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Sophia Vincent
Director, Energy Consumer and Competition Policy
Energy, Climate Change and Sustainability
Department of Planning, Industry and Environment

10 March 2022

Dear Ms Vincent,

AER submission: Promoting innovation for NSW energy customers – consultation paper

The Australian Energy Regulator (AER) welcomes the opportunity to provide a submission on the NSW Department of Planning Industry and Environment's (DPIE) *Promoting innovation for NSW energy customers* consultation paper (the consultation paper). We agree there will need to be a range of reforms across the energy sector to ensure consumers can effectively participate in a transforming energy market and engage with new technologies such as smart meters, solar photovoltaic (PV), inverters, batteries, electric vehicle (EV) charging infrastructure, flexible demand management and virtual power plant services.

We note that many projects relevant to these issues are already underway at the national level. These include the work being undertaken by the Energy Security Board (ESB) as part of its Post 2025 market design and other projects now being undertaken by the national bodies. We suggest that DPIE's work will be most effective if it complements the work that is already being undertaken. A collaborative and nationally consistent approach is likely to be in the long term interests of consumers and to maximise the net benefits of reform.

The consultation paper raises a broad range of issues relating to reforms needed to support customer access to new technologies and innovation. Many of these issues intersect with work and or/roles carried out by us as the national energy regulator. These include our work on smart meters, ring-fencing, the integration of distributed energy resources (DER), stand-alone power systems, dynamic operating envelopes, and consumer policy. Our responses to these issues are set out in the attachment to this submission.

We have also included below details about our new regulatory sandboxing function and the benefits it provides in supporting innovators to test technologies and services by removing information and regulatory barriers and facilitating trials of technologies to enter the market.

Regulatory sandboxing: removing barriers to innovation

A key theme raised throughout the consultation paper is how to remove both regulatory and non-regulatory barriers to innovation and the uptake of new technologies in the energy market. We would like to highlight our work developing a regulatory sandboxing function that can support DPIE to address these issues.

We are, in conjunction with the AEMC, ESC, and AEMO, currently working to establish the energy regulatory sandbox. This will be a policy tool designed to help the regulatory framework adapt to rapid technological change and innovation currently occurring in the energy market. The existing regulatory framework was not designed with these new technologies and innovations in mind, and it is not always clear how the current rules apply. Current regulations may also act as regulatory barriers to implementing innovative technologies and business models that, if removed, could benefit consumers.

The energy regulatory sandbox provides a structured framework within which innovative technologies, approaches, business models, products and services can be trialled in a real-world environment without having to meet all the regulatory requirements, while still protecting consumers. This is achieved through three separate but interrelated policy tools that form the regulatory sandbox toolkit:

1. the **innovative enquiry service** can help innovators, particularly those that have not previously operated in the energy market, navigate the complex regulatory landscape and understand what is allowed under the current rules
2. a **regulatory waiver power** will allow us to temporarily exempt trials from regulatory barriers arising out of existing rules and facilitate a proof-of-concept trial.
3. a **trial rule change** process that allows the AEMC to facilitate trials through temporary energy rule changes.

Knowledge gained from the energy regulatory sandbox will be shared with the wider industry, including regulators, to improve market outcomes. Insights from the enquiry service and trials can also inform policy makers on the future design of the regulatory arrangements and identify areas of regulation that may be reformed.

The scope of this function is broad and will be able to provide regulatory relief from the National Electricity Rules, National Energy Retail Rules and National Gas Rules as well as the relevant provisions of the National Electricity Law, National Energy Retail Law and National Gas Law in all National Electricity Market (NEM) jurisdictions and the Northern Territory in accordance with their respective application acts. Where other frameworks apply, like in Victoria, we will work closely with the relevant regulator to promote consistency and streamline coordination to provide guidance and facilitate waivers through the sandbox toolkit.

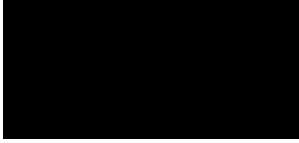
Innovators looking for further information on regulatory obligations will be directed to our 'one stop shop' website, currently being developed, via links on the websites of the AER, AEMC, AEMO and state regulators. The website will provide a range of guidance information to address common queries, including case studies on common emerging technologies and an interactive tool that will provide the user a high-level summary of the obligations and requirements associated with their proposed business model or technology.

DPIE notes its key role in providing a pathway for existing and emerging technologies to deploy at scale over the coming decade, and in removing barriers for these technologies to enter the market. DPIE can leverage the knowledge gained from the energy regulatory sandbox to inform its own policy decisions.

Overall, the regulatory sandboxing function will support the energy sector transition by supporting new and emerging energies to enter the market. It also provides an opportunity for DPIE and the AER to work closely and collaboratively to ensure our work is complementary and achieves the desired outcomes.

