

Australian Energy Market Commission  
PO Box A2449  
Sydney South NSW 1235  
Lodged online

## **AEMC Distribution Market Model Draft Report – Submission**

Sir/Madam,

I am writing on behalf of the Australian Solar Council (ASC) and the Energy Storage Council (ESC) to provide comment on the AEMC's Distribution Market Model (DMM) Draft Report.

### **Australian Solar Council, Energy Storage Council**

The Australian Solar Council is the peak body for the solar industry, with more than 1,000 members. These include residential, commercial and large-scale solar companies, academics and concerned Australians. Members include manufacturers, distributors, retailers and installers and cover solar PV, solar hot water and large-scale solar thermal.

The Energy Storage Council is the peak body for the energy storage industry, with more than 140 members. Our members include manufacturers, distributors, retailers and installers and cover all forms of energy storage and battery storage.

Increasingly, our members are focusing on smart energy – the convergence of solar, energy storage and smart energy management systems including demand response and ancillary services, which are transforming Australia's electricity system.

### **Comments on the AEMC DMM Draft Report**

The ASC and ESC are pleased to provide the following comments on the AEMC DMM Draft Report:

1. Objective of the Distribution Market Model Project – draft report section 1.1 -

We are supportive of the objective as stated and we are eager to engage with the AEMC for this purpose.

2. National Energy Storage Register – draft report section 5.1.2 -

The Energy Storage Council, in collaboration with its partner and energy market specialist, Global-Roam Pty Ltd, is currently developing a national "Energy Storage Register" (ESR). An explanation of the objectives of this Storage Register, a graphical overview and the development methodology can be found [here](#). The current public access version of our product is the [Battery Finder](#).

The ESC have previously provided a written submission to COAG in response to their 2016 Energy Storage Registration Consultation Paper and on behalf of our energy storage industry members has been leading the call for a ESR Register.

The ESC has attached an ESR Register overview document to accompany our submission and would be pleased to provide the AEMC with a more detailed briefing on the current status of the ESR project and our plans for future development of this register.

3. Access for distributed energy resource – draft report section 5.3.2 –

The ASC and ESC strongly recommend that the open access regime continue to apply to the distribution networks. Please also to our specific response to Q3.

4. Connection charges for exported energy from distributed energy resources – draft report section 5.4.3 –

The ASC and ESC consider that it may be appropriate for a DNSP to charge the owner of a distributed energy resource (DER) for the proportionate use of the distribution network (or part thereof) for purpose of export of energy. This would be particularly in cases where the DER owner is able to gain a net benefit from the use of the network and where DNSP charges are reasonable and truly cost reflective.

A good example of where a DNSP charging for use of system for export of distributed energy may be appropriate would be in the case of Peer-to-Peer (P2P) energy trading. We note that NZ energy infrastructure company Vector is currently engaged in a trial of 500 residential consumer sites in Auckland. There are also P2P energy trading trials currently being conducted on a smaller scale by Australia company Power Ledger, in WA and Victoria and by Enova Community Energy in NSW. We understand that AGL and ARENA are also currently conducting a residential P2P energy trading trial in Melbourne.

It will be critical that any charges reflect real costs of the level of utilisation of network services net of any benefits that accrue to the network from the distributed energy (DE) resource. For example the average network losses of around 8% in the NEM, which are much higher in various segments of the network are generally opaque and the real costs incurred are smeared across all users. A smart and well designed DE network places supply much closer to loads and any network charging regime should account fairly and transparently for any reduction in losses.

Substantial reform is needed to the economic regulation of network to maximise the economic investment in DE for the benefit of all consumers. Many studies now show there has been historical overinvestment in network

infrastructure and future network regulation should seek to avoid this, in particular through investment in DE resources and demand response. We note the [Electricity Network Transformation Roadmap 2017-2027](#) (as developed by ENA and CSIRO) and support that view of how this might be done.

Please also refer to our response to Question 4.

5. Technical requirements and connection arrangements for Distributed Energy Resources - draft report section 6.2.

The ASC and ESC support the views expressed by Commission where it states

*“To support the efficient uptake of distributed energy resources, technical requirements for the connection of distributed energy resources should be clear, proportionate and relevant to what is being installed and how it will be operated;”*

We also support the views expressed by the [Customer Advocate](#) in its assessment of the solar PV connection framework in Queensland.

