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Tuesday, 20 September 2016

COAG Energy Council Secretariat
GPO Box 9839
Canberra ACT 2601
Lodged Electronically

Dear COAG Energy Council Secretariat,

RE: Energy Storage Registration Consultation Paper

The Clean Energy Council (CEC) is the peak body for the clean energy industry in Australia. We represent and work with hundreds of leading businesses operating in solar, wind, energy efficiency, hydro, bioenergy, energy storage, geothermal and marine technologies, along with more than 4,000 solar installers. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

The CEC welcomes the opportunity to make a submission to the COAG Energy Council Energy Storage Registration Consultation Paper.

The CEC welcomes the establishment of a battery storage register. However, the design and implementation of the register must be carefully considered to ensure it delivers value for the range of stakeholders and institutions focused on battery storage, while being practical and not overly burdensome.

Further, it is important that creation of a register either complements or is undertaken in parallel with addressing the most pressing regulatory issue for the development of this exciting technology in Australia – ensuring high safety and quality standards for consumers.

The installation of small-scale solar power systems under the Renewable Energy Target legislation has been a unique case study that has highlighted the value of having a robust accreditation scheme for the designers and installers of these systems. This accreditation regime ensures that systems can only be installed by competent installers, using products that meet a minimum quality standard.

As with any new technology, issues can and do arise that could not be previously considered or foreseen. The accreditation scheme has ensured that the industry is able to quickly identify these issues and put in place additional requirements and procedures to address them.

The CEC has completed a series of critical building blocks that will help to underpin the safety and quality of battery storage systems. We have developed an accreditation and enforcement regime for the installers and designers of battery storage systems that will ensure consistently high levels of technical competency for the installation of these systems. This scheme includes a continuous professional development program, compliance processes and a consumer complaint handling regime.

In addition to the accreditation scheme, the CEC has released highly detailed battery installation guidelines that will become mandatory from 1 October 2016 for the installation of every storage system completed by an accredited solar installer with an accompanying Battery Endorsement qualification.

However, there is currently no requirement for a consumer to use an accredited installer and designer for the installation of a battery storage device. In some cases, it is not even necessary to use a qualified electrician.

This is an issue that should be of significant concern. Battery storage systems are highly complex and can pose substantial risk if not installed by a competent person to a satisfactory standard. This needs be urgently addressed before battery storage begins to roll out at scale and consumer safety is put at risk.

A robust accreditation regime, such as that administered by the Clean Energy Council, can ensure that consumers are protected and that high standards of safety and quality are upheld across the industry.

There is an increasingly urgent need for state governments to assist and establish a regulatory regime that can be appropriately enforced for the sake of the safety of all consumers and the future of the battery storage industry.

The CEC has a preference for a nationally-consistent approach that requires consumers to use a suitably qualified installer, and a robust regime for ensuring that installers are competent and verified, as the CEC has administered for many years in the solar industry. Such a scheme should also include a clear continuous professional development program, complaint handling and compliance regime, which ensure poor behaviours or incompetence is dealt with swiftly and consumers are ultimately protected.

Such a regime could complement the battery storage tracking system that is currently being considered by the COAG Energy Council. Such an approach is welcome and can help further improve safety and quality of systems installed around Australia, but further reform is more immediately necessary to ensure systems are being installed by competent installers to an accepted standard.

In respect to the development of the battery storage register there are two key points made in this submission:

Accredited battery storage installers are best positioned to coordinate the capture of necessary information into the register. We believe all battery storage systems should only be installed by an accredited battery storage installer, with a requirement to capture and record key information into a central registry being an obvious requirement of the installation process.

Management and hosting of a battery storage register should only be undertaken by an entity with sufficient sophistication in real-time information systems, data management and compliance. We believe a government agency such as the Clean Energy Regulator could play this role capably given the relevance to its current role.

The CEC's understanding is that there is currently no requirement to register energy storage systems. We believe the requirement for energy storage system registration is crucial for emergency services risk management, appropriate product recall procedures and product stewardship.

Sincerely,

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1. Registration: Is there a need for establishing a register? Why?