We thank the NSW Department of Planning Industry and Environment for the opportunity to submit on this process. If you have any questions about our submission, please contact Isabel Durie on [REDACTED].

Yours sincerely



Jim Cox

Deputy Chair

Australian Energy Regulator

Appendix: The AER's comments in response to the consultation paper

1. Digital energy technologies

Smart meters

The consultation paper raises several questions relating to the rollout of smart meters. We strongly agree smart meters have a very important role to play in supporting consumers to effectively engage with the energy market.

Smart meters are key to enabling customers to realise the value of their flexible demand and distributed energy sources as the electricity system transitions towards greater two-way flows of energy. They enable customers, through their retailer or aggregator, to offer their flexible demand and DER into wholesale, system services and network services markets. They can also assist customers to access smart technologies that help them to better understand and manage energy usage to save money.

By realising these opportunities our electricity supply chain can be more efficient, in the process helping individual customers to minimise their power bills. For example, smart meters will help facilitate:

- new tariff structures to help customers minimise bills while helping networks minimise expensive network investment
- virtual power plants to allow groups of customers to operate directly in electricity wholesale and ancillary services markets.
- future arrangements where customers can contract with an aggregator or second retailer for their discretionary load – their electric vehicle, battery, pool pump and other smart appliances.

Given these benefits, we support reforms that encourage an efficient, timely and equitable rollout of smart meters across Australia. The AEMC is currently reviewing the regulatory framework for metering services and we encourage DPIE to collaborate with the AEMC on this review so that a nationally consistent approach may be taken, in a way that reduces investment costs for retailers and enables consumers to receive clear and consistent information. Additionally, the AEMC is also consulting on whether changes should be made to how the costs of metering installations are allocated, given the benefits of smart meters to the electricity system as a whole. We also encourage DPIE to coordinate timing with this review so that any changes to the national framework can be taken into account when choosing options that impact the costs borne by consumers.

We would also like to make specific comments on the options targeting our Retail Pricing Information Guidelines and would welcome further discussion with DPIE on these issues. The consultation paper proposes amending the Retail Pricing Information Guidelines so the cost of smart meters is displayed on retailer websites, and on our Energy Made Easy website so customers can easily compare costs. To ensure a positive experience, we believe consumer-facing smart meter information must be provided when useful, be accessible and informed by behavioural insights on how to achieve optimal customer outcomes.

We note Energy Made Easy already offers the mechanism for retailers to articulate metering costs, both one-off (i.e. for new meter installation or servicing) and recurring (i.e. where cost of installation might be spread over a period or where there are recurring costs for other reasons). When metering costs are disclosed by the retailer, these costs (along with

descriptions) are presented on the results page for comparison and on plan information documents.

While we support improving the data given to us by retailers in order to provide better information on Energy Made Easy, ultimately the quality of the information provided by individual retailers about their specific products will vary. The Retail Pricing Information Guidelines already specifies that metering costs and other fees applicable to metering must be supplied by retailers where it is deemed appropriate.

Hot water embedded networks

We note the consultation paper discusses issues with the regulation of bulk hot water in embedded networks. We have publicly addressed our position relating to bulk hot water regulation in our [Draft Retail Exempt Selling Guideline](#), published in early March.

2. The future of distributed energy resources

The consultation paper raises questions around how best to support consumers to engage with DER technologies and remove barriers for these technologies to enter the market. The AER supports the five guiding principles put forward by DPIE, particularly the need to coordinate and align with other initiatives underway to support the integration of DER into the NEM. Notably, the ESB's DER Implementation Plan,¹ endorsed by National Cabinet in October 2021,² is a key piece of work guiding the integration of DER and flexible demand. The DER Implementation Plan identifies key issues to be worked through and sequences technical, market and regulatory reforms needed over the coming three years.³

The Australian Renewable Energy Agency (ARENA), through its Distributed Energy Integration Program is also undertaking a range of projects and trials aimed at maximising the value of customers' DER for all energy users.⁴

We encourage DPIE to ensure its work relating to DER builds on and compliments this work undertaken by the ESB through the DER Implementation Plan and by ARENA through the Distributed Energy Integration Program. Further, as highlighted above, our new regulatory sandboxing function will play a pivotal role in supporting innovators to test technologies and services by removing information and regulatory barriers and facilitating trials of technologies to enter the market.

Customer protections

The consultation paper raises several questions around improving the protections framework for energy consumers. Ensuring the energy consumer protections framework is fit-for-purpose for a transforming energy sector is a key part of the ESB's DER Implementation Plan. As part of Horizon One of the Plan, we are undertaking a review of the retailer authorisations and exemptions frameworks. This review aims to understand the potential benefits and risks to consumers from new energy products and services entering the market as the sector transitions to two-way flows of energy.