The ASC and ESC strongly support the development of a standardised approach to the technical assessment of micro-embedded generation as expressed by other stakeholders in their submissions to the AEMC’s Integration of Storage report. We also are in agreement that standardisation would offer the following advantages:

- simplify the connection process for parties operating within or across distribution areas (for example, retailers or storage system installers);
- reduce administrative burden on DNSPs;
- provide transparency in the connection process; and
- support a level playing field for the provision of storage and the services it enables.

Please also refer to our response to draft report Question 5.

### **ASC and ESC - Specific Responses to AEMC’s Draft Report Questions**

Question 2 - Do stakeholders consider that there are any 'missing markets' or 'missing prices' beyond those that will be implemented through cost-reflective network tariffs? If so, what are these?

ASC and ESC would like to draw the Commissions attention to the lack of existing cost reflective tariffs applicable to “local energy” that is generated and consumed within the distribution network.

Rutovitz et al have written a detailed Issues Paper on this subject<sup>1</sup>. We understand the AEMC has previously rejected a rule change to support local energy trading and would urge the AEMC to reconsider its approach to this vital issue for consumers and for the economic efficiency of the NEM.

Question 3 - Do stakeholders consider that an open access regime will continue to be appropriate in an environment of increasing uptake of distributed energy resources and more constraints on distribution networks? If not, what principles or considerations should be taken into account in determining whether a different access regime is more appropriate?

The ASC and ESC answer is YES. We strongly recommend that an open access regime will continue to be appropriate in an environment of increasing uptake of distributed energy resources and more constraints on distribution networks.

Question 4 – Is there support for the Commission's proposal that the deletion of clause 6.1.4 of the NER be explored?

The ASC and ESC answer is a qualified YES. We would be supportive of the modification or deletion of clause 6.1.4 to enable DNSP's to charge distribution network users for use of system for export or P2P trading of energy where there is a clearly visible net benefit to the network user and where the fee charged is truly fair and cost reflective. The ASC and ESC would be keen to engage with the AEMC and other stakeholders on this subject.

Question 6 - Do stakeholders see value in the AEMC (or other party) reviewing the technical requirements that DNSPs apply to the connection of distributed energy resources?

ASC & ESC Response – Yes we do see value in such a review. This is so particularly from the perspective of increasing transparency of the connection process and the development of a more standardised approach. Please refer to our comments on draft report section 6.2

The ASC and ESC look forward to working with the Commission and to playing our part as the Australian peak smart energy industry body in the development of a market-based approach to the optimisation of distributed energy resources.

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<sup>1</sup> Rutovitz, J, Langham, E., & Downes, J. (2014). A level playing field for local energy. Issues paper prepared for the City of Sydney. Institute for Sustainable Futures, UTS

Please contact me should you wish to discuss these matters further and to arrange any briefings or stakeholder engagement activities.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'John Grimes', written in a cursive style.

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John Grimes  
Chief Executive  
Australian Solar Council  
Energy Storage Council  
5 July 2017

## **Energy Storage Council (ESC) Location, Safety and Stewardship Registration Database**

This briefing paper provides a high level overview of the Energy Storage Council Location, Safety and Stewardship Registration Database (LRD).

### **Rationale**

Breakthroughs in technology, and economies of scale achieved through mass production of batteries used in electric vehicles, are resulting in falling prices for stationary energy storage applications.

Reduced prices, combined with a strong consumer sentiment for increased control and direct ownership of electricity assets, mean that the Australian market is poised for rapid growth in the deployment of Energy Storage Systems (ESS), using a range of well-established as well as novel chemistries and also non-chemical technologies.

Residential and commercial ESS installations in Australia do not need to be registered or tracked. As a result, there is no accurate dataset of grid-connected and off-grid ESS in Australia.

The result is that we have a major deployment of technologies that need tight oversight and management by a range of stakeholders and no suitable tools to facilitate that need.

Stakeholders need accurate and timely access to information about ESS installations for different needs and at various levels of detail:

### **Safety, Risk and Operational Management**

Emergency services first responders need to know what they will confront when attending a particular location. This is especially so with the Lithium based battery technologies which, under the Australian Transport Regulations ADR 2015 (based on UN38.3 Rev. 5 - soon Rev. 6) are classified at the highest hazard level.

Networks and systems operators (DNSPs) need to know what is located where for such activities as grid operations, planning and forecasting.

Regulators and other government entities need access to fulfill their responsibilities including market operations, growth forecasting, and whole of system regulatory oversight.

