



Departments of
Energy and Economic Diversification
Local Government, Industry
Regulation and Safety

Plug in to power up

Consultation on plug-in
solar and battery systems

28 October 2026



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How to provide feedback

So that we can analyse your feedback as quickly as possible, the best way to provide feedback is through our [online submission form](#).

Alternatively, you can provide feedback by emailing it to: balconysolar@deed.wa.gov.au

Or by posting it to:

DER Team – Balcony Solar Consultation
Energy Policy WA
Department of Energy and Economic Diversification
PO Box Z5044, St Georges Terrace
PERTH WA 6831

The submission period for this consultation will close at 5 pm on 9 December 2026.

For transparency, we usually publish all submissions on our website. Stakeholders should specify if information they provide in submission is confidential and, where possible, separate confidential information from non-confidential information.

Those making any claim for confidentiality should consider the *Freedom of Information Act 1992*, which imposes obligations in respect to the release of documents.

We will not publish contact details like your phone number or email address.

Introduction

Energy and Decarbonisation Minister Amber-Jade Sanderson and Commerce Minister Tony Buti have announced that the WA Government intends to legalise plug-in solar and battery systems throughout Western Australia.

Legalising plug-in solar and battery systems will create a new route for households to cut energy bills and lower the cost of living using their own renewable energy. Creating a pathway to access safe plug-in systems will benefit renters and apartment residents particularly, because people will be able to purchase and use systems knowing they can relocate them if they move house.

Consultation on a proposed regulatory pathway

The Departments of Energy and Economic Diversification (DEED) and Local Government, Industry Regulation and Safety (LGIRS) are seeking feedback on a proposed pathway for plug-in solar and battery systems (“plug-in generators” in this paper). We are seeking feedback particularly on technical and safety controls to guarantee safe consumer access to systems.

The proposal would mean plug-in generators are classed as standard electrical appliances, through a new **Technical Bridging Standard (TBS)**, [published alongside this paper](#). The TBS proposes to allow plug-in generators:

- with solar PV panel combinations up to a rated capacity (DC) of 2 kilowatts, and
- with inverter units up to a rated capacity (AC) of 800 VA.

The purpose of the TBS is to ‘bridge the gap’ in existing local technical standards, which were not originally written for plug-in systems. This would give consumers quicker access to safe systems while standards bodies consider longer term standards updates.

To lower WA market entry barriers, the proposed TBS is based on the German balcony solar standard for plug-in solar (DIN VDE V 0126-95), with some changes to suit local conditions and an extra section to also allow batteries. The TBS would not set an upper capacity limit for battery storage, but we expect most systems are unlikely to exceed 5 kilowatt-hours (kWh).

Policy objectives

By creating a new certification pathway, the WA Government’s objectives are:

Consumers	Can purchase and safely use plug-in solar and battery systems without high cost and installation barriers.
Suppliers	Can manufacture, import, and supply plug-in solar and battery systems using a familiar product certification pathway.
Retailers	Can supply individual systems to consumers that are safe to use, and which have clear warranty obligations like that for other appliances.
Building and energy safety regulators	Can promote a consumer pathway to safe, legal, and certified systems that discourage the use of non-certified imports from online marketplaces.

Local context for balcony solar

Plug-in generators cannot currently be used legally in any Australian state or territory.

There is no single technical barrier that needs to be removed for consumers to legally use plug-in generators. Instead, the barrier is a broad patchwork of different technical standards that together make a manufacturer certification pathway for plug-in generators impractical.

The main relevant standards are those in table 1 below, but DEED and LGIRS have identified that at least 30 different technical standards could apply to plug-in generators or their individual components. These standards were not originally written for devices that generate power by feeding it back through a standard electrical socket. As a result, manufacturers or suppliers of plug-in systems are unable to demonstrate local safety and technical conformance even where systems are already available internationally.

