Justice and Equity Centre

Technical standards for CER interoperability consultation paper

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About the Justice and Equity Centre

The Justice and Equity Centre is a leading, independent law and policy centre. Established in 1982 as the Public Interest Advocacy Centre (PIAC), we work with people and communities who are marginalised and facing disadvantage.

The Centre tackles injustice and inequality through:

- legal advice and representation, specialising in test cases and strategic casework;
- research, analysis and policy development; and
- advocacy for systems change to deliver social justice.

Energy and Water Justice

Our Energy and Water Justice work improves regulation and policy so all people can access the sustainable, dependable and affordable energy and water they need. We ensure consumer protections improve equity and limit disadvantage and support communities to play a meaningful role in decision-making. We help to accelerate a transition away from fossil fuels that also improves outcomes for people. We work collaboratively with community and consumer groups across the country, and our work receives input from a community-based reference group whose members include:

- Affiliated Residential Park Residents Association NSW;
- Anglicare;
- Combined Pensioners and Superannuants Association of NSW;
- Energy and Water Ombudsman NSW;
- Ethnic Communities Council NSW;
- Financial Counsellors Association of NSW;
- NSW Council of Social Service;
- Physical Disability Council of NSW;
- St Vincent de Paul Society of NSW;
- Salvation Army;
- Tenants Union NSW; and
- The Sydney Alliance.

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The Justice and Equity Centre office is located on the land of the Gadigal of the Eora Nation.

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Acronyms list

Acronym	Full name
CER	Consumer Energy Resources
DRM0	Demand Response Mode 0
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment
EWCAP	Energy and Water Consumers' Advocacy Program
MSP	Metering Service Provider

1. Introduction

The Justice and Equity Centre (JEC) welcomes the opportunity to respond to the Commonwealth Department of Climate Change, Energy, the Environment and Water's (DCCEEW) Technical standards for Consumer Energy Resources (CER) interoperability consultation paper (the Paper).

The energy system is undergoing rapid digitalisation and automation, driven in large part by the increasing uptake of CER and the new energy services they can enable. To unlock the full value of these technologies for consumers, fit-for-purpose technical standards are essential. When well-designed and effectively implemented, these standards can deliver significant consumer benefits including cost savings, operational efficiency, consumer convenience, and improved grid utilisation and stability.

Central to realising these benefits is interoperability: the ability of different devices, systems, vendors, and actors to communicate and coordinate seamlessly. Interoperability standards provide a consistent, open and ongoing framework for interaction across the energy ecosystem, ensuring that tasks can be reliably completed, on an enduring basis, regardless of the technology or provider involved.

We strongly support the Paper's objective of developing a harmonised national approach to CER interoperability. Nationally consistent standards will expand consumer choice, simplify installation and operation, and ensure fair access to energy markets – regardless of device manufacturer or service provider. This is critical not only for enabling innovation and competition, but also for protecting consumers and ensuring long-term system efficiency and security.

In this submission, we outline key considerations for achieving these outcomes, including the importance of device-level interoperability, fair competition in smart meter-enabled services, meaningful provider switching, and standardised default settings. We also advocate for prioritising zero export functionality and mitigating supplier lock-in through open and modular system design. These measures are essential to delivering a CER framework that is equitable, secure, and future-ready.

2. Ensure switching provides meaningful choice to consumers

The Paper correctly identifies capacity for service and provider switching as a key benefit flowing from stronger interoperability standards. However, for switching to provide consumers with meaningful choice, interoperability standards must ensure that CER product and service providers compete on an even playing field. That is, interoperability standards should prevent providers from developing privileged access to either the functionality or data streams needed for interoperability.

This is particularly relevant where CER is managed through the meter. Advanced metering increasingly includes channels to manage and integrate a variety of CER ranging from controlled loads to EV charging. However, under the existing framework, only metering service providers (MSPs) can control this functionality. Additionally metering service providers retain exclusive control over the meter's communications channel and firmware management.