¹ <https://www.energy.gov.au/sites/default/files/2021-12/Attachment%20A%20-%20DER%20Implementation%20Plan%20-%20Three%20Year%20Horizon%20-%20December%202021.pdf>

² <https://www.energy.gov.au/government-priorities/energy-ministers/priorities/national-electricity-market-reforms/post-2025-market-design/der-implementation-plan-design-and-implementation-process>

³ <https://www.energy.gov.au/sites/default/files/2021-12/Scope%20of%20works%20document%20-%20Integrating%20DER%20and%20Flexible%20Demand%20-%20December%202021.pdf>

⁴ <https://arena.gov.au/knowledge-innovation/distributed-energy-integration-program/>

As part of this, we will be examining the scope of protections of the National Energy Customer Framework and whether the authorisations and exemptions framework is fit-for-purpose in the transitioning energy market and sufficient to ensure consumers can benefit from the integration of DER and flexible demand in the NEM. The review will also consider issues with embedded networks and whether the current framework for embedded networks is fit-for-purpose for the future energy market.

In addition, the review will consider the implications for consumers from the introduction of dynamic operating envelopes, flexible trading arrangements, interoperability standards and a range of other changes in the energy market. This piece of work relates to many of the issues raised the consultation paper and the AER welcomes engagement and discussions with the NSW Government on this review (due to commence shortly) and is happy to share key insights.

Ring-fencing guidelines

The DPIE consultation paper raises several questions regarding community batteries and emerging technologies including whether there are barriers to community batteries or particular issues from a consumer perspective.

The AER notes that it recently considered the issue of DNSP led battery deployment and the ability of DNSPs to participate in competitive battery services markets through its recent review of the Electricity Distribution Ring-fencing Guideline.⁵

The objective of ring-fencing is to provide a regulatory framework that promotes the development of competitive markets. It does this by legally and functionally separating a DNSP's monopoly business from their contestable business and therefore provides a level playing field for third party providers in new and existing markets for contestable services. The ring-fencing guideline was updated in late 2021 to address the changing nature of services offered by DNSPs. This includes the provision of contestable services from batteries.

In the explanatory statement to our updated ring-fencing guideline, we emphasised the important role of community batteries as an emerging technology that can meet both regulated network needs and provide a range of contestable services. However, relative to other models, DNSP ownership of community batteries can present risk to competition that needs to be carefully considered. Therefore, in our final guideline we developed a streamlined waiver process which provides a clearer, simpler process for waiver applications which present a low risk to competition.

Under this framework, a DNSP will be eligible for a streamlined waiver that would enable it to offer the battery into competitive markets, provided it meets certain criteria. A key criteria for a streamlined waiver is that the battery is not included in the DNSP's regulatory asset base and therefore does not create a risk that the DNSP may damage competition by cross subsidising competitive battery services in a nascent market. We are supportive of a framework that supports DNSP involvement in innovative battery projects, provided risks to competition are effectively managed and that the new and emerging market for battery services is allowed to develop

Stand-Alone Power Systems

Classification of stand-alone power systems

We note the paper presents two options for consideration by stakeholders on how NSW could work with us in relation to the service classification applied to stand-alone power systems installed by DNSPs. We are currently in the process of consulting on the framework

⁵ <https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/electricity-ring-fencing-guideline-review>

and approach for the upcoming revenue determination process for the NSW DNSPs for the 2024–29 period. The framework and approach determines, amongst other things, which services we will regulate in the 2024–29 determination. We are keen to ensure that the proposed services are classified in a way which is in the long-term interest of consumers, consistent with the National Electricity Law and Rules, and the approach outlined in the ring fencing guidelines. We are committed to having ongoing discussions with DPIE on how new services, such those provided by stand-alone power systems, are included in the framework and approach (and therefore whether investments in assets which provide these services go into the Regulatory Asset Base and are recovered from consumers).

Ring-fencing exemption framework

The consultation paper raises some questions about the stand-alone power systems exemption framework within the ring-fencing guideline.

During the course of the AER’s recent electricity distribution ring fencing review we noted whilst the generation elements of stand-alone power systems are considered competitive, there may be a role for DNSPs in providing these services as the market develops. To allow for flexibility as the market grows and to promote the long-term interest of consumers to access regulated stand-alone power systems, we developed a generation revenue cap exemption framework to allow for DNSPs to own stand-alone power systems generation services up to a certain level.

We note that the consultation paper is examining ways for the DNSP to play a greater role in generation and to access the RAB for these services. The consultation paper on page 27 states, “*where a DNSP does obtain a ring-fencing waiver from the AER, the DNSP would be able to include the generation infrastructure in their RAB*”. In addition, the paper refers to “*AER’s national exemption cap*”.

