



10 February 2022

Energy Security Board

Via email: info@esb.org.au

Dear Energy Security Board,

Response to Capacity Mechanism Project Initiation Paper

The Nature Conservation Council of New South Wales (NCC) is the state's peak environment organisation. We represent over 160 environment groups across NSW, constituting hundreds of thousands of energy consumers who are actively engaged in energy and climate policy. Together we are dedicated to protecting and conserving the wildlife, landscapes and natural resources of NSW. We recognise that Australia's electricity system is a key driver of dangerous climate change, one of the greatest threats to nature.

NCC has strong concerns with the proposed capacity mechanism which are outlined below.

The proposed capacity mechanism is likely to hinder Australia's ability to meet climate goals.

NCC is concerned that the proposed capacity mechanism will hinder Australia's ability to meet climate goals agreed in the Paris agreement which Australia is a signatory to.

International experience shows that capacity markets incentivise existing generators, and coal and gas generators over new and/or clean generators.ⁱ

The proposed assessment criteria don't match emissions reduction goals.

We are also concerned that the assessment criteria proposed by the Energy Security Board relating to emissions reductions will fail to assess proposed mechanisms against agreed climate goals, and therefore will result in a mechanism that is insufficiently flexible to support the ratcheting decarbonisation ambition that governments have committed to accelerating.

Proposed assessment criteria 5 reads:

Emissions reduction: a mechanism should be compatible with emissions reduction targets set out by state and federal governments.

This is a narrow and insufficient interpretation of the energy ministers design principal, which reads:



2. focus on **affordability, reliability, security, and continued emissions reduction** of electricity supply

Unfortunately, current emissions reduction targets are incompatible with the goals of the Paris agreement, which are to limit warming to below 2 degrees and pursue efforts to limit warming to 1.5 degrees. This discrepancy and need for ratcheting ambition is acknowledged by the Australian Government, as a signatory to the Glasgow Climate Pact, which:

Emphasizes the urgent need for Parties to increase their efforts to collectively reduce emissions through accelerated action and implementation of domestic mitigation measures in accordance with Article 4, paragraph 2, of the Paris Agreement;

and

...requests Parties to revisit and strengthen the 2030 targets in their nationally determined contributions as necessary to align with the Paris Agreement temperature goal by the end of 2022, taking into account different national circumstances;

and

Calls upon Parties to accelerate the development, deployment and dissemination of technologies, and the adoption of policies, to transition towards low-emission energy systems, including by rapidly scaling up the deployment of clean power generation and energy efficiency measures, including accelerating efforts towards the phase-out of unabated coal power and inefficient fossil fuel subsidies, recognizing the need for support towards a just transition;

NCC recommends that the ESB alter assessment criteria 5 to read:

Emissions reduction: a mechanism should be compatible with emissions reductions that align with the Paris Agreement temperature goals.

We acknowledge that emissions reductions criteria are not explicitly stated in the National Electricity Objective.

However, only energy market rules that are consistent with long-term climate goals will promote efficient investment for the long-term interests of electricity consumers.

Energy policy makers are well versed in designing market mechanisms to operate within the engineering constraints of the electricity system. Similarly, policy makers must now design policies that are consistent with the physical realities of our atmospheric climate system. Policies that are inconsistent with the underlying physics (represented by long term temperature goals and associated carbon budgets), will result in investment uncertainty, higher costs, and inefficient investment, as market participants struggle to overlay current market incentives with long-term climate constraints that will eventually affect their long-term investments.



Inconsistency with long-term climate goals would also make the inevitable decarbonisation job more expensive and drastic for future market participants.

Cost to consumers should be an assessment criterion

While the assessment criteria identifies minimising regulatory burden and efficiently allocating risk, we believe that the cost to consumers should be a key consideration, especially for comparing capacity markets with alternatives.

Providing additional revenue to coal and gas generators slows decarbonisation

Capacity revenues paid to greenhouse gas emitting generators will have the effect of either:

1. delaying closure of the emitting facility, or
2. encouraging investment in new emitting facilities.

Neither of these outcomes is consistent with the energy ministers' principle of *continued* emissions reduction, indeed both outcomes slow emissions reductions.

If a capacity mechanism is to be contemplated, we recommend that capacity payments only be made to generators which can support long-term decarbonisation goals and emit less than a technology-neutral emissions threshold. We recommend adopting the EU taxonomy threshold of 100g/kWh.

A capacity-based emissions threshold would also be appropriate. The EU taxonomy sets this at 550 kilograms of CO₂ per kilowatt of capacity over 20 years, which we consider an upper limit, and should be ratcheted down as we move closer to the 2050 net-zero emissions date.

We also recommend that an assessment criterion be added that measures the proposed mechanism's impact on the speed of emissions reductions compared with an energy-only market base case.

Energy-only market returns are the best judge of capacity during the transition

The National Electricity is transforming rapidly. Therefore, the risks and opportunities that will be present in 2030 are very difficult to foresee today. In this rapidly shifting environment, swift and flexible interventions, such as those being made by states, are likely to result in lowest-cost outcomes.

The project initiation paper (section 5.1) identifies the difficulty in defining at-risk periods: "In the future, with greater penetration of renewable resources, the nature of these "at risk" periods



might change". It also identifies the challenges with assessing various resources likely capacity during at risk periods, to enable derating of capacity.

The lowest-cost variable renewable energy system is one with the minimum correlation between resources, i.e. geographical and technological diversity. The energy-only market drives investors to seek anti-correlated resources, however a capacity mechanism is likely to dampen those signals, resulting in a higher-cost system.

Given that at-risk periods and the features of capacity required cannot be fairly or efficiently determined (eg. fast ramping or deep storage), we suggest prioritising the energy-only market options over a capacity mechanism.

More than one "base-case" is required

There are several alternatives to a capacity mechanism. For example, increasing the market price cap, state governments signing orderly exit management contracts with coal generators, or enhancing energy reserve mechanisms. We believe it is in the interests of consumers and climate objectives to consider both of these alternative options and probably several others. We recommend the ESB include several non-capacity market options in its analysis for ensuring resource adequacy during, and after the transition to a net-zero emissions electricity grid.

Thank you for the opportunity to participate in the consultation.

We welcome further conversation on this matter.

Yours sincerely,

Dr Bradley Smith
Policy and Advocacy Director
Nature Conservation Council

ⁱ Jacob Mays, David P. Morton & Richard P. O'Neill. [Asymmetric risk and fuel neutrality in electricity capacity markets](#). *Nature Energy* 28 October 2019.