Government and manufacturers have whole-of-life stewardship responsibilities including management of product recalls and end-of life processes (e.g. recycling and disposal).

These stakeholders are currently operating in an information vacuum.

## **Standards**

While standards are being developed worldwide as a priority for this sector, in the short term there are no standards for lithium and other new chemical storage batteries which heightens the need to know what type & size of batteries are being installed, where and by whom.

Australian governments, utilities, major manufacturers and distributors of energy storage systems, and emergency services all agree that a database that tracks the location of these systems would be very beneficial.

The Energy Storage Council has held extensive briefings with a broad range of stakeholders and the universal response is that an LRD is an essential tool to track what battery technology has been deployed. Unfortunately the responses also demonstrate that each stakeholder alone does not have the scope, resources or incentive to develop a database in their own right.

## **Industry Response – Energy Storage Council Location Registration Database**

The ESC comprises Members who are reputable and leading companies in the energy storage industry committed to delivering energy storage solutions in a safe and responsible way.

The Energy Storage Council, the peak body for the energy storage industry, working with its members, have developed an industry led LDR, that can be accessed (according to privacy principles) by legitimate stakeholders to fill this information vacuum.

We have taken this action to resolve the current impasse because we see the need for a rapid implementation of the required tool not only to ensure that ESS systems are deployed and managed well, but also that we can deal effectively with the smallest possible number of legacy systems – and get them registered too.

This LDR has been developed to offer a national database that can be accessed across multiple state jurisdictions from a variety of platforms. Given the lack of a united approach and the absence of universal support for a single initiative, the ESC has taken the initiative and a 'build it and they will come' approach and will demonstrate and argue for the adoption of the LDR by all jurisdictions and stakeholders.

The ESC has committed to delivering this project to the Australian market, and also to global markets via its existing and developing relationships.

Ultimately, applications for the use of this database may include matching ESS owners and energy management solution providers, and for other purposes.

## **Database Design & Scope**

The LDR is designed to achieve a range of industry and government goals including quality assurance, risk management, and geospatial analysis.

The ESC is seeking an appropriately qualified development partner to implement a fully operated and maintained system in accordance with its specifications.

The LDR project will be tailored to meet the needs of:

- Emergency Services (fire, police, ambulance, SES) to determine whether any ESS system is at a location they have been called to attend to an emergency and get the detailed information they need in order to do their job safely.
- Manufacturers and/or importers installers, to allow them to upload product information, brochures and safety data Sheets (SDS) for their products and verify serial numbers of installed systems
- Utilities, network planners, regulators and others who need information for operational, planning and analysis purposes.

The degree of access that each stakeholder group requires will reflect Australian privacy legislation. In some cases this may mean that the information provided is aggregated, or less precise and detailed, in order to protect privacy while still making a valuable planning resource available.

The database will be designed to allow:

- Input of data
- Retrieval of data according to role based profiles

The initial of information types that need to be captured in the database are at Attachment 1.

### ***Input of Data***

There will be a control process for the input of data, including system manufacturer, system importer/distributor, system designer/installer, and end use customer.

The database will incorporate drop-down menus, predictive text and saved profiles, the ability to upload diagrams and photographs, scan barcodes, and be intuitive and easy to use, on both desktop and mobile device, and will be available via a secure web interface.

### ***Access to Data***



Once a legitimate application has been made to access the data by an authorised user, the level of access and information that can be seen will be limited by the role of the person accessing the database.

The overriding principle is that information will be anonymised to the greatest extent possible given the role of the interrogator. Role based authorisation profiles will be used to ensure integrity of privacy principles.

This is consistent with privacy principles. To illustrate, an emergency services official responding to an emergency at a premises that has an ESS installed will have much greater resolution depth of information access than a policy designer looking for uptake trends in a given suburb.

The LDR will contain details for related organisations, geospatial location information based on listed address, and a description of the installation location outlining the precise location of the ESS.

The LDR will also include technical details, design and quick connection information.

In the first instance State governments will be invited to participate as a Foundation Sponsors. Foundation Sponsors will assist us in validating the scope and function of the tool, and provide important co-funding for the development of this tool.

The total cost of the project is yet to be scoped, however Phase 1 of the project will be limited in scope and use easily developed database functionality.

If you have any further questions please don't hesitate to contact John Grimes at any time - [CEO@solar.org.au](mailto:CEO@solar.org.au) – 0400 102 396.

October 2015