The stand-alone power systems exemption framework in our ring-fencing guideline has the following features:

- The exemption generation revenue cap was calculated based on each DNSPs forecast deployment in the next 10 years. The cap was calculated on the basis of revenue that would support 75% provision of stand-alone power systems generation services;
- There are different categories of generation cap in the guideline. These categories were tailored based on the data that DNSPs provided to the AER;
- In circumstances where a DNSP reaches its generation revenue cap, the DNSP can apply for a waiver to increase its cap; and
- The generation infrastructure is considered a distribution asset and can be included in the RAB.

During consultation on the guideline, DNSPs were supportive of our flexible approach to allow DNSPs to respond to the emerging delivery model. However, there were concerns raised regarding DNSPs being the sole provider of stand-alone power systems generation services. These included:

- DNSPs providing all stand-alone power systems generation service would not promote the efficient deployment of stand-alone power systems while the market is still developing, and could consolidate the DNSPs’ advantage in the market;
- Competitive markets are dynamic and will provide stand-alone power systems generation services if given the opportunity by DNSPs; and

- The circumstances where a third party could not be an ongoing stand-alone power systems resource provider would be rare. We note that in the private stand-alone power systems market there are approximately 6000 accredited providers.

Our generation revenue exemption framework is intended to promote efficient deployment of regulated stand-alone power systems in the early stages of market development. As stand-alone power systems deployment progresses, we will review the exemption framework to consider if it remains appropriate and in the long-term interest of consumers. For more information on the ring-fencing guideline's generation revenue cap please refer to our [explanatory statement](#).

Retail contestability

We understand DPIE is considering two potential options to allow DNSPs to provide retail services directly to stand-alone power systems customers. We note the AEMC's proposed delivery model maintains customer protections under the National Energy Customer Framework, to ensure that customers can access vital protections including hardship supports, and retail contestability. Retail contestability allows a customer to make a choice about their preferred retailer. This should be considered by DPIE when determining whether DNSPs should provide retail services. When assessing the options proposed by DPIE, consideration should also be given on how any option may limit customer protections and expose potential vulnerable customers to the risk of disconnection.

We note if a DNSP were to take on a retailer role, the DNSP would need to build and develop billing and invoicing applications and obtain a retailer authorisation under the authorisation framework from the AER.

Pricing

We understand DPIE is considering its own stand-alone power systems pricing methods, including a price reflective of generation. The objectives of DPIE's pricing methods are addressed within the AEMC's approach to their stand-alone power systems reforms. We note a primary driver behind the AEMC's reforms was to address the incentives to move customers to a more efficient delivery method. In particular, the AEMC reforms were designed to:

- to overcome the lack of locational pricing which is currently encouraging customers to stay on the lower cost network, rather than move off-grid, and
- ensure the cost savings arising from the use of lower cost stand-alone power systems would flow through to all users of the distribution network, through lower network prices.

Therefore, when DPIE is determining pricing methods for stand-alone power systems consideration should be given to the impact of moving to cost reflective pricing because in this method the expected benefits to network customers who potentially subsidised the current connection and installation of the stand-alone power systems is low.

Dynamic operating envelopes

The consultation paper raises questions around how to best enable dynamic operating envelopes and potential barriers to implementation. The AER notes there is work underway which DPIE should consider. This includes a *Dynamic Operating Envelopes Outcomes Report* being finalised by Distributed Energy Integration Program, which outlines findings from recent technical trials and considerations for the future implementation of dynamic operating envelopes. This report is expected to be published in the first quarter of 2022 and is expected to note there is no need to mandate the introduction of dynamic operating

envelopes, given all DNSPs are actively considering their implementation, but are at different stages in the planning process.

The AER is also commencing a program of work to lead the ESB's dynamic operating envelope workstream under their DER Implementation Plan. This project will establish policy objectives (and criteria) for the development and implementation of dynamic operating envelopes in the context of efficient DER integration. This will include considering the impacts on customers and what changes to consumer protection frameworks are required to mitigate any risks to consumers.

The AER intends to engage with jurisdictions as our dynamic operating envelopes work progresses and would welcome these discussions with DPIE. We would also be keen to discuss any feedback DPIE receives from stakeholders in response to questions on dynamic operating envelopes outlined in the consultation paper.

3. Energy customer digital journey

Electricity retailers' emissions performance

The consultation paper notes the potential to include emissions performance information about retailers on our Energy Made Easy website. We note we have had previous discussions with DPIE about this proposal and will continue to consider inclusion of this information for plans offered to NSW customers. However, this would require DPIE to formulate the profile/measure and supply this data to us on an ongoing basis.

Prior to including this additional information on Energy Made Easy, user research would need to be undertaken to determine user needs and preferences with respect to the utility, and potential placement, of this information on the website. We note we are currently undertaking user research and testing with a view to delivering a series of design changes to Energy Made Easy in the near future, to improve the user journey and overall consumer experience.