The CEC believe the continued growth in the uptake of small-scale energy storage systems (1 kWh – 200 kWh) in domestic and small commercial installations will require better monitoring of the technologies involved and their deployment. Energy storage represents possible electrical, chemical and environmental hazards and there would be many advantages in establishing a register that records the chemistry, capacity and location of installed batteries.

An energy storage tracking and registration system would be beneficial to a number of organizations such as:

- ***State Electrical Regulators****: Identify issues of electrical safety with equipment or installation practices, recalls etc.*
- ***State Emergency Services****: Understanding site-specific risks associated with the location of battery storage technologies and capacities. Through the creation of the tracking database, further data could be accessed in the event of a fire such as the battery MSDS and fire-fighting guidelines specific to the battery type.*
- ***Electrical Distribution Companies****: Identify grid infrastructure requirements and gauge the effects on, and opportunities from, networks due to growing storage solutions.*
- ***Recycling / Recovery industry****: Cradle-to-grave tracking of batteries, tailored solutions for various technology types.*
- ***Relevant Industry Bodies****: Gathering of battery deployment information for use in reports, information documents, etc.*
- ***Installation companies/Owners****: Ensure owners or installation companies would be aware of any product recalls.*

CSIRO storage safety performance study recommendation

The need for energy storage registrations was a key recommendation of the CSIRO Storage safety performance study commissioned by the CEC in 2015. This states:

Key Recommendation No.5: Establish a set of best practices specific to the battery storage industry, including development and upkeep of an installation, maintenance and incident

reporting database for energy storage systems in Australia.[1]

The report includes more detail:

Section 2.6.1 Recommendation for records of energy storage. The Australian domestic and small commercial battery storage industry is an emerging market, and there appears to be no common framework or best practice. Therefore, it is recommended that the battery storage (and solar PV) industry develop a best-practice initiative for their industry, to report energy storage installations and incidents.[2]

The report recommends that a recording process or database be put in place to allow:

- *Identification of the geographical locations where battery energy storage has been installed and their relevant systems parameters (e.g. chemistry type, system initial capacity in kWh, manufacturer model and serial numbers)*

A potential process for reporting incidents may be implemented through the accredited installer. As consumers report to their accredited installer, the installer would report to a recognised industry body.

This report, commissioned by the CEC, was produced with funding support from Australian Renewable Energy Agency (ARENA) and released on 13 November 2015. The CEC concurs with all the recommendations above and agrees with CSIRO's advice that the register should be government-regulated and not a voluntary industry initiative.[3]

The CSIRO report also recommended that the register could be used for system maintenance and system incident reporting. Currently the CEC does not see this as a priority but it could be a potential expanded use of the register in the future.

Emergency services risk management

The different risks and hazards associated with energy storage system pose a risk to first responders in the emergency services. Due to the different energy storage system chemistries the appropriate methods of response varies. Therefore it is invaluable for

[1], Key recommendation 5 of CSIRO, 'Storage safety performance study', available online at http://www.cleanenergycouncil.org.au/fpdi/reports/storage-safety-study.html

[2] Section 2.6.1 of CSIRO, 'Storage safety performance study', available online at http://www.cleanenergycouncil.org.au/fpdi/reports/storage-safety-study.html

[3] Ibid, 2.6.1

emergency services to have access to an accurate and up-to-date register of energy storage system details.

Product recall

A significant benefit of registering energy storage installations is if there is a product recall issued. Following a recall, only 39% of the recalled products are returned or actioned. In the case of an energy storage system, there is a significant risk to the community if product was recalled but left in service.[4]

The CEC endorses the findings of Dr Penelope Crossley, from the Sydney Law School, University of Sydney as follows:

Batteries have been the subject of a number of international recalls in recent years, with problems including electrical malfunction, fire risk, the risk of electric shocks and battery leakage. Historically, product recalls in Australia have had limited effectiveness, with only 39% of products recalled by the ACCC being returned. However, where a product poses a risk of injury to a consumer, a quality that arguably many of the previous product recalls affecting batteries possess, the Minister has the power to order a compulsory recall. [5]

End of life

The CEC feels registration of energy storage systems for end-of-life processing is vital. Inappropriate disposal of energy storage systems could lead to serious environmental and health hazards. Further, the Federal Product Stewardship Act effective from 30 June 2016 states:

Many battery types contain hazardous substances. If end-of-life batteries are not managed effectively, they have the potential to harm the environment and human beings. It has been estimated that only 5% of the end-of-life batteries produced every year are recycled.

