



Electrical Trades Union of Australia

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SUBMISSION

COAG Energy Council

**Energy Storage Registration
Consultation Paper**

September 2016



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The Electrical Trades Union (ETU) is the Electrical, Energy and Services Division of the Communications, Electrical, Electronic, Energy, Information, Postal, Plumbing and Allied Services Union of Australia (CEPU). The ETU represents approximately 65,000 workers electrical and electronics workers around the country and the CEPU as a whole represents approximately 100,000 workers nationally, making us one of the largest trade unions in Australia and a key stakeholder in the energy industry.

We welcome the opportunity to submit to the Council of Australian Governments (COAG) Energy Council in relation to the potential registration of energy storage assets under 5 MW generating capacity. This submission builds on ETU representations and feedback provided to the Energy Market Transformation Project Team at the 6 September 2016 Stakeholder Workshop.

There is no doubt that Australian electricity markets are entering a period of evolution from the traditional status quo of centralised electricity supply and how transmission and distribution networks are being utilised. This change is being driven by a confluence of factors that include new and developing technologies and increasing customer control over how, when and how much consumers use electricity – all within the context of ever increasing power prices.

The impact of cost-effective electricity storage on networks and the broader power industry will be transformative. Battery storage technologies are continuing to develop at a fast rate and become increasingly commercially viable for both consumers and business alongside ever increasing demand for clean and low emission electricity as part of efforts to de-carbonise the energy sector.

In the residential market, solar systems with batteries are particularly attractive in markets with the high retail prices and all of Australia's residential power markets fall into that category. In time, every solar system installed will have storage, which will act as a backup generator for the home. Then residential and small commercial



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customers' ability to sell excess electricity back to the grid will be less significant because they will elect to store power for peak times.

In our view the development of energy storage technologies will be critical to reducing emissions by driving increased deployment of renewable technologies for consumers and network businesses in the future. We recommend that strong policy frameworks that encourage the rapid deployment of commercially viable energy storage technologies form a critical part of any strategy to reduce national emissions. The implementation details of any such policy should recognise that energy storage technologies require appropriately qualified professions to install and maintain.

At the outset we would like to put on the record that the issues contained in this consultation paper, and those of the two other consultations papers on stand-alone systems and consumer protection, require detailed consideration and analysis of technical matters. The 4-6 week consultation period that has been allowed is manifestly inadequate and does not allow for proper stakeholder input, particularly from a small, not for profit membership based organisation such as ours.

In this submission, we recommend that:

- No energy storage register be established until all privacy implications are understood;
- Any potential register be exclusively for emergency services operational purposes only, and accessible only by emergency services personnel;
- More consultation with emergency service providers be undertaken;
- It is wholly inappropriate for industry to host any potential register; and
- Storage devices only be installed by licenced electricians.

In the following sections of this submission, the questions posed by the consultation paper are marked in italics, followed by the response without italic font.



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Is there a need for an Energy Storage Register?

Do stakeholders agree an energy storage register is needed in Australia?

Are there any other reasons energy storage data should be collected?

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)?

We are not yet fully convinced that that an energy storage register is required or that in the event it did exist, that it would deliver the desired benefits. Further, even if the sought benefits were realised, they would fail to outweigh the significant costs and resources that would be required to establish and maintain the register.

We do not accept the cases put forward in consultation paper around emergency management response, which is discussed in more detail later in this submission, and we do not believe that a proper analysis of the advantages and disadvantages can be conducted without inclusion of the issues around privacy. The consultation paper excludes a detailed examination of the issues around privacy and on that basis alone there is a compelling reason to conclude that the case for establishing a storage register has not been made. This issue is also discussed in more detail later in the submission.

This leaves the question of network and energy market operations and management as a reason for creating a storage register.

