

1 MAY 2023

ACF Submission on updating the current Integrated System Plan Methodology

Summary of Recommendations

- **Recommendation 1:** AEMO should include a 'value of carbon emissions' in its cost-benefit analysis, to reflect the proposed inclusion of emission reduction in the updated National Energy Objective (NEO).
- **Recommendation 2:** Include at least one (preferably multiple), additional scenarios that are aligned with 1.5 degree of warming.
- **Recommendation 3:** Reconsider AEMO's proposed plan to derate storage devices.
- **Recommendation 4:** Run another stakeholder engagement round for the updated IASR.

Introduction

The Australian Conservation Foundation (ACF) welcomes the opportunity to comment on AEMO's 2023 Draft Integrated System Plan (ISP) Methodology, which will be used to establish key elements of the forecasting, modelling, and cost-benefit analysis to develop the 2024 ISP.

ACF is Australia's national environment organisation. We are 700,000 people who speak out for the air we breathe, the water we drink, and the places and wildlife we love. We are proudly independent, non-partisan and funded by donations from our community.

ACF believes that Australia and the world face an unprecedented climate and mass extinction crisis caused first and foremost by digging up and burning fossil fuels like coal, oil, and gas. Australia needs a national approach to reduce climate emissions in line with the science-based temperature goals that Australia committed to under the Paris Agreement. Australia's transition to 100% renewable energy is central to achieving Australia's emissions reduction goals and ensuring the ISP includes modelling consistent with a 1.5-degree limit on global warming will be a critical input to guide this effort.

AEMO's ISP provides a key roadmap to help inform and prioritise necessary investment in our energy sector and ensure a smooth transition to a clean energy system in Australia. ACF is supportive of AEMO's efforts related to the ISP including forecasting and planning and wide consultation on inputs and assumptions.



We understand that the energy sector is faced with a significant task to build a fit-for-purpose system run on 100% renewable energy and that our energy transition has been made more challenging, yet more urgent, due to a decade of inaction on climate policy.

However, we caution against relying on solutions that are not fit-for-purpose or too heavily relying on partial solutions. This includes reliance on existing gas networks or offsets, or over-reliance on hydrogen or biogas. Further, the inclusion of carbon capture and storage (CCS) in the power sector is problematic and implausible. We recommend that CCS be excluded from all scenarios. CCS applied to the power sector -- or any aspect of fossil fuel use -- is obsolete worldwide, due to its problem-plagued technology, high costs, high risks, and associated emissions.

Transitioning Australia's electricity sector to a clean, renewable energy-based system is a critical element of Australia's transition to net zero emissions and economy-wide action on climate change. Australia's emissions projections 2022 report¹ found that Australia was not in line to achieve its target of 43% emissions reduction. Recent action including the reformed safeguard mechanism will drive increased emissions reduction from the industrial sector, and further policies that directly impact the electricity system are being pursued such as the National Electric Vehicle Strategy and the National Reconstruction Fund. In addition, the federal government has made a firm commitment to achieve at least 82% renewable energy by 2030. However, Australia's emissions reduction ambition will need to increase further to align with our Paris commitment to pursue 1.5 degrees and as part of this a stronger 2035 target will need to be delivered to the United Nations by 2025. Greater domestic ambition will need to be squarely reflected in AEMO's considerations regarding the ISP methodology.

ACF previously made a submission to the ISP draft 2023 Inputs, Assumptions and Scenarios Report (ACF 2023) in which we emphasised the need for AEMO to more strongly consider the actual emissions reduction pathway needed to meet Australia's national climate targets and commitments under the Paris Agreement.

Achievement of our climate targets can only be done through actual emissions reductions and needs to ensure social equity and affordability for all consumers. As such, the ISP methodology must use real world pathways.

Reflecting the updated NEO and valuing carbon emissions

Recommendation 1: AEMO should include a 'value of carbon emissions' in its cost-benefit analysis, to reflect the proposed inclusion of emission reduction in the updated National Energy Objective (NEO).

¹ <https://www.dcceew.gov.au/climate-change/publications/australias-emissions-projections-2022>



ACF supports AEMO's suggested inclusion of the 'value of carbon emissions' in its cost-benefit analysis, which supports our previous advocacy for the inclusion of emission reduction in the updated National Energy Objective (NEO).