Large storage batteries such as those used in electric vehicles and for stationary energy storage are becoming increasingly common. A significant increase is expected in the number of these batteries entering the waste stream in coming years.

[4] Australian Competition & Consumer Commission, Commonwealth, 'Review of the Australian Product Safety Recall System (2010)

[5] Australian Competition & Consumer Commission, Commonwealth, 'Review of the Australian Product Safety Recall System (2010)

Lead acid batteries are already subject to an effective recycling process.[6]

The CEC, together with Australian Battery Recycling Initiative (ABRI), is committed to energy storage system stewardship. Together we are holding two battery workshop and training sessions in 2016 on responsible recycling, transport and warehousing of lithium batteries.

2. Data

a) What are the data requirements?

The CEC endorses the data requirement recommendation as set out by the CSIRO storage safety performance study below (as previously stated above):

- *identification of the geographical locations where battery energy storage has been installed and their relevant systems parameters (e.g. chemistry type, system initial capacity in kWh, manufacturer model and serial numbers)*

b) How will the data be collected to ensure accuracy?

The CEC has an accreditation program in place with a proven track record of ensuring the integrity of the solar industry. This scheme has set a benchmark for the installation of new technologies. The accreditation program includes:

- competency in nationally-accredited training modules
- continuous professional development
- the requirement to submit a case study
- compliance procedures e.g. demerit points, suspension and cancellation
- sharing of best practice procedures.

We believe that an installer and designer accreditation program for battery storage is the best measure to ensure that high quality and accurate information on energy storage installations can be captured on an ongoing basis. Such a program could easily place a requirement for capturing the desired information on the installer, with safeguards to ensure accuracy as in the solar industry. This could go beyond electrical characteristics to capture installation location and other specific information needed for use by the emergency services.

[6] National waste policy product stewardship legislation https://www.environment.gov.au/protection/national-waste-policy/product-stewardship/legislation/product-list-2016-17

The CEC believes the battery storage accreditation program should be a mandatory requirement. The solar scheme's track record supports the success of such an arrangement.

We welcome further discussions with the COAG Energy Council on this matter (see attached submission to the COAG Energy Council for suggestions on how this can be accurately collected[7]).

c) Who should have access to the data?

The registration system will be beneficial for a variety of stakeholders, as outlined in Q1. As a minimum the government bodies associated with safety should have access to this data. Due to the sensitive nature of the data, full access should be restricted to a government agency.

Subsets of this data for wider community benefits may be shared with different organisations provided the privacy issues are upheld.

Reporting of key data statistics could be beneficial to a range of stakeholders including industry bodies, researchers and electrical distribution companies.

3. Who should administer the register? Why?

There is concern in the industry about the data this register will capture. The private information captured and held through energy storage system registration comes with inherent privacy risks. A nationally-consistent approach accessible via a national register is preferred.

The registration system would need to be centralised and operated with a sufficient level of sophistication. The CEC expects that this would be best placed with a government authority with the capabilities for real-time and secure data IT systems. The most viable party would be the CER but other options to consider include the AER or AEMO.

The CEC strongly supports a national energy storage register be held by a government body. In absence of this being the view of government, the CEC as the peak body for the clean energy industry as well as holding the responsibility for administering the accreditation scheme for solar installers means we have the skills and ability to develop and maintain a register within our existing accreditation scheme.

While we would consider collecting and holding the data as an interim measure (for all the

[7] CEC appendix – Battery tracking

reasons mentioned in this submission) it is our view that such a register be managed by government rather than industry controlled.[8]

As outlined in Q2C consumer privacy must be considered. Due to the sensitive nature of the data the CEC feels it would be inappropriate for this to be administered by a private organisation.

Appendices

The CEC has been working on battery storage tracking and registration for some time. Please find attached the discussion paper taken to the COAG Energy Council in January 2016, which outlines how battery storage accreditation can be successfully implemented.

[8] CSIRO, 'Storage safety performance study', available online at http://www.cleanenergycouncil.org.au/fpdi/reports/storage-safety-study.html