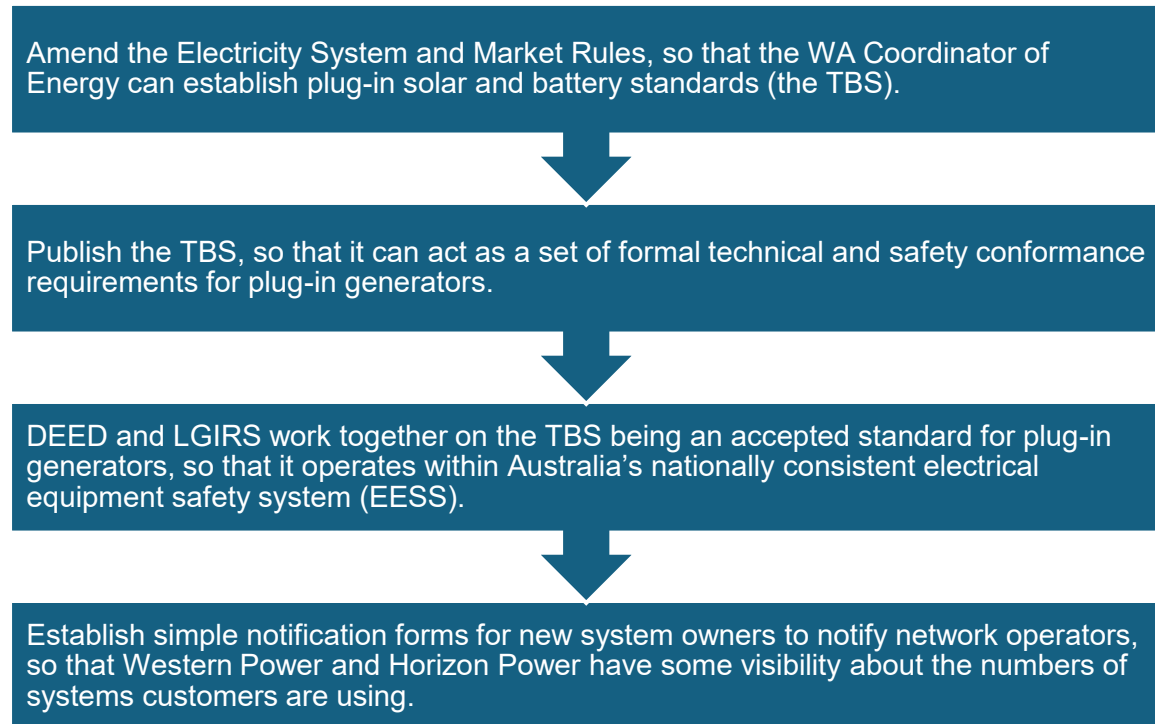
We aim to overcome this barrier through a targeted regulatory change and the TBS. Together these would provide a local pathway for consumers throughout Western Australia to safely use plug-in generators, without longer lead times usually needed to add new devices into existing technical standards.

Table 1: Most relevant Australian and New Zealand technical standards for plug-in generators.

Standard	Purpose
AS/NZS 4777.1:2024	Specifies installation requirements for inverters connected to the grid and specifically requires inverters to be permanently wired to a site's switchboard. As well as other testing and certification issues, the hard-wiring requirement currently prevents a viable certification pathway for plug-in generators in Australia.
AS/NZS 4777.2:2024	The standard that specifies how inverters connected to the low-voltage distribution network (under 1000V) must behave. Covers all residential and small-scale commercial solar systems, as well manufacturer testing needed to demonstrate that systems comply.
AS/NZS 5033:2021	General installation and safety requirements for photovoltaic (PV) array systems.
AS/NZS 3112:2025	The standard that specifies the layout and safety requirements of the Type I plug used for mains power throughout Australia and New Zealand.
AS/NZS 3000:2018 (Wiring Rules)	Mandatory design, safety, and performance requirements for all electrical work.
AS/NZS 4417.1:2012, AS/NZS 4417.2:2020	Joint Australian and New Zealand standard that governs the use and application of the Regulatory Compliance Mark (RCM), which is a legal requirement for nearly all appliances supplied to consumers. 

Proposed legalisation pathway

To achieve the WA Government's objectives for plug-in solar and battery systems, DEED and LGIRS have identified four possible steps:



If adopted in this way, the TBS would overcome the hard-wiring requirement in existing inverter technical standards.

