

20 September 2016

Attention: COAG Energy Council Secretariat
GPO Box 9839
Canberra ACT 2601

Via email: energycouncil@industry.gov.au

ENA submission to the Energy Storage Registration Consultation Paper

Dear Secretariat,

The ENA welcomes the opportunity to make a submission to the COAG Energy Council in response to the Energy Storage Registration Consultation Paper published by the COAG Energy Council on 19 August 2016.

The Energy Networks Association is the national industry association representing the businesses operating Australia's electricity transmission and distribution and gas distribution networks. Member businesses provide energy to virtually every household and business in Australia.

The ENA wishes to provide the following feedback, supported by more detailed comments at Attachment A.

- » Energy Networks support the need for an energy storage register in Australia, which is likely to be required for a diverse range of uses including emergency response, management of any environmental risks (such as inappropriate disposal of batteries), network planning, and operations; and National Electricity Market planning and operations. It would be economically efficient for that register information to be collected in a nationally consistent format, and ideally in a single nationally accessible platform.
- » It appears that a number of issues posed in the Consultation Paper may not be able to be concluded without a more substantial cost benefit analysis developed over an appropriate timeframe. This would permit a comprehensive assessment of the proposed use cases; information field requirements; hosting options; and the relative costs of establishing the information register/s.
- » In an increasingly integrated and actively managed network, energy networks would be likely to require access to information at a more granular level than the Australian Energy Market Operator (AEMO), including information at a distribution level, storage and inverter data at meter/NMI or even phase-level.
- » Energy networks may therefore be both users of, and contributors to, a storage register, recognising that information is currently collected through connection agreements and the requirements of privacy law. Energy networks wish to assist constructively in any COAG Energy Council initiative which supports the development of transparent, accessible information on storage and other forms of Distributed Energy Resources (DER), in an efficient manner.
- » Many of the improved planning and operational functions which will be enabled by the existence of a register are likely to be equally reliant on information on other distributed energy resources, such as embedded generation, presence of electric and natural gas vehicles, load-switching or demand responses services. It would be appropriate for the review to assess how a registration system would coexist or complement broader information requirements on DERs.
- » Our members report that current information collection powers and processes in relation to distributed energy may require strengthening. For instance, some network businesses report the presence of unregistered embedded generation, which is only visible due to the export profile at the connection. As

recognised in the Consultation Paper, there is little incentive to register embedded generation due to the declining RET payments and reducing feed-in tariffs. Therefore, it would be appropriate for the review to recognise and address a broader range of DER information collection processes and to ensure there is an appropriate mechanism for enforcement and compliance.

- » It will be important that information collected in the register is treated appropriately with respect to customer's privacy. It may be necessary to develop and apply appropriate protections to maintain the confidentiality of certain information.

Please find more detailed general responses to the consultation paper at Attachment A and responses to the specific consultation questions below at Attachment B. If further information is sought on this matter, please contact Ms Kate Healey, Director Regulation, on 02 6272 1516 or by email on khealey@ena.asn.au.

Yours sincerely,



John Bradley

Chief Executive Officer

ENA Response

Current Situation

Distributed energy resources (DER) related locational knowledge is already being utilised by some DNSPs to evaluate the potential implementation of non-network alternatives in managing network constraints thus deferring network augmentation and enabling safe, reliable and cost effective energy supply for customers. Indeed, some DNSPs are already establishing databases on the location and characteristics of network-connected DER. Victorian DNSPs have an obligation to maintain and DEG register, this information is being collected at the time of new connections and connection alterations.

Collection of Data

The ENA believes an effective way to collect energy storage registration data could be collected at the time of installation of the storage device and provided to a central register, similar to the current situation whereby solar photovoltaic panels are registered by the Clean Energy Regulator (CER). Ideally this would be done via some form of mobile application(app).

It should be noted that the CER register is by postcode and does not allow mapping back to DNSP zone substation connectivity and hence without additional information, clear addressing matches or NMI level information as a key, current CER data would be harder to use for network planning.