While third-party CER service providers may access data from the meter, they cannot access these other functionalities. As we noted in our submission to M2 consultation,

> MSPs gain a material competitive advantage through their exclusive discretion to embed and utilise functionality in meters and control CER devices connected to them. Their actions can create both physical and financial barriers to effective competition and the development of services delivering the best outcomes for consumers.

Interoperability standards should remove barriers to fair competition. They can do this by limiting or regulating the functions that MSPs can build into meters and/or controlling how these functions and the data they generate are used or restricted. Such standards should ultimately ensure that third parties have regulated access to meter functions and data.

Recommendation 1

That interoperability standards ensure regulated and equitable access to smart meter functionality and data for third-party CER service providers (designated by consumers), and prevent privileged control and access by MSPs in order to enable meaningful consumer choice and fair competition.

3. Prioritise EVSE in the interoperability hierarchy

EV supply equipment (EVSE) should take precedence over the vehicle in the interoperability hierarchy. This is because the EVSE serves as the primary interface with the energy network. It receives grid signals, manages load control, and enforces safety and communication protocols.

Prioritising EVSE ensures consistent and secure integration with broader energy systems, including demand response and dynamic pricing mechanisms. While vehicles play a critical role in communicating capabilities and preferences, EVSE must ultimately govern the interaction to maintain system-wide reliability and compliance.

Minimum device and system requirements should also apply to public EVSE. These standards are essential to ensure consistency across different charging levels and to support smart charging capabilities – particularly the ability to respond to network signals and wholesale market dynamics.

Public EVSE should be equipped to communicate effectively with on-board charge controllers. Interoperability standards should ensure public EVSE is capable of coordinated charging, load management, and grid response functionality.

Recommendation 2

That interoperability standards for electric vehicles prioritise EVSE as the primary interface with the network and require minimum device and system capabilities for public EVSE to support smart charging, coordinated load management, and consistent communication with onboard vehicle systems.

4. Considerations for interoperability requirements

Below we provide reflections on select device and system requirements for CER interoperability use cases. Our focus is on how these requirements can be implemented to support core principles of functionality, interoperability, and consumer choice.

While the Paper offers a detailed overview of each requirement's purpose and delivery pathway, we highlight key considerations and potential risks that must be addressed to ensure these requirements are effective, equitable, and aligned with broader energy system objectives to promote the consumer interest.

R-1 Disconnect requirement

The implementation of the R-1 disconnect requirement should recognise that devices must not only be capable of isolating from the power system in response to a signal or condition, but that this capability must be enabled and functional by default, where configurable.

For example, AS 4777.2 mandates that battery inverters support a Demand Response Mode 0 (DRM0) interface to allow for externally initiated shutdown, primarily to support safety. However, we are aware that some battery manufacturers have either removed this interface or disabled its functionality, maintaining proprietary control over the battery as a prerequisite for DRM0 compliance.

To address this, the R-1 requirement must ensure that disconnection functionality is both embedded and operational regardless of which provider or device initiates the signal. In other words, interoperability standards must prevent proprietary systems from limiting compliance with disconnection requirements which are a critical support for safety.

Recommendation 3

That the R-1 requirement mandate embedded and default-enabled disconnection functionality in all relevant CER devices, and prohibit reliance on proprietary control mechanisms for compliance.

R-9 Switch providers

The R-9 requirement should guarantee that consumers can switch CER service providers, particularly when services are delivered via embedded functionality in smart meters. As noted above, access to these services is typically restricted to MSPs, undermining competition and limiting consumer choice in managing their CER.

Recommendation 4

That the R-9 requirement ensure regulated access to smart meter functionality for third-party CER service providers assigned by the consumer.

R-12 Trusted communication pathway & R-6 Remote updating of device settings

These requirements must ensure competitively neutral access to data exchange and remote update capabilities. For CER connected via the meter, access to communication pathways and update channels is similarly restricted to MSPs. This creates a barrier for non-MSP service

providers assigned by the consumer, who must install parallel infrastructure to manage communications and device settings at extra cost to the consumer – an inefficient and anti-competitive outcome.