This would operate through the existing EESS to create a viable certification pathway for conforming systems to use the RCM tick like other appliances.

DEED and LGIRS will continue to work with safety experts, other states and territories, and the Australian Government to support nationally consistent requirements for plug-in systems. For this reason, the final TBS is likely to have two separate parts, one each for product-specific requirements and another for installation requirements. This would make the TBS more consistent with AS/NZS technical documents.

Public consultation questions

Regulatory approach and certification

When developing the proposed pathway, DEED and LGIRS investigated other options to legalise plug-in systems, including using existing grid connection rules and by creating a product performance exemption for plug-in generators. Using existing grid connection rules would have made it harder for consumers to access the systems, instead of the proposed 'install, then notify' approach. A product class exemption would also have meant less clear safety, conformance, and warranty obligations for device suppliers and retailers.

The proposed pathway would leverage existing legal arrangements for electrical appliances, such as warranty obligations under the Australian Consumer Law and appliance testing by labs certified by the National Association of Testing Authorities (NATA).

If the TBS is listed as an accepted standard under the EESS framework, suppliers would be able to engage NATA-accredited labs for product type tests.

If products conform to TBS, suppliers would then be able to compile test reports (compliance folders) and register plug-in systems, just as they do for other appliances already.

While the proposed approach is the same as other electrical appliances, it would mean that unlike traditional rooftop solar inverters, manufacturers would not submit plug-in generator information to the Clean Energy Council for approval.

Questions on the overall regulatory approach and certification pathway

Please provide reasons for your answer.

1. Do you support the proposal to legalise plug-in solar and battery system through the existing appliance safety regime, rather than through existing grid connection rules or a product class exemption?
2. Before using a plug-in generator, should the TBS require that an electrician first assesses the integrity, protection and suitability of the electrical installation?
3. Are there any issues or unintended consequences with using the regulatory compliance mark (RCM) approach for plug-in systems that conform to the TBS?
4. Is the proposal to exempt plug-in generators from requiring Clean Energy Council approval, in favour of standard appliance type testing, an appropriate deviation to the process for traditional rooftop PV inverters?
5. Do you support the approach to generally align the proposed TBS with the German technical standard (DIN VDE 0126-95) for plug-in systems?

Technical bridging standard and product safety

As much as possible, we have tried to align the draft TBS with Germany's DIN VDE V 0126-95 standard for plug-in solar. The purpose of aligning the two is to take advantage of work already done for more mature overseas markets, while guaranteeing consumer safety when using systems in local conditions.

Nearly all references to AS/NZS within the proposed TBS are for locally adopted and identical versions of International Electrochemical Commission (IEC) standards, which are used throughout the German balcony solar standard. Notable exceptions to this include wind loadings, inverter grid codes, and an extra section for battery storage.

Wind loading calculations up to wind region B

Adopting local wind standards for mounting systems in the TBS aims to guarantee the safety of both system users and the broader public by ensuring mounting systems are strong enough for local conditions. The TBS would allow systems to be used in all parts of WA, but it would only require type tests for mounting systems up to region B (wind regions in AS/NZS 1170.2:2021).

Wind regions C and D cover cyclone-prone areas in the state's north, including parts of the Kimberley, Gascoyne, and the Pilbara. We propose to exclude mandatory product testing against wind regions C and D criteria in the TBS.

Design requirements for these regions are intended to ensure permanent fixtures can withstand extreme wind events, such as roof structures during cyclones. For portable or impermanent structures like plug-in generators, DEED and LGIRS aim to balance product safety with broader product availability for what are supposed to be portable appliances. This is more appropriate for typical daily weather conditions across the state and would mean people in all parts of Western Australia could use plug-in generators without mounting systems needing to meet strict design criteria meant for permanent fixtures. Routine storm preparation for other movable fixtures, like moving outdoor furniture and shades, would apply to plug-in generators.