COAG should consider whether the NER connections framework is going to be used for the registration of distributed energy generation (DEG) for new connections and connection alteration once contestable metering commences. If DNSPs collected data and provided to an AEMO centralised database, then the NER rights of access and confidentiality and privacy of data would apply. This should also result in AEMO electricity planning being able to access this data and also improve the accuracy/make available additional data for the benefit of all.

Additional Potential Questions

Based on the experience of energy networks, ENA recommends that the questions and options posed by the Consultation Paper on which information fields to collect and who to hold such an information should be informed by detailed consideration of:

1. What are the exact intended uses of such a register?
2. What would be the ongoing cost benefit of different host options?
3. What data collection powers currently exist or need to be provided to ensure compliance with registration requirements?
4. Who will have access to the register and what extent or level of data will be available to particular 'users'?

Future-Proofing the Register

Work undertaken by ENA and the CSIRO through the Electricity Network Transformation Roadmap (ENTR) is showing that such information will be vital to enabling future energy markets, including the potential evolution of Distributed Service Organisations (DSOs) which will be involved in performance monitoring of such DERs

Intended Use of the Register

Consideration of what information each of these users' needs to undertake their activities will inform which information fields to collect. Emergency services may only require relatively basic knowledge of which premises have a storage device and the battery type. AEMO may only require limited information on capacity and types of energy storage systems located on an aggregated and locational level. DNSPs will likely require more granular data. In an increasingly integrated network that is subject to dynamic management, distribution system operation may require detailed, feeder-specific information, phase level, NMI location such as installer details and trip settings. However, it is not yet possible to definitively identify the future information requirements for network operation as energy markets and the supporting regulatory environment continues to evolve.

It is also possible that the data collected in the register could be valuable (from a broader commercial or business development perspective) to parties other than the electricity network companies. Clearly therefore, apart from privacy rules being established and observed, clear agreement must be reached in regard to who can access the register; to what level of information; and agreement on how the data can be used.

Leverage off Similar databases

ENA recommends the COAG EC undertake a thorough identification and review of what databases of DER or similar information already exist, prior to determining the format and host of a new energy storage register. Some energy networks are already establishing DER information systems, which inform distribution system operations at a feeder level and phase level.

The ENA notes that the Australian Energy Storage Alliance collects details of commercial and utility scale energy storage projects in Australia and New Zealand, listing details such as technology, location, ownership, and status. They and the Australian Storage Council are creating storage registers which may provide a substantial base for the information register proposed in the Consultation Paper.

Leverage of existing databases and their data collection and maintenance protocols could reduce the additional cost to customers and other stakeholders of such a register. At a minimum, DNSP obligations regarding DEG additions on a competitive metering environment under Chapter 5A of the National Electricity Rules (NER) need to be clarified.

Cost Benefit analysis

ENA recommends the COAG EC undertake a thorough analysis of the costs and benefits of each viable potential option, when considering what information to collect, who collects it and who hosts the register.

The costs and benefits of which information fields to collect will be specific to each user of the information. The added complexity of collection, hosting, maintenance and access of information may also contribute to the final cost of electricity to network customers.

ENA considers that a detailed cost benefit analysis is required to inform our consideration of which information fields are 'must haves' and which are 'nice to haves'.

Data collection powers

ENA recommends that further consideration be given to the adequacy of existing information collection powers or incentives for owners or installers of energy storage systems to register new or upgraded systems with a formal registry. Existing data collection powers, such as those available under connection agreements, are not providing sufficient clarity as to the DER connected to distribution networks.

This may undermine the ability of network service providers to plan and operate the network to provide best value to network users. It may also hinder the future ability to maximize use of non-network solutions, which can help to avoid network augmentation.

Analysis of meter data (both digital and analogue) by several DNSPs is indicating that:

- » in some areas up to 50 per cent of batteries connected to the distribution network may not be being registered with the DNSP; and
- » in some networks over 5000 distributed generation facilities (presumably rooftop solar PV units) appear to be connected, but not registered with the DNSP, and are only 'visible' due to the export energy profile at the connection point.

