



Monday, 28 April 2025

Consumer Energy Resources Policy
GPO Box 158
Canberra ACT 2601
Submitted via www.yoursayconversations.act.gov.au

Clean Energy Council Submission to ACT Emergency Backstop Capability Consultation Paper

The Clean Energy Council (CEC) welcomes the opportunity to provide feedback to the Australian Capital Territory (ACT) Government on the ACT Emergency Backstop Capability Consultation Paper.

The CEC is the peak body for the clean energy industry in Australia. We represent and work with Australia's leading renewable energy and energy storage businesses, as well as accredited designers and installers of solar and battery systems, to further the development of clean energy in Australia. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

We support the ACT Government's ongoing commitment to support the uptake of consumer energy resources (CER) through programs such as the Sustainable Household Scheme, Solar for Apartments and Home Energy Support Program. As the Consultation Paper shows, one third of homes have a solar installation in the ACT. The CEC understands the need for a genuine last resort emergency backstop mechanism for possible future minimum demand events to ensure the reliability of the system. Last year, the CEC released *Powering Homes, Empowering People: A National CER Roadmap*¹, this detailed 16 recommendations at the Federal level, including "emergency backstop arrangements must be used a genuine last resort."

In the near future, a combination of storage, pricing and dynamic operating envelopes for rooftop solar will be the leading solutions to addressing minimum demand conditions. As a result, clearly defining an emergency backstop response with appropriate guard rails as to when it will be triggered is needed. This will better complement market-based solutions for managing minimum demand events and will be consistent with the arrangements already in place for distribution area load shedding during shortfalls of generation or transmission capacity. Further, clear definition of when emergency backstop arrangements will be used will allow customers to understand the extent to which their use of CER is likely to be interrupted, which will increase confidence and acceptance of those arrangements.

¹ [Powering-Homes-Empowering-People-CER-Roadmap.pdf](#)

Key Principles for Emergency Backstop Implementation

In providing feedback to the Consultation Paper, and in line with our feedback to other jurisdictions introducing emergency backstop capabilities, we have used the following principles. We believe these principles will ensure consumers are encouraged to continue to take up rooftop solar and storage solutions to lower their energy bills and be rewarded for their active participation in supporting wider system needs, while managing the system at least cost with respect to possible minimum demand events:

- **National consistency:** As Australia is a relatively small market, national consistency is a key criterion in keeping industry implementation and on-going management costs as low as possible.
- **Interoperability:** This should be a core driver to ensure consumers can switch service providers without any constraints or additional costs.
- **Consumer Empowerment:** Industry should be encouraged to innovate and drive service improvements based on consumer preferences on how they would like to use their rooftop solar and storage assets, as well as ensuring consumers are rewarded to use their energy as flexibly as possible, and industry only take control of CER as a genuine last resort emergency situation.

We highlight the importance of harmonisation with other jurisdictions that have implemented the backstop mechanism. Many of our members have already had to prepare for backstop mechanism arrangements in South Australia, Queensland, Victoria and Western Australia. Alignment will assist with minimising implementation costs as well as reduce barriers to meeting the proposed implementation date. In particular, we encourage the ACT to work closely with Original Equipment Manufacturers (OEMs) over the intention to require a harmonised approach in the use of distribution business utility server and establish a change management plan for the implementation of the backstop mechanism.

Additionally, the CEC is a member of the Smart Connect Working Group, this seeks to align stakeholders to establish a consistent national framework for the Emergency Backstop Mechanism. We are an active participant of the Smart Connect work program, and encourage ACT's (along with NSW) to use the work of Smart Connect to implement and lead in the development of a national framework for Emergency Backstop Mechanism.

The remainder of the submission provides specific comments on the questions in the Consultation Paper.

If you have any queries or would like to discuss the submission in more detail, please contact Con Hristodoulidis (christodoulidis@cleanenergycouncil.org.au)

Kind regards,



Con Hristodoulidis
General Manager, Distributed Energy
Clean Energy Council

Consultation Questions

Q1) What role do you see Consumer Energy Resources playing in the energy system as it transitions to net zero emissions?

The least-cost pathway to meeting Australia's renewable energy and emissions targets, as modelled in the Australian Energy Market Operator's 2024 Integrated System Plan (ISP)² Step Change scenario, requires four times more rooftop solar, 34 times more distributed battery capacity and 135 times more orchestrated battery capacity by 2050.

