Queensland Conservation Council

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Submission to the 2023 Draft Inputs, Assumptions and Scenarios Report

16 February 2023

We welcome the opportunity to comment on the draft Inputs, Assumptions and Scenarios Report for the 2024 Integrated System Plan. The 2022 ISP was a huge step showing the path towards a renewable energy future. We hope that the 2024 ISP can provide further certainty and information on this journey.

To do this, we hope that AEMO will update the IASR to:

1. Align more scenarios with Australia's commitment under the Paris Climate Agreement to limit temperature increase to 1.5 degrees above pre-industrial levels
2. Take more responsibility for building social licence of renewable energy, including by coordinating national strategic land use planning and increasing the breadth of representation on the Advisory Council on Social Licence
3. Include legislated and/or funded state based policies
4. Ensure biogas and land carbon estimates are realistic

1. Align more scenarios with 1.5 degrees

Australia has committed to "pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels" under the Paris Agreement, as a means of achieving a limit of well below 2°C. Despite this, only one of the four scenarios ("Green Energy Exports") limits temperatures increase to 1.5°C.

In order to truly "cover the breadth of potential and plausible futures impacting the energy sector" the 2024 ISP must also include a 1.5°C aligned scenario in which our domestic economy is decarbonised by rapid renewables and storage build, high levels of electrification, and improved energy performance economy-wide. At a minimum, strong electrification should still be included as a sensitivity to be able to consider the planning implications on the transmission grid and generation and quantify the higher risks of under-investment, vs over-investment, in transmission infrastructure.

2. Build social licence

AEMO's 2022 ISP correctly identified 'social licence', broadly the acceptance of the new clean generation, associated transmission and clean energy industries, as a key risk in the ISP. The Advisory Council on social licence is an important step. However, there are still worrying signs

that AEMO and the electricity industry in general consider social licence as an external force rather than something that can be built from the early stages of planning, starting with the ISP.

RE-Alliance notes that strategic land use mapping is not mentioned in the section considering social licence.
QCC and many other climate and environment groups put together *Achieving Fast, Fair and Sustainable Transmission Development: Recommendations to Rewiring the Nation* in 2022.

These recommendations included:

- Improving planning, community engagement, compensation and benefit sharing arrangements across the National Electricity Market (NEM) and
- Pursuing policies and regulations that protect and enable sustainable development, including reform of the Environment Protection and Biodiversity Conservation (EPBC) Act and adoption of key recommendations from the Samuel's Review

The Federal Government has committed to trialling a Regional Planning Initiative in Queensland, designed to provide clear information to decision makers, project proponents and communities to drive better environmental outcomes. There remains an urgent need for national coordination of regional renewable energy and transmission planning. The draft 2023 IASR appears to propose new Renewable Energy Zones (REZ). It is unclear whether any community engagement has preceded the identification of these areas. While we appreciate that it will ultimately be the state Governments which declare REZ, there is a clear need for better liaison between state Government, community and AEMO to avoid concern and confusion in REZ areas.

The Victorian Government's recent Victorian Transmission Investment Framework (VTIF) Preliminary Design Consultation Paper could provide an example to follow. Their approach included a new strategic land use assessment geospatial mapping exercise to identify the lowest impact corridors for transmission development and new generation. National coordination of this may come from the Regional Planning Initiative or other reform processes such as the Australian Energy Market Commission's (AEMC's) Transmission Planning and Investment Review process. The AER is developing a Guideline which will provide guidance to the transmission industry on efficient social licence costs. When this is available it should be referenced in the IASR.

Getting these processes right will directly influence costs. Some REZ will be inherently more risky than others, such as the Far North Queensland REZ which is sited inappropriately close to Wet Tropics World Heritage Area. In the 2022 ISP, AEMO applied a land use penalty factor of $0.25 million/MW to new variable renewable energy build costs above the total resource limits

identified for a REZ. This is updated in the draft IASR, but we would appreciate further information on how this figure has been generated.

The formation of the Advisory Council on Social Licence is a good first step but would be further strengthened by improving representation from landholders who are affected by new or existing transmission infrastructure.

3. Include all funded and/or legislated policies

The Federal Government's 43% emissions reduction target is underpinned by an assumption that Australia will reach 82% renewable energy by 2030. This should be assumed as a policy setting in all scenarios.

A number of legislated and/or funded state and Federal policies should be included in the final IASR, including:

a. NSW's stated target of reducing economy-wide emissions by 70% (from 2005 levels) by 2035.
b. the legislated Victorian targets for emissions reductions, including the 75-80% target (from 2005 levels) by 2035 across all scenarios.
c. the Capacity Investment Scheme announced in December 2022 ($10B underwriting to procure at least 6GW new renewable resources) in all scenarios. It is likely to be developed and funded by July 2023 (the stated date for a policy to meet the criteria for inclusion).

Queensland's Energy and Jobs Plan has not been adequately reflected in the draft IASR. It sets out coal closure dates which should be modelled as base case assumptions.

4. Reduce reliance on biogas, domestic hydrogen and land carbon

The Green Energy Exports scenario needs to be updated to remove dependence on flawed assumptions about the role of hydrogen and biogas. There is no credible technical path for biogas available at the scale proposed so it is unclear why it is assumed to play such a role across all scenarios.

In the "Diverse Step Change" scenario, demand for biogas increases dramatically with the assumption that explicit biogas targets are put in place by state and territory governments (a "7.5% blending target for reticulated gas by 2030 and 10% by 2035"). These assumptions seem highly speculative considering the lack of real-world economic or policy drivers for biomethane.

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The ‘public policy criteria’ set out in NER 5.22.3(b) does not support the inclusion of any biogas targets.

The “Green Energy Exports” scenario uses twice as much biogas as the “Diverse Step Change”. This scenario also relies on hydrogen, meaning that gas alternatives are given greater precedence in achieving climate action than energy efficiency and electrification. We are pleased that fossil hydrogen, so called “grey” or “blue” hydrogen, is excluded. However, with unlimited blending of hydrogen allowed, we are concerned that the costs to upgrade the gas network, let alone equipment and other machinery upgrades, are not modelled. These costs will be significant, and there will also be safety and pollution concerns to address. Blending of hydrogen in gas networks is extremely inefficient and the transition to high mixes of hydrogen - or even pure hydrogen - in the existing gas network will be extraordinarily expensive, requiring large amounts of the gas network to be essentially rebuilt from scratch.

Renewable hydrogen should be used domestically for a limited set of hard-to-decarbonise industries, such as replacing coking coal in steel-making and gas in the making of fertilisers. Wherever a process can be electrified, it should be, with renewable hydrogen only used where no other alternatives are available.

All scenarios assume extremely high land-based carbon sequestration, because it is assumed that large parts of the Australian economy will not decarbonise, even by 2050, so massive amounts of offsets are required.

In 2019, Land Use, Land Use Change and Forestry (LULUCF) removed nearly 40 million tonnes of carbon dioxide from the atmosphere. By the early 2030s, the Green Energy Export scenario relies on more than three times this much carbon sequestration. This is only offsets required for the electricity sector, more will presumably be required to meet carbon emissions reductions in other sectors, e.g. under the Safeguard Mechanism.

Land-based offsetting on this scale is technically questionable, and definitely does not deliver the climate action that actually decarbonising Australia’s economy would. By assuming these amounts of offsetting, the ISP fails to model the scale of electrification possible to actually decarbonise the country and meet our international climate obligations.

For more information please contact QCC’s Energy Strategist Clare Silcock at clare.silcock@qldconservation.org.au