In 2022, state and federal energy ministers agreed to fast track an update to the NEO to include an emissions reduction objective.² This update is a clear intention of the current government and is supported by most stakeholders. Further, many industries will be relying on the electricity system for their own emission reductions as different sectors electrify. As such, AEMO should ensure the updated NEO is reflected in its methodology immediately so that it adequately informs and is incorporated into the next iteration of the ISP. Not doing so will result in an outdated ISP that fails to fully inform the system and leads to poor investment decisions.

Defining the value of carbon emissions as the value of investments that reduce emissions beyond the existing ISP scenarios allows emissions reduction to be treated as a new category of market benefit.

Reflecting the soon-to-be- updated NEO is an important step in better integrating emissions reduction and energy policy, which have been siloed -- to great disadvantage -- for way too long.

Scenarios aligned to 1.5 degrees of warming

Recommendation 2: Include at least one (preferably multiple), additional scenarios that are aligned with 1.5 degree of warming.

ACF would like to re-iterate a main recommendation of our IASR submission (ACF 2023): to include at least one (preferably multiple) emission pathways that are consistent with (i.e., would result in warming equal to or below) 1.5 degrees of global warming. The Paris Agreement commits signatories (including Australia) to pursue efforts to limit temperature rise to 1.5 degrees Celsius. This limit should occur before 2040. ACF believes the current scenario assumptions do not adequately reflect existing, committed, and likely programs and policies, or a fair and sustainable development path for Australia's energy system.

As such, multiple emissions pathways that result in warming equal to or below 1.5 degrees should be explored to develop a blueprint for a future energy system that reflects current and expected future policy settings and is genuinely in the interest of consumers. One option would be through development of a carbon budget that forms the basis for several 1.5 degree aligned scenarios. This should include an additional scenario that focuses on rapid domestic decarbonisation to complement the existing green exports aligned scenario. A domestic decarbonisation scenario would, for example, need to include a significant step up in energy performance alongside a rapid increase in renewable energy, storage and electrification.

² <https://www.energy.gov.au/government-priorities/energy-and-climate-change-ministerial-council/meetings-and-communicues>



Green hydrogen may play a very important role in Australia's energy future, and even our future export economy. For example, in locally decarbonising our ore exports. This is worth assessing in relation to the ISP scenarios. However, with competing options such as electrification growing in relevance, there's the potential to miss conclusions that could arise from overly focusing on hydrogen and biogas and not sufficiently on electrification. As such, we encourage (as above) an additional rapid decarbonisation scenario that embraces electrification and a check on the extent to which hydrogen and biogas are represented in the ISP modelling.

Derating of Storage Devices

Recommendation 3: Reconsider AEMO's proposed plan to derate storage devices.

AEMO has proposed derating storage devices, applying limits to their full energy capacity. We are concerned about this proposal, including its application only to storage devices when the underlying concerns (such as imperfect forecasting) apply to other energy sources including (and increasingly) coal and gas generators. If derating is considered essential, then we would recommend that it be applied to all technologies that present similar forecasting concerns.

Storage technologies are improving rapidly, and so is the role of short-term storage as a grid resource. Their future reliability and output should not be gauged on past performance, particularly in a way that unfairly reduces their value.

Opportunities for consultation

Recommendation 4: Run another stakeholder engagement round for the updated IASR.

ACF welcomes the opportunity to contribute to the evolution of the ISP and congratulates AEMO for the sincere engagement and opportunities for input so far. We do nonetheless wish to acknowledge the importance of getting the scenarios right for the ISP to become a realistic blueprint for the future of the Australian Energy System.

There have been several parallel consultation processes with recent or near-term announcements that will influence ISP scenario assumptions. This includes the reformed Safeguard Mechanism, the National Electric Vehicle Strategy, and the National Energy Performance Strategy.

In addition, significant announcements are expected in the May federal budget regarding electrification programs for households and small businesses, which may affect assumptions and model inputs related to demand response, energy efficiency and installed capacity.



References

Australian Conservation Foundation (ACF), 2023. Submission to the Inputs, Assumptions and Scenarios Report. https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2022/2023-inputs-assumptions-and-scenarios-consultation/submissions/acf.pdf

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