to be at greatest risk of fire danger of each of the three options;
- 3) The Shepparton option is slated to run through high value agricultural farm land including a high concentration of irrigation infrastructure investment and related agricultural production. This region has already demonstrated serious local concerns regarding planning approval, which would likely impact timing and cost of construction as well as limiting development of new renewable generation in the area;
- 4) The Kerang option runs through lower value agricultural land well suited to solar power generation, with a demonstrated track record of major project planning approval;
- 5) Better scoping and sequencing of the components of a final preferred project – such as early thermal and structural capacity upgrade to the Kerang to Bendigo 220kv line – could unlock substantial additional solar power generation in the very short term;
- 6) Capital cost estimates need to be assessed in context – including local development issues, the wider grid transformation and overall energy generation growth. In this context an apparently “cheaper” line build on paper may be more complicated in practice, substantial increasing costs and project delays as well as failing to connect maximum viable new generation capacity.

Based on these considerations, it is our view that investing in the Northern Victoria Interconnector via the proposed “KerangLink” option makes sense in terms of:

- Ease and timing (and therefore cost) of infrastructure planning and development;
- Capacity to realise maximum viable additional renewable energy generation; and
- Suitability for mixed use renewable energy projects including combined farming and renewable energy generation.

Thank you for the opportunity to present this short submission regarding the proposed ISP 2020.

I am available to discuss any part of this submission with you as part of your ongoing consultation.

Regards,

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