CEC modelling estimated the cost of not meeting CER forecasts under the Step Change scenario by replacing shortfalls in CER with large-scale renewable energy generation and storage and building out the distribution network to manage large amounts of rooftop solar. In summary, ensuring that the market achieves AEMO's Step Change forecast of CER take-up and use would result in \$20 billion less cost than if additional large-scale generation and storage had to be built for a plausible shortfall in CER. Additionally, the distribution system could save \$2.37 billion by achieving the ISP CER Step change forecast.³

As such, effective integration of CER can generate a total of \$22.37 billion as the energy system transitions to net zero.

Q2) Do you understand the reasoning behind establishing requirements for managing solar generation in the ACT? If not, please identify where further information is required.

Yes, the reasoning behind establishing requirements for managing solar generation in the ACT is understood. High levels of solar generation during low-demand periods can lead to voltage issues, reverse power flows, and even system overloading. To address this, we support the development of an emergency backstop mechanisms, to curtail solar output when necessary for grid security.

However, while the rationale for such measures is clear, questions remain about whether the emergency backstop is truly a last resort. There is a risk that its implementation could become a default solution, discouraging the development or prioritisation of more market-based approaches. For example, mechanisms such as dynamic tariffs, battery storage incentives, or demand response programs may offer more flexible, consumer-friendly alternatives that support both grid stability and renewable uptake. Greater transparency is needed on how the emergency backstop would be triggered and under what circumstances. Without robust safeguards and a clear hierarchy of interventions, there is a concern that reliance on emergency controls could undermine innovation and limit the potential for smarter, market-driven energy management solutions. This risks creating unnecessary and higher costs for energy consumers.

Q3) Are you clear on the scope, timelines, and conditions for the emergency backstop mechanism? Is there any further information you require?

The CEC supports the Consultation Paper's approach to harmonise the emergency backstop mechanism in the ACT with NSW, as well as to the National CER Roadmap.

² [AEMO | 2024 Integrated System Plan \(ISP\)](#)

³ [powering-homes-empowering-people-cer-roadmap.pdf](#)

The CEC supports the use of CSIP-Aus as the preferred communication protocol to enable emergency backstop.

While the Consultation Paper outlines the high-level intent of the emergency backstop mechanism, it lacks sufficient detail regarding how the mechanism will integrate with existing NSW and national programs. Clear articulation of this integration is essential to ensure regulatory alignment, avoid duplication of efforts, and maintain coherence across jurisdictions. Without a proposed implementation plan or further information on how the ACT mechanism will interface with the NSW emergency backstop implementation or the National Roadmap, stakeholders are left with uncertainty around its application.

National harmonisation

While the Consultation Paper acknowledges the need for national harmonisation it lacks any further detail on how this might achieve this. The CEC suggests that ACT work with NSW colleagues to require that the Distribution Network Service Providers (DNSPs) establish one consistent set of technical specifications and requirements, which they can use to tender for service providers. This will ensure, regardless of the service provider, there will be consistency in establishing technical requirements through a common set of requirements. We also recommend that DNSPs work with OEMs to co-design the common set of requirements. As OEMs are currently familiar with the development and implementation work from these servers, this will reduce the need for additional accreditation and testing obligations when implementing the ACT (and NSW) backstop mechanism.

Additionally, the CEC thinks it is critical that the ACT and NSW DNSPs harmonise on the following:

- The ACT and NSW Government and DNSPs, with the Australian Energy Market Operator (AEMO), should agree on an exact definition of emergency backstop services.
- Based on this agreement, all ACT and NSW DNSPs, with AEMO, should agree on a single set of commands used to deliver these emergency backstop services.
- All utility server platform providers will be required to build their platforms to the exact same specification, with consistent tests required across all platforms.

The CEC also recommends not recreating the wheel. Rather than developing a new set of technical specifications, it would make sense to use an existing one. The preference of OEMs is to use the SA Power Networks "Dynamic Exports Test Procedure" available at [Dynamic Exports Test Procedure](#).

This is the most advanced and tested of all existing test procedures. It includes commands for both emergency backstop and for flexible exports more generally, making it more future proofed, as it can be used initially for emergency backstops across all DNSPs, while also then being used for flexible exports for those DNSPs that wish to provide those services.

Hierarchy of measures to manage MSL events

While the Consultation Paper raises various options to managing MSL events, it is not clear the order of priority of these measures. As such, the CEC recommends the ACT consider introducing an order of hierarchy of measures to increase load in the grid during MSL events as outlined in the NSW Emergency Backstop Consultation Paper. In particular, the CEC is supportive of the AEMO framework of actions as outlined in *Operating Electricity Grids with*

High Rooftop Solar and explicit indication that rooftop solar management is a last resort action, only to be used when other options are exhausted⁴.

