



Australian Government
Australian Renewable
Energy Agency

ARENA

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ARENA submission on the Regulatory Sandbox Arrangements Consultation Paper

This submission provides information gained from ARENA funded projects relevant to the AEMC Regulatory Sandbox Arrangements Consultation Paper.

In summary:

- ARENA supports the consideration of an enhanced regulatory exemptions framework as part of a broader, integrated approach to prioritising and facilitating proof-of-concept demonstration in the NEM.
- A best practice approach to implementing a regulatory sandbox in the NEM would recognise the complex regulatory, informational, cultural and commercial barriers to developing and marketing new services in the energy sector and address these in an integrated way. It could build on the work (and institutional structures) of the Distributed Energy Integration Program (DEIP) and the Energy Security Board (ESB) that have each been established to facilitate reform and achieve greater coordination of efforts across industry in the energy transition.
- AER letters of comfort/no action, while useful in some contexts where a business is able to return to compliance in a short period of time, may not be a sufficient mechanism to facilitate complex proof-of-concept trials (like in-market wholesale demand response) as it transfers too much reputational risk to the AER as the enforcer of the rules and fails to protect businesses or participating market bodies from third party litigation. In these cases, there may be a role for a broader, more flexible, regulatory exemption mechanism.
- ARENA is well positioned and stands ready to support a regulatory sandbox initiative by facilitating collaboration and by providing funding to support proof-of-concept demonstrations that enhance the potential for renewable energy uptake in the NEM, or lower the cost of an electricity system with higher shares of renewable energy.

About ARENA

ARENA was established to make renewable energy solutions more affordable and to increase the supply of renewable energy in Australia.

ARENA provides financial assistance to support innovation and the commercialisation of renewable energy and enabling technologies by helping to overcome technical and commercial barriers. A key part of ARENA's role is to collect, store and disseminate knowledge gained from the projects and activities it supports for use by the wider industry and Australia's energy market institutions.

Encouraging innovation in the energy sector

ARENA welcomes the increased focus on supporting innovation in the National Electricity Market (NEM) and the benefit this can bring to consumers. The extent to which new technology and approaches can be quickly incorporated into the NEM to enhance productivity will have a significant bearing on the costs and benefits consumers experience in the transition to renewables.

For example, wind, solar and batteries have different technical characteristics to traditional generation sources, so new system management approaches will be required to achieve high penetration rates. Accelerating the implementation of sustainable frameworks to accommodate very high penetrations of renewables can reduce system costs for the benefit of consumers. Proof-of-concept trials can assist in testing and accelerating such reforms.

ARENA plays a front-line role in encouraging innovation in Australia's energy sector including:

- Funding for proof of concept demonstrations and studies -
 - The Advancing Renewable Program is continuously open for applications that address ARENA's Investment Priorities (including delivering secure and reliable electricity).
 - Funding rounds are announced periodically to target specific identified barriers to increasing the supply of renewable energy in Australia. Recent examples include the ARENA-AEMO demand response trial, the short-term forecasting and DER network hosting capacity rounds.
- Other funding -
 - Our Research and Development (R&D) program supports research and projects that will increase the use of renewable energy technologies in Australia by making them competitive with conventional energy sources (e.g. solar PV and hydrogen).
 - The Renewable Energy Venture Capital Fund (managed by Southern Cross Venture Partners) fosters skills and management capability and encourages investment in innovative Australian renewable energy companies.
 - The Clean Energy Innovation Fund (in partnership with the CECF) is a specialist financier targeting technologies and businesses that can benefit from early stage seed or growth capital.
- By funding knowledge-sharing reports and activities in all ARENA projects, presenting at over 30 conferences in 2017-2018, and delivering networking events, including industry

site tours, ARENA continues to build industry awareness of emerging innovations and identify opportunities for further collaboration and trials.

- A-Lab workshops create cross-sector partnerships, identify critical industry challenges and facilitate the co-design of innovative solutions.

Through its ongoing engagement with industry, ARENA is cultivating a pipeline of innovative technologies and business models across multiple aspects of energy supply, distribution, marketing and demand management, that are at different stages of commercial readiness. ARENA is working with both traditional energy businesses seeking to diversify, as well as a large number of startup businesses and new entrants that are seeking to bring new technologies and business models into the sector.