Anecdotal evidence shows that as feed-in tariffs reduce, registration of installed household DER is decreasing, despite apparent continued or increased sales of DER to new customers and sustained proactive engagement with installation companies by some DNSPs.

Similarly there may be opportunities to influence DER standards so that this information can be polled and captured remotely.

Consultation questions	ENA response
2.1 Why a register is needed	
<i>Do stakeholders agree an energy storage register is needed in Australia</i>	» Yes, ENA agrees that an energy storage register is needed in Australia.
<i>Are there any other reasons energy storage data should be collected?</i>	» Energy storage data is essential for networks to plan and manage the distribution network.
<i>Given large-scale energy storage systems are now required to be registered as a Generator under NER, should a register be established for distributed energy storage (less than 5 MW generating capacity)?</i>	<ul style="list-style-type: none"> » Yes. It is noteworthy if there is a mass take-up of small-scale energy storage systems, collectively they will have a very significant impact on the distribution network and even potentially the transmission network. Both energy networks and AEMO will require access to this data to safely and reliably plan for and manage electricity networks. » Penetration of small scale DEG operated in a centralised switching manner may also impact network operations. » It will be important to ensure that privacy protection measures are put in place.
<i>Do stakeholders agree the Victorian Case Study is an effective framework for storage emergency response?</i>	<ul style="list-style-type: none"> » Yes, the ENA agrees that the Victorian case study is an effective framework for storage emergency response. » The ENA believes other studies on other regions should also be considered.
2.2 Data and access	
<i>Given the needs of AEMO, emergency response and other potential users, what is the “must have” data which should be collected? What are the likely costs of this data and do the impacts outweigh benefits?</i>	» The ENA agrees with AEMO that “must have” data should include: installation details and technical specifications, such as postcode, NMI, demand side participation contract, capacity (continuous kW and storage kWh), manufacturer, make, model number, whether the inverter is in addition to solar inverter capacity at site, and trip settings (frequency and voltage). Installation date and technology may also be relevant to understanding performance over time. Seemingly obvious details such as customer name, phone number, mobile phone number and an email address should also be collected. This data could be collected when the energy storage device is installed, so should not add significantly to the installation costs. There would, of course, be the costs of establishing and maintaining the register itself. ENA suggests that the COAG Energy Council Energy Market Transformation Project Team approach the managers of other similar registers, e.g. the Clean Energy Regulator, to inquire about the costs of establishing and maintaining a register.

Consultation questions	ENA response
<i>What is the “nice to have” data, and does the cost of this additional data collection merit its collection?</i>	» The ENA believes that the benefits of collecting “nice to have” data should be assessed in order to ensure they outweigh the costs/burdens associated with collecting it.
<i>How would data be collected and provided to a central register?</i>	» Data could be collected at the time of installation of the storage device and provided to a central register, similar to the current situation whereby solar photovoltaic panels are registered by the Clean Energy Regulator.
<i>What arrangements and requirements should be put in place to ensure data is collected and supplied in a timely manner?</i>	» As there would be no financial incentive to register the storage device, it would likely be necessary to mandate the provision of this information through the development of an industry standard or through the customer’s connection agreement.
<i>Could a national register be linked to other databases e.g. data collected by distribution businesses? Are there other databases which should be considered?</i>	» A national register could potentially be linked to other databases, e.g. those collected by distribution businesses. It would be important to have identical data collected by distributors so there is not varying information submitted to a national database. Other databases would also include the Clean Energy Regulator’s database for the registration of solar photovoltaic panels. There has also been recent discussion between distribution businesses and the AER about the potential establishment of a life-support customer register, which could potentially be managed by the AEMO.
<i>Beyond AEMO and emergency response providers, what other parties should be able to access the data register and on what grounds? Are there particular conditions which should apply to these users?</i>	<ul style="list-style-type: none"> » Distribution businesses would need to access the register in order to plan their network investment and to manage the network in collaboration with AEMO. » As noted above, privacy protection is important and it would be necessary to ensure parties with a legitimate need to access the data can do so and that the data is not held proprietarily.
2.3 How the register should be set up	
<i>Do stakeholders agree with setting up a register led by a national body? Are there any other key benefits or concerns that the Energy Council should be aware of for this approach?</i>	» Yes, ENA agrees with setting up a register led by a national body. Energy networks need access to the register. Also the register needs to be maintained and regularly updated for accuracy when a battery is replaced or additional storage is added.

