

2025 AEMO IASR Consultation

August, 2024



About The Superpower Institute

The Superpower Institute's (TSI's) mission is to help Australia seize the extraordinary economic opportunities of the post-carbon world.

A net zero Australian economy will reduce global emissions by just over 1%. But if Australia successfully seizes the economic advantage in exporting zero emissions goods, this can create a sustained economic boom, improving national prosperity and living standards, and reducing global emissions by around an additional 6-9%.

Renowned economist Ross Garnaut and economic public policy expert Rod Sims have joined forces through The Superpower Institute, to focus on practical research and policy to unlock this boom. The Institute specialises in the policy settings and market incentives needed to make Australia an economic superpower and provides practical knowledge to governments and industry to realise this opportunity.

TSI works across the building blocks of the Superpower Economy including: renewable energy, green hydrogen, land carbon and minerals processing; the potential zero carbon export products including green iron and green aluminium; and the enablers of this economy including economic and fiscal policy, trade policy and regional development.

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Introduction

TSI welcomes the opportunity to contribute to AEMO's 2025 IASR Consultation process.

Brief responses to the AEMO's questions are below; we hope this submission can be a starting point for future engagement.

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Q1: Since the 2023 IASR publication, what changes (such as environment, social, policy) do you consider most impact scenario development for the 2025 IASR scenarios?

The most important change that needs to be reflected in the 2025 IASR scenarios is the Federal Government's Future Made in Australia (FMIA) policy, as described in the 2024 Future Made in Australia Bill.

The FMIA policy provides substantial early funding and support for Australia's nascent green export industries, which potentially include green metals (iron/steel, aluminium, silicon), green chemicals, green fertilisers, and green fuels.

The potential scale of Australia's green export sector is enormous. For example, if Australia was to use renewable electricity to convert its 40 per cent share of global iron ore exports into green iron, we estimate the annual export value of green iron to be \$295 billion, or three times the current value of iron ore exports. Green aluminium exports could be worth an additional \$60 billion, compared with the current value of bauxite and alumina exports of \$10 billion.

An Australian green export sector would be based on strong economic foundations, because Australia will have a comparative advantage in energy-intensive green exports as the world moves to net-zero carbon emissions. Under a 'superpower' scenario, with Australia capitalising on its comparative advantage, Australia's green exports can potentially reduce global carbon emissions reductions by 6-to-9 per cent.

But Australia's green export industries can only reach their potential with a dramatic expansion of renewable energy generation, storage, transmission, and distribution.

This is because:

1. Green export processing is extremely energy intensive.
2. Many green export processes also rely on green hydrogen, produced with green electricity.
 - Green chemicals, fertilisers, and fuels require large quantities of green hydrogen.
 - The most commercially-developed technologies for processing green iron also require large quantities of green hydrogen, which is used in shaft furnaces to produce direct-reduced iron.

Q2: Is AEMO's proposal a suitable evolution of each scenario's parameters that will effectively support AEMO's functions in planning the transition?

AEMO's proposed parameters are not yet a suitable evolution of each scenario, because they do not reflect the significant uplift in renewable energy demand that we expect to flow from the Federal Government's FMIA policy.

Recommendation 1: TSI recommends that all three IASR scenarios -- the Step Change scenario, the Progressive Change scenario, and the Green Export scenario -- reflect the significant uplift in renewable energy demand that we expect to flow from the government's FMIA policy, as outlined in the FMIA Bill.

- This recommendation is consistent with the National Electricity Rules, Clause 5.22.3 (b): AEMO may consider current environmental or energy policy of the participating jurisdiction, where the policy is sufficiently developed for AEMO to identify its impacts on the power system, and where the policy satisfies at least one of the listed conditions – including the condition that material funding has been allocated in the budget of the relevant participating jurisdiction.
- In the case of the FMIA policy, material funding has been allocated in the 2024-25 budget by the Federal Government (\$22.7 billion over the coming decade).

TSI recommends that the FMIA policy should be reflected in adjustments to the:

- 'Emerging Commercial Loads' criterion under all scenarios.
- 'Hydrogen Use and Availability' criterion under all scenarios.

The 'Emerging Commercial Loads' criterion

TSI recommends that the 'Emerging Commercial Loads' parameters should be adjusted to:

- Reflect growth in green export industries, consistent with the FMIA policy, which will use large amounts of renewable electricity and storage, and
- Recognise the role of international demand as a driver of green exports.
- For example, TSI recommends that the parameters for 'Emerging Commercial Loads' under the Green Export scenario should therefore be:
 - 'Emerging sectors such as green exports and data centres have opportunities consistent with strong domestic and international drivers.'

The 'Hydrogen use and availability' criterion

Except under the Green Export scenario, the 'Hydrogen use and availability' parameters suggest that hydrogen production is for either domestic consumption, or for direct export. But green hydrogen will be essential for green export industries, as envisaged and supported under the FMIA policy.

TSI recommends that the 'Hydrogen use and availability' parameters should be adjusted to:

- Reflect the fact that there will be green hydrogen produced as an input to green export industries under all scenarios, consistent with the FMIA policy.

Recommendation 2: Parameters under AEMO's Green Export scenario should accurately reflect the significant potential of Australia's green export industries, which will require substantial investments in Australia's electricity market.

While the likely impact of the FMIA policy should be reflected in all scenarios, it is essential that the Green Export scenario is distinguished by sufficiently high expectations about the scope for green export growth, and therefore the need for investments in renewable electricity, storage, transmission, and distribution.

- An overly conservative Green Export scenario would not accurately reflect the level of investment that is needed in Australia's electricity market to fully realise the scale of the green export opportunities which can be a source of future prosperity.
- We have suggested a specific change to the Green Exports parameters under the 'Emerging Commercial Loads' criterion to give force to this recommendation, but

AEMO's parameters across all Green Exports criteria should be consistent with Australia's significant potential as a green export superpower.

Q3: What additional changes should be considered?

Regarding the criterion, 'Supply chain strength influencing demand forecasts':

TSI interprets this criterion as measuring whether Australia's role in international supply chains reflects:

- Australia's comparative advantage in green energy-intensive exports (i.e. 'strength' describing comparative advantage), coupled with
- Strong future demand for these products.

If this interpretation is correct, the likely impact of the Federal Government's FMIA policy should also be reflected in higher parameters for this criterion; specifically, TSI believes that in the Step Change Scenario the 'supply chain strength' parameter should be raised to at least 'moderate'. AEMO should consider raising the parameter to 'moderate-high' for both the Step Change and Progressive Change scenarios.