One proposition for the establishment of a storage register is that there must be learnings from the roll out of solar PV systems, which were left 'unchecked' as far as some TNSPs and market operators were concerned and which lead to instances of network instability due to the intermittent nature, to date, of solar PV. While there is



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undoubtable truth to this, it is not the whole story. Instability issues were able to be effectively addressed through requiring distribution businesses to sign off on a PV installation prior to it being connected to the grid, this drove a more proactive and strategic approach to managing solar PV density in any given area. There is no reason why a similar approach to small scale energy storage could not be adopted.

Additionally, when considering an energy storage register within the context of network operation and learnings from the uptake of household solar PV, the fact that household energy storage is the solution to the very issue of PV driven network instability cannot be ignored. It seems perverse to apply the symptoms of the problem as a barrier to the solution.

The case for establishing a storage register on the basis of improved system management is further diluted when the usage data associated with the increased roll out of digital interval, or 'smart' meters is considered. These meters will provide most, if not all, of the information that system operators require to improve network management. Behind the meter activities such as when energy is stored and generated is moot when the meter that connects the household to the network provides usage information of the type sought by operators who are advocating for the establishment of a storage register.

Internationally, research to date indicates that no other country or jurisdiction is currently contemplating establishing an energy storage register as put forward by the consultation paper. When other first world countries such as the United States, the United Kingdom and other European nations, many of whom have much higher levels of renewable deployment than Australia, are not contemplating establishing a storage register. Given many of these countries operate within energy markets that are substantially more complicated from a market operations perspective than the NEM, it raises serious questions about the need to establish a storage register in Australia.



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Energy Storage and Emergency Response

Do stakeholders agree the Victorian Case Study is an effective framework for storage emergency response?

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?

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?

While we accept the emergency response rationale as a compelling reason to establish a national energy storage register, we only do so on the basis that the register would be for that sole reason and therefore only held and accessed by emergency service agencies that would send frontline staff to attend incidents. We do not support the establishment of a register for any scope outside of safety operations, as is suggested by the consultation paper. Nor do we believe that the Victorian Case Study, or indeed any other single case study or liaison, constitutes reasonable consultation in assessing the establishment of a potentially nationwide energy storage register. Simply consulting with one state is not enough. Indeed, the consultation paper does not contain the required level of detail for the single case study contained therein.

Nationally, there already exists a robust regulatory and legal framework for the storage and transport of goods and materials that are considered dangerous or potentially dangerous. These laws and regulations already provide a clear and practical framework for emergency services and general public safety.

The consultation paper does make a clear case for why household energy storage is such a special case that it justifies its own additional measures, such as a register.



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To illustrate this point, LPG gas cylinders are commonplace throughout our communities yet they have no national register. Their use and maintenance is subjected to our existing safety frameworks.

Indeed, more on point, fully or hybrid electric vehicles have been in use on our roads for some years now. They are not required to be registered with respect to energy storage (obviously they are road registered) and these vehicles are subject to the normal vehicle risks such as high speed impacts and accidents. Emergency crews have been responding to these accidents effectively without the assistance of any kind of register. Of course, this is a moot point currently given vehicles are mobile, but will still hold true should vehicle batteries act as household energy storage units that are plugged into networks into the future.

Similarly, homes and communities are already littered with battery devices such as mobile phones, laptops and tablets. Many of these devices have batteries that contain similar technologies to those that would or could be deployed in household energy storage, yet they go unregistered and unchecked. In fact, many of older devices that or still in use would contain older, less reliable and therefore less safe battery technology than what would be used for household storage.

The reality is that emergency services workers can face a wide array of potentially dangerous items and substances in a household emergency situation, such as fire or storm damage. These items can range from, paints and aerosols through to other combustible gases and electrical items and components.

One of the questions posed by the consultation paper admits that off grid distribution and energy storage is already in existence and either there have been no instances of emergency crews needing special arrangements for these assets and infrastructure, or there are and they do not include the need for a register.