Grid codes for the inverter unit and for battery storage

The TBS adopts the same anti-islanding and grid code approach as other markets, but through the local AS/NZS 4777.2:2020 standard. To maintain consistency with international standards, the TBS proposes to exclude volt-var requirements in clauses 2.6, 3.3.2, and 6.2 of the local standard. Since the system sizes are relatively small, they are unlikely to generate much reactive power, making volt-var tests disproportionate. Volt-watt tests would remain.

We appreciate that the TBS references many other standards already listed within AS/NZS 4777.2, and that it is likely possible to simplify the TBS by just referring to AS/NZS 4777.2 more directly. The draft TBS aimed to maintain the same structure as the German standard as much as possible, so that it would be easier for manufacturers to certify systems. We are open to alternative TBS drafting/layouts if that would achieve a better outcome.

The other deviation to international standards is the proposed TBS's extra section to allow plug-in battery storage. The proposed section sets safety requirements that are specific to battery storage and includes things like battery chemistry and thermal safety. Again, DEED and LGIRS have sought to adopt type tests from existing battery storage standards.

Residual current device (RCD) blinding and fault safety

DEED and LGIRS have closely considered the outcome of the UK Government's lab safety study on plug-in solar systems when developing the TBS's residual current device (RCD) sections. During a fault, direct current from a plug-in system leaking into a mains circuit can 'blind' certain upstream RCDs, preventing them from operating correctly. The draft TBS adopts Australian/New Zealand Standard requirements that inverters isolate if they detect DC leaking into a mains circuit, but the threshold as currently drafted may not be low enough to prevent blinding of type AC RCDs common in Australian switchboards.

Instead of mandatory electrical inspections, the proposal currently is to look at intrinsically safe options at the device level through a range of different tests:

- DC tests at different levels to quantify changes to RCD tripping thresholds, and to measure the point at which type AC RCDs stop tripping completely.
- Fault testing using a range of real transformerless plug-in systems.
- Whether the current TBS drafting for internal DC leakage monitoring would cause systems to disconnect quickly enough to prevent RCD blinding.
- Whether disconnect requirements for EV chargers (IEC 62955) would be enough to prevent type AC RCD blinding.
- Test the cumulative effects of DC leakage from several appliances and plug-in systems connected to the same circuit.
- Verify grid anti-islanding requirements and the effects of plug-in systems on ageing electrical installations.

Questions on the TBS

6. Regarding TBS wind loading requirements:
 - a. Is the proposed mounting system requirement (up to wind region B) adequate to balance individual system safety with broader consumer access?
 - b. Would you prefer the TBS contained a two-tier structural specification for systems supplied in either region? (up to wind region B **OR** up to wind region D)
7. Is AS/NZS 62852 for DC connectors appropriate for plug-in generator applications?
8. Are engineering controls in the TBS RCD section (section 5.7) adequate to guarantee safe access to these systems for consumers?
9. Are engineering controls in the TBS battery storage section (section 6.5) adequate to guarantee safe access to these systems for consumers?
10. Would the list of tests above adequately quantify how plug-in systems affect legacy or existing electrical installations before finalising the TBS?
11. Are there any requirements or technical references within the TBS that might prevent manufacturers from offering safe plug-in generators locally, specifically:
 - a. Type tests that cannot be met because of other TBS type tests/requirements?
 - b. AS/NZS references where another IEC standard is equivalent and would be simpler because systems are already certified against it overseas?
 - c. TBS sections that are over- or under-specified?
 - d. Or any other reason?
12. Are there any engineering or safety controls missing from the proposed TBS that should be added to the final TBS, specifically for:
 - a. PV panels?
 - b. Inverters?
 - c. Batteries, including thermal safety, clearance, placement, and ventilation?

- d. Ongoing safe operation of electrical installations, including sockets, RCDs, environmental conditions?
- e. Likely user behaviour, such as using extension cords?

General feedback

- 13. Do you have any other feedback about the proposal, including things you think we should pay particular attention to?

Next steps

After the submission period closes, we will analyse and consider all feedback. We will use your feedback to develop and then publish:

- A consultation summary
- Updated certification route, and
- Updated technical standard (TBS version 2).

Subject to consultation analysis and cross-agency technical work, we anticipate completing this by February 2027.

We will then prepare regulatory changes to legalise plug-in solar and battery systems.