Consultation questions	ENA response
<i>Can CER, AEMO or a new register be a feasible option? If yes, how can the barriers or challenges discussed be overcome?</i>	» Yes, the Clean Energy Regulator, AEMO or a new register are all potentially feasible options. There would need to be a mechanism to ensure that the register is updated when batteries are replaced. Introduce an extended producer responsibility requirement for dealing with old batteries.
<i>Are there other organisations suitable to host a national energy storage register?</i>	» The Clean Energy Council, the Australian Energy Storage Council could potentially be appropriate. The UK has established the Data Communications Company (DCC) as a centralised, regulated provider of metering data. Australia could consider establishing an organisation like this to host a national energy storage register.
<i>What are stakeholders' views on maintaining information on distributed solar after the scheduled decline in SRES incentives for solar installations from 2017?</i>	» It is important for this information to continue to be reliably updated in the future, as it will likely provide long term research and planning benefits. This could be mandated to replace the current financial incentive to register, when it expires. The Clean Energy Regulator could continue to perform this role. It may be effective to have the same body manage the data for both solar PV and battery storage.
2.3.2 A register led by an industry body	
<i>Is an industry-led register a feasible option? Who can lead this register?</i>	» An industry-led register may be a feasible option. The Australian Energy Storage Council or possibly the Energy Networks Association could fulfil this role.
<i>Are there examples of industry-led initiatives or industry operated schemes that are underpinned by a regulatory framework / minimum regulatory requirements?</i>	» Industry developed safety and technical standards which are referred to in legislation and licenses provide an example of the type of approach.
<i>What are the other benefits and challenges of an industry-led approach?</i>	<p>» The challenge the industry faces in setting a register energy storage system is that it is voluntary. In Victoria, the Electricity Distribution Code requires distributors to maintain a record of all embedded generators. Distributors are able to determine whether there is an embedded generator at a supply connection point by monitoring if there is any electricity export to the grid. But there is no way of knowing whether the embedded generator is operated in parallel with a battery storage system. If there were similar requirement on customers to register battery storage systems, it would be difficult to enforce.</p> <p>» The benefit under an industry-led approach it would be necessary to ensure all parties with a legitimate need to access the data could do so and that the data is not held proprietarily. The data would also need to be regularly updated.</p> <p>» As noted above, privacy protection is important.</p>

Consultation questions	ENA response
2.3.3 State-based registers	
<i>Is a state-based energy storage register a feasible option?</i>	» ENA does not believe a state-based storage register to be a feasible option. It would be important to avoid duplicative and possibly different databases in each jurisdiction which then need to be compiled and standardized for providers of data or users of data across jurisdictions.
<i>Are there other organisations (apart from electrical safety regulators) that can host this register?</i>	» No other than those identified above.
3.2 State and Territory Laws and Regulations	
<i>Are there opportunities to leverage data collection under other frameworks into a national register?</i>	» Other opportunities to leverage data collection may include CSIRO's Energy Use Data Model when it is operational. Information already collected by electricity distribution companies could also be compiled for a national register. An updated register of life support customers would also be of use to the industry and emergency service providers.
<i>Should relevant jurisdictional licensing frameworks be reviewed and amended to require registration of energy storage devices? Are there other alternatives?</i>	» Yes, this is one possible option. Alternately, the COAG Energy Council Energy Market Transformation Project Team may consider that it is necessary to mandate the provision of this information through the development of an industry standard or through the customer's connection agreement.
<i>It is understood that off-grid distributed generation, including energy storage, is not currently captured under both national and state/territory registration frameworks. Should consideration be given to registration of off-grid storage systems for emergency purposes or other uses?</i>	» Yes, this information would still be required by emergency services personnel and in the case of micro-grids this information would be required by the micro-grid operator.