Recommendation 5

That interoperability standards require competitively neutral access to meter communication pathways and remote update channels, removing barriers for non-MSP service providers assigned by the consumer.

R-13 Default CER settings

The R-13 requirement should promote consistent default settings across devices to simplify installation and support compliance with CER and interoperability standards. While we support allowing consumers to customise settings to suit their needs, it is more important to ensure that default configurations are robust, consistent across jurisdictions, and aligned with system security objectives.

Recommendation 6

That default CER settings be standardised across jurisdictions and device types to simplify installation, support compliance, and ensure predictable system behaviour which promotes the interests of all consumers.

Zero export vs. zero generation

We strongly support prioritising zero export functionality over (or in addition to) zero generation. Zero export enables consumers to continue self-consuming their on-site generation, maximising the realised value of their CER while maintaining grid stability. In contrast, zero generation curtails production entirely and requires consumers to import energy from the grid, undermining their realisation of the expected benefits of their CER.

Prioritising zero export ensures that households and businesses retain access to clean energy while supporting controlled grid interaction. While a zero generation response may be necessary to address exceptional minimum system load events, it should only be actioned in extreme circumstances where a zero export response proves insufficient.

Recommendation 7

That zero export functionality be prioritised over – or at least in addition to – zero generation as the default response to grid signals, with zero generation reserved for exceptional minimum system load events.

Supplier lock-in

There are significant risks of supplier lock-in under current standards, primarily due to the use of proprietary communication protocols, software ecosystems, and hardware interfaces. These practices can limit consumer choice, hinder or prevent competition, and undermine the efficient integration of CER.

To mitigate these risks, robust and consistent interoperability standards must be enforced across devices, systems, technologies, and vendors. This includes:

- Mandating open communication protocols to ensure devices can interact regardless of manufacturer.
- Requiring modular and upgradeable system architectures to allow components from different suppliers to work together.
- Establishing certification schemes that validate compliance with interoperability standards.
- Supporting consumer data portability and access rights, so users can switch providers without losing functionality or historical data.

Embedding interoperability – and future consideration of interoperability – into regulatory frameworks and procurement policies is critical to fostering a more competitive, flexible, and consumer-friendly energy ecosystem.

Recommendation 8

That supplier lock-in be mitigated through mandatory open communication protocols, modular and upgradeable system design, certification schemes, and consumer data portability provisions.

5. Device-level control as a foundation for interoperability

Interoperability requirements should be set at the device level to ensure consistent functionality across the entire energy ecosystem. Local rather than cloud-based control of devices offers several key advantages:

- Reduced reliance on proprietary systems: Cloud-based control often depends on vendor-specific platforms, which can limit interoperability and increase the risk of supplier lock-in.
- Enhanced data security and privacy: Local control minimises exposure to cybersecurity threats and reduces the amount of sensitive data transmitted over networks.
- Improved reliability: Physical control is not dependent on internet connectivity, making it more resilient in the face of outages or network disruptions.
- Long-term support and maintainability: Devices with locally managed control are less vulnerable to changes in cloud service availability, pricing models, or vendor support over time.

While cloud-based control may offer benefits such as remote access and scalability, these must be weighed against the likelihood and impact of the risks. For critical energy infrastructure like CER, defaulting to local control ensures greater transparency, reliability, and consumer choice, while still allowing cloud-based features to be layered on where appropriate and secure.

Recommendation 9

That interoperability standards require control of CER devices to be managed locally at the device level by default, rather than via cloud-based systems, to better ensure reliability, data security, long-term support, and protection against proprietary lock-in.

We welcome the opportunity to meet with the DCCEEW project team and other stakeholders to discuss these issues in more depth. Please contact Jan Kucic-Riker at jkucicriker@jec.org.au regarding any further inquiries.