The first two actions in the hierarchy of measures to increase operational load, hot water load shifting and solar export curtailment, are the most important support in minimum system load events as they can be enacted with minimal disruption to consumers. The prioritisation of hot water load shifting capacity and flexible exports roll out in ACT will reduce the likelihood that additional measures will need to be introduced in MSL events.

We recommend clarity around that solar disconnection does not capture the turning off of the inverter to comply with solar export curtailment action. This allows consumers to continue to charge home battery systems during minimum system load events, providing additional revenue for the customer (if participating in a Virtual Power Power) and system support.

While emergency voltage management may be a required measure to manage the existing amount of systems and inverters that do not operate under the Emergency Backstop Mechanism, impacts to consumers should be considered. Emergency voltage management has the potential to adversely impact consumers that own rooftop solar as they are no longer able to self-generate from their assets and purchase energy at an increased prices during these events.

There are a number of inverters with existing CSIP-Aus capabilities that have the potential to become part of the backstop fleet through collaboration with DNSPs, OEMs and AEMO. It is recommended that the ACT consider an additional roll-out of these inverters to reduce the customer impact from solar disconnection and emergency voltage management. The enrolment of these systems should be considered a market service and therefore reward the service providers that innovate and find consumer-friendly solutions to support AEMO to operate the market effectively and reduce the likelihood of emergency voltage management taking place.

Phased implementation

The emergency backstop mechanism is a nationwide solution to MSL events and there is significant action occurring in other states that will create resourcing pressures for industry. As of April 2025, there are ongoing support requirements in South Australia, high priority implementation issues in Victoria and the consideration to introduce CSIP-Aus in Western Australia, all requiring industry attention and resourcing. This indicates there are several external considerations faced by industry when required to develop the ACT (and NSW) backstop mechanism that may severely and negatively impact the capability of industry to meet a single implementation date.

A key issue arising from the Victorian backstop mechanism was the speed of the rollout compared to South Australia. Victoria saw the implementation of the same communication and control mechanism occurring concurrently across three utility servers, with divergent interpretation and requirements of CSIP-Aus. The process saw numerous server outages and ongoing requests from installers, creating support issues for both OEMs and DNSPs while trying to set up servers. As issues can arise from backend applications that tie into the CSIP-AUS servers and the wide scope of functions within IEEE 2023.5 that are allowed, time may be needed to smooth out these issues after the implementation date.

The CEC recommends a phased rollout in ACT and NSW (see diagram below), comparable to South Australia that would see an initial trial, commencing with one DNSP introducing the requirement across a select zone (e.g. set of postcodes). As we build confidence in the process this can be expanded to the entire region for that

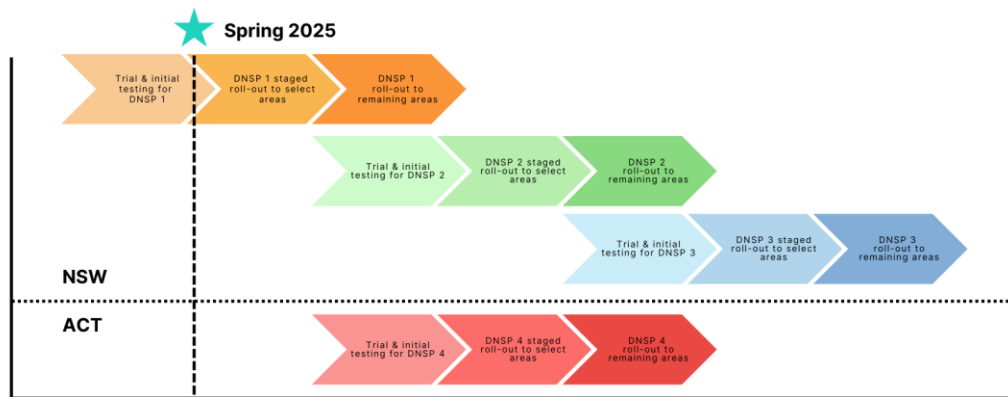
⁴ [V03 - Fact Sheet: Operating electricity grids with high rooftop solar](#)

DNSP with an eventual expansion across the other DNSPs, including Evoenergy. The initial trial could commence in Spring 2025 with select zones rolled out by the conclusion of 2025. The development of an achievable timeline for rollout across the ACT and NSW, could see the ACT and NSW Government develop an Emergency Backstop Reference Group, once the trial and staged roll-out have been implemented.

Additionally, the ACT should consider the introduction of an incentive for Evoenergy to comply to the scope and timelines of emergency backstop implementation. Currently, there are no outlined requirements surrounding ability to meet set service level agreements or accept additional CER, however when system failure occurs, there are significant costs for OEMs and CER providers. The establishment of an incentive to comply will create consistency, reduce the risk of additional costs for industry and encourage improved pathways for resolution when system failure occurs.