Innovation shop front

New entrants to the NEM are confronted with complex regulatory and opaque institutional arrangements that can present a barrier to understanding the full potential for their product or service.

ARENA's engagement with new entrants has evolved to include an informal 'shop front' service to guide prospective grant applicants on their eligibility for ARENA funding, including how they can adapt their approach to reflect our understanding of information gaps and commercial opportunities in industry. While we do not provide regulatory or commercial advice to prospective applicants, we do consult with market bodies and industry (including through DEIP) to determine the merits and risks of different proposals that are brought forward.

Some projects have benefited from engaging with market bodies at the design stage. Examples include large-scale battery projects examining commercial models to deliver both network and wholesale energy services, as well as virtual power plant projects seeking to deliver services such as frequency control. This engagement has helped clarify how regulatory arrangements can work, and identified gaps for resolution - providing a benefit for future projects of a similar type.

An innovation shop front service, provided under an appropriate institutional framework, could offer 'fast and frank' regulatory advice to new market entrants. While this is beyond ARENA's mandate, it could utilise expertise within the market institutions or third party advisors. Utilising market bodies in this process would encourage a two-way exchange, where institutions could gain market intelligence and a greater appreciation of the opportunities and barriers to innovators presented by current regulatory arrangements. An innovation shop front could also provide a pathway to other innovation support tools such as grant funding from ARENA or other parties, or regulatory exemptions if appropriate.

As noted in the Consultation Paper, the experience of Ofgem in the UK indicates that fast and frank feedback services can be highly valued by new entrants and can facilitate the implementation of new ideas based on their merit.

The role of regulatory exemptions

Important reform initiatives such as the consideration of a wholesale demand response mechanism and the creation of distribution-level markets for energy and related services may

involve step changes in NEM market design. The realisation of benefits from such reforms may depend on in-market trials that inform the business case for change, and regulatory design options, over the coming years.

ARENA has supported projects that have proceeded on the basis of a letters of comfort provided by the AER. ARENA has also worked with trials that have not proceeded due to regulatory barriers and where letters of comfort/no action were deemed insufficient to address legal risks such as the potential for third-party litigation. ARENA considers that in some circumstances a broader and formal regulatory exemption mechanism could increase the scope of trials in the market and accelerate reforms although the extent of this need is uncertain.

ARENA considers that in some circumstances, a broader regulatory exemption mechanism, could increase the scope of trials in the market and accelerate reforms, although the extent of this need is uncertain. Relying solely on the AER's enforcement discretion or as the sole exempting authority may also limit the scope of the exemption mechanism to support trial where, for example an exemption is required that exceeds the AER's authority.

One of the challenges in facilitating innovation is that it is not always obvious when and where new innovations will arise, and where a regulatory exemption may be beneficial. It may therefore be advantageous to have a more flexible framework for granting regulatory exemptions, based on sound governance principles, which provides more substantial scope for regulatory discretion while ensuring consumer and business interests are suitably protected. For example, the AEMC might consider where a Rules exemption framework may be appropriate to provide coverage to trial participants including energy market bodies.

A Rules exemption framework developed to support time and scale-limited proof-of-concept demonstrations could be used to test step-change reform models in areas such as distribution-level markets or the establishment of deviation pricing incentives for frequency regulation. Without such an exemption framework, reform decisions will be more reliant on desktop analysis without the benefit of real-world trial outcomes. In cases such as this, Australia may be in the lead and so we may not be able to draw on the experience of other markets, creating further risks and delays in market reform that could be mitigated by in-market trials.

ARENA considers that an institution like the Energy Security Board, potentially complemented by more direct consumer representation, may provide sufficiently balanced oversight of the market to exercise such discretion. ARENA recognises this new role would need to be matched with appropriate resourcing and frameworks to enable rapid decision-making and to ensure adequate oversight over the course of any demonstration project.

Please contact Jon Sibley, Principal Policy Advisor (jon.sibley@arena.gov.au) if you would like to discuss any aspect of ARENA's submission.

Yours sincerely

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