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One very good point that was raised at the stakeholder workshop was that of ubiquity. If the current deployment of solar PV uptake is used as a starting baseline for the expected uptake of household energy storage – and given that solar deployment is continuing to grow this would be a very conservative approach – there would only be a short transitional window of time before household energy storage would be so ubiquitous that the presumption would be that storage is likely to be present. Given the time required to establish a storage register properly and collect enough data so as to be of use, it is more than likely that the transitional window would have already passed, thus rendering any register largely redundant.

Data Collection and Privacy

What is the “nice to have” data, and does the cost of this additional data collection merit its collection?

How would data be collected and provided to a central register?

What arrangements and requirements should be put in place to ensure data is collected and supplied in a timely manner?

Could a national register be linked to other databases e.g. data collected by distribution businesses? Are there other databases which should be considered?

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?

Data privacy and the details of exactly what data is collected, how it is stored and whom or what may access the data is of paramount importance.

Ensuring privacy is protected and maintained is particularly essential. If consumer privacy cannot be assured to a reasonable standard then that alone would be grounds to refrain from establishing an energy storage register.



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Unfortunately, the consultation paper makes specific mention of the fact that it did not include privacy. Without proper discussion and consultation on privacy and how it would be affected by any potential register, any efforts to establish a storage register are premature.

The consultation paper questions pose questions that go to what data is essential and what data would simply be desirable. In our view the only essential data that is the location and type of the energy storage device to be used only by emergency service workers, to be accessed in the course of discharging operational duties. No other data is essential, and no other data should be collected.

Non-essential, or desirable information, such as who owns the device, how it is used, how much energy is stored and when it is charging or discharging should not be collected or stored as part of any potential register.

Apart from potential fundamental privacy breaches, this type of information has the potential to be too easily used, or abused, in ways for which it was not intended that would be to consumer detriment. For example, if retailers were able to access detailed information on usage they could use that information to design tariff structures in their market contracts and products to maximise profits. Time of Use tariffs are a prime candidate for this kind of manipulation. Unscrupulous operators would be particularly incentivised to do this to try and recoup lost revenue due to consumers being able to store their own generated energy.

In terms of how data could be collected, there was some discussion at the stakeholder workshop around placing a requirement on electrical contractors performing installation to inform the administrators of any potential register. This has the potential to be feasible, as does requiring retailers of energy storage systems to report data to a register. Both these options would place additional regulation and burden on the installer or energy storage retailers who would in effect be absorbing a significant of the cost associated with the register.



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As previously stated, we are of the view that the only acceptable register would be limited solely to emergency service purposes and access and only contain the bare minimum information required for safety purposes. Therefore, we do not support collection and access of data in a potential register by AEMO or any other NEM participant or regulator such as generators, transmission and distribution companies or retailers.

Jurisdiction and Management

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?

Can CER, AEMO or a new register be a feasible option? If yes, how can the barriers or challenges discussed be overcome?

Are there other organisations suitable to host a national energy storage register?

What are stakeholders' views on maintaining information on distributed solar after the scheduled decline in SRES incentives for solar installations from 2017?

Is an industry-led register a feasible option? Who can lead this register?

Are there examples of industry-led initiatives or industry operated schemes that are underpinned by a regulatory framework / minimum regulatory requirements?

What are the other benefits and challenges of an industry-led approach?

Is a state-based energy storage register a feasible option?

Are there other organisations (apart from electrical safety regulators) that can host this register?

At this stage, and in the absence of further information – particularly in relation to privacy, we do not support the establishment of a national register for anything other than emergency services purposes.



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We give qualified support for the establishment of state and territory based registers that hold the minimum information required for the sole purpose of ensuring safe emergency management operations for frontline staff and that are for the exclusive administration and access of emergency services agencies.

We strenuously object to any industry led or based register as the potential for misuse of data and privacy breaches are too great, as previously expressed in this submission. There are no real benefits for consumers associated with an industry led approach.