NSW & ACT Emergency Backstop

Phased implementation timeline



Q4) Do you agree with the threshold for the emergency backstop mechanism being systems 200kW or less? If not, please provide detail on what threshold you think is appropriate.

This threshold is supported by the CEC.

Q5) Do you have any concerns or insights into using CSIP-AUS compatible inverters and an internet connection to control the emergency backstop mechanism?

The use of CSIP-Aus compatible inverters and internet connection to control the backstop mechanism is strongly supported by the CEC. Except for Queensland, all states have chosen to introduce a remote signal for constraining solar export, with the underlying communications framework being CSIP-Aus. If the ACT follows this approach, it provides the best opportunity for national consistency in implementation of the Emergency Backstop Mechanism.

However, the CEC notes that a national communication protocol, such as CSIP-Aus, is a necessary but not sufficient requirement in implementing emergency backstop in the least cost way. Currently, there is no consistent testing protocol, due to the divergent utility servers in other jurisdictions. A key priority for testing protocols in the ACT and NSW is ensuring consistency across all DNSPs. This could be achieved through communication amongst ACT and NSW DNSPs to all replicate, to the best of their ability, one of the existing

protocols and utility server configurations. This should also set us on the pathway for a nationally consistent test protocol and we propose the ACT Department work with NSW colleagues and Smart Connect initiative to achieve this outcome.

Q6) Do you have any concerns with the approach of using Supervisory Control and Data Acquisition technologies to manage generation from medium-to-large scale solar systems?

No, as several Australian jurisdictions employ Supervisory Control and Data Acquisition technologies to manage medium-to-large scale solar systems, particularly for emergency backstop.

Q7) What information will solar PV installers and consumers need to understand the proposed changes?

Installers will need to know what components they can quote, what additional equipment is required and how to install and how to comply with DNSP commissioning requirements and configuration requirements, including establishing connectivity between the device and the DNSP's server. It may also be useful for installers to understand how the changes may increase time spent on site and during installation so they can adjust their quotes and resourcing accordingly and manage consumer expectations around timing and cost.

Consumers will need to understand what the Emergency Backstop Mechanism is, why it is required and the impact of an emergency backstop trigger on their ability to self-consume, export or import. Consumers will also need information on the importance of maintaining connectivity and whether there is any ability to 'opt out' and what that means.

Q8) What information should be provided to assist solar PV installers to communicate the new requirements to consumers?

The ACT Government is best placed to communicate the above information for **installers**. The CEC recommends the development of a free course for installers as was offered by the Victorian Government prior to the implementation date. The CEC's Education team has previously created an online interactive module for Victorian installers and assisted in the development of information for South Australia's backstop implementation. To ensure a consistent experience for installers and a uniform delivery of key information, the ACT should work collaboratively with NSW on communication programs for installers.

DNSPs and OEMs should also be involved in the process to communicate (via webinar or on their websites) implementation and commissioning requirements for different regions and inverter types. Documentation and training will need to be provided by the manufacturers. The CEC recommends the ACT Government utilise industry bodies to facilitate these information exchanges to ensure a greater proportion of industry understands the new requirements prior to the implementation date.

Information around Emergency Backstop Mechanism and requirements for **consumers** should be communicated by the ACT Government on their website, with the option of a webinar or online meeting. The impact on the customer's system, ability to export and frequency of use should be communicated by the installer, both prior to installation and on the day. The development of a one-page information sheet by the ACT Government detailing "What does Emergency Backstop mean for you?" could be produced as material for retailers and installers to share with consumers.

Q9) What is the best way to ensure that rooftop solar systems with emergency backstop functionality are commissioned correctly at installation stage and continue to maintain a connection over the lifetime of the system?

As outlined above, installers are a key stakeholder group for information delivery and education regarding the Emergency Backstop Mechanism. The development of a clear change management plan involving all stakeholders and a comprehensive course surrounding new requirements will ensure there is sufficient support for installers when commissioning systems with emergency backstop functionality. Additionally, there should be clear communication channels established between the installer and DNSP to address issues as they arise on site and after installation. This may require additional resourcing for an installer “hotline” or service centre on behalf of the DNSPs after the implementation date.

The establishment of an Emergency Backstop Stakeholder Reference Group will also assist in addressing outstanding issues or challenges and develop solutions to provide lasting improvements to the operation of the emergency backstop in ACT (and NSW). This group would initially meet prior to the implementation date, then fortnightly after implementation, and be comprised of representatives from installers, DNSPs, OEMs, industry bodies, consumer representatives, CER retailers and the ACT (and NSW) Government. The diversity in stakeholders will ensure that procedures and solutions are developed with a range of industry perspectives.

Q10) What actions do you think homes and businesses could take to help align their energy use to the grid and take advantage of surplus solar energy?

Education is a key factor in assisting homes and businesses to align their energy use to the grid and take advantage of surplus solar energy. The electricity market is complex. Trying to understand it and the various products, services and pricing options that can be used to manage electricity costs without undue capital investment and/or negative impacts on the household’s lifestyle can be confusing.

What is needed:

- Authoritative information from sources that customers trust.
- Information that addresses the questions customers may have about managing their electricity bills without:
 - Undue or ineffective capital expenditure.
 - Having to undertake changes in their lifestyle that outweigh the saving they produce on their bill.

Education can significantly increase the number of consumers willing to consider CER technologies, such as batteries or home energy management systems, and make the initial part of their adoption and use journey smoother and quicker. As noted earlier, for education to be as effective as possible it needs to speak to the needs and concerns of different types of consumers and needs to come from a trusted source.

The ACT Government could consider the establishment of a CER Education Fund that can be used towards Train the Trainer programs and offered to community groups and small business associations through state level networks such as the local, regional business communities and State Chambers of Commerce. These programs will aim at familiarising leaders in these organisations with the financial and long-term benefits of investment in, and use of CER by their constituents. The programs will work with organisations to adapt the educational material for use with their constituents through a variety of channels, including printed material, online tools and workshops.

Q11) What are the best ways to support the use of solar and other CER while upholding the technical and operational needs of the grid?

The ACT Government could consider the implementation of a similar program to the NSW Peak Demand Reduction Scheme (PDRS) with the intention to shift electricity demand from peak periods to times with excess solar generation.

The development of an ACT Peak Demand Reduction Scheme (PDRS) could introduce additional incentives for consumers participating in demand response services, such as a signing on to a Virtual Power Plant, leveraging the existing home batteries installed from the Next Gen Energy Storage Program. The CEC encourages the ACT Government to consider extending any Federal programs that incentivise battery installations, such as Labor's proposed Cheaper Home Batteries Program; to support the creating of flexible energy and reduce the likelihood the hierarchy of measures will go beyond increased operational load.

Q12) What should the ACT Government do to support better coordination of CER with grid supply?

Setting targets to electrify government owned assets and published as part of government policy can provide a strong signal to the CER industry and consumers that the take-up and coordination of CER is an important part of achieving the state's net-zero targets.

A target for the orchestration of CER

Orchestrated CER plays a significant role in reducing the likelihood of MSL events and soaking up surplus solar energy. The ACT Government should establish targets for orchestration that recognise and put appropriate focus on the importance in ensuring homes and businesses align their energy use to the grid and provide net system benefits for all consumers. The orchestration targets themselves should be set in reference to AEMO's Integrated System Plan and would complement the introduction of an incentive for participation in demand response services.

A target for CER uptake on Government buildings

The ACT Government should set targets for the installation and economic use of CER, including rooftop solar and storage, on all owned government assets and assets used under long-term leases. Schools, hospitals, social/community housing, public administration buildings and defence facilities (including housing) are all prime locations in which governments can target installation of CER technologies. In the first instance, all new publicly funded buildings should include CER technology uptake in the planning phase.

This is an important step in building consumer confidence in the value of CER technologies. Consumers will have greater confidence in the technology if they see governments leading. Further, consumers who use these facilities will get first-hand experience in the benefits of these technologies, which will support their understanding and decision-making.

Q13) How can the ACT Government build consumer confidence in CER products and services?

Consumer protection is integral to building consumer confidence in CER products and services, the CEC recommends the ACT Government consider the inclusion of the New Energy Technology Consumer Code as a requirement for CER retailers participating in Government programs.

The NETCC has been previously included as a requirement in Government programs – such as the Next Gen Battery Storage Program as well as Victoria's Solar Homes, Tasmania's Energy Saver Loan Scheme, and the Federal Home Energy Upgrades Fund. Within these schemes, the inclusion of Approved Retailers through the Code has promoted trust for customers participating in these schemes and has ensured high quality products are being installed in households.

The NETCC currently has over 1,700 signatories and has been welcomed by the industry as an effective approach to inform consumers about their rights and afford them greater choice and protection. The obligations highlighted within the NETCC are essential customer protections for households and businesses participating in the battery incentive program. The inclusion of the NETCC in ACT Government schemes will not only build trust in consumers but strengthen the relationships between consumers and approved sellers with good practice standards.