



AUSGRID'S PROPOSED COMMUNITY POWER NETWORK TRIAL WAIVER

Are there customer benefits?

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Executive summary

Introduction to this report

Tahu Consulting was commissioned by AGL to review and analyse Ausgrid's regulatory sandbox application for a 'community power network' (CPN) trial. This analysis is to assist AGL prepare a submission to the Australian Energy Regulator (AER) *Issues Paper Ausgrid: Community Power Network trial* ("Issues Paper").¹

The AER should not approve the CPN trial, including for the following reasons detailed below:

- There is insufficient disclosure on the customer bill impacts.
- The proposed trial is in breach of a set of important customer protection Rules requiring expenditure to be prudent and efficient following consideration of contestable (non-network alternatives).
- There are no significant utilisation benefits from the CPN trial or its wider application across Ausgrid's network, due to the high level of headroom across Ausgrid's network.
- There is only a weak connection between higher network utilisation and lower prices or increased demand from the likes of data centres. This reflects the shift to cost reflective pricing and move away from volumetric pricing.
- There are serious flaws in the CPN trial design and process limiting its usefulness for future regulatory and policy decisions.
- There is no connection between projected emissions benefits and prudent and efficient regulated expenditure recoverable from regulated tariffs.
- No clear case for waiving ring-fencing rules protecting customers and competitors has so far been provided.
- Reopening the 2024 regulatory determination to protect Ausgrid's incentive rewards appears to set a bad precedent.
- The CPN trial appears to pre-empt policy decisions on the role of DNSPs in CER markets.

If the AER decided to approve the CPN trial, substantial changes to the CPN trial design and funding are required to ensure the CPN trial conforms to customer protection rules and the April 2024 AER determination for the 2024-29 regulatory control period (RCP).

The remainder of the Executive Summary below outlines the key findings and recommendations. Further background on the details of the proposed CPN trial and the

¹ See *Issues Paper, Ausgrid: Community Power Network trial*, July 2025, AER

AER Issues Paper, along with evidence and analysis are detailed in the main body of the report.

Overview of Ausgrid CPN trial

Ausgrid's CPN trial aims to deploy and coordinate rooftop solar and shared batteries within two NSW regions: Charmhaven (Central Coast, mainly residential) and Mascot/Botany (Sydney, a mix of residential, commercial, and apartments), targeting around 32,000 customers.

The trial seeks to:

- Extend the benefits of renewable energy and battery storage to households that cannot install their own systems, such as renters and apartment dwellers.
- Aggregate and orchestrate customer energy resources to reduce peak demand, improve local grid performance, and generate network cost savings.
- Redistribute and trade locally pooled solar energy via batteries—profits (dividends) shared with trial participants.
- Gather evidence for policymakers on whether network-led models deliver value, while respecting regulatory boundaries between monopoly (network) and competitive (retail/generation) sectors.

If approved, the trial would operate under a temporary (up to five-year) waiver from certain regulations, allowing Ausgrid to own and operate DER assets, roles usually restricted to competitive market participants. The trial's financial cost is estimated at \$110–180 million, depending on Ausgrid's level of ownership and intervention as the “owner of last resort” for solar assets.

Australian Energy Regulator as administrator of Regulatory Sandboxing

The AER administers a range of regulatory sandboxing functions under the National Electricity Law (NEL) and associated Rules (NER). These permit the AER to waive Rules that would otherwise prevent regulated networks from undertaking innovative trials, where they would be in the interests of consumers. The AER's decision weighs innovation/renewable access against risks to the effectiveness of monopoly network regulation and customer protection.

The CPN trial draws on similar international schemes (e.g., Iberdrola's Solar Communities in Spain). Ausgrid's approach is distinctive for being network-led versus retailer-led overseas.

Ausgrid, as a regulated distribution network, is currently barred from participating in electricity generation or retail activities. Ausgrid has applied to the AER for a sandboxing waiver to enable the proposed CPN trial to proceed.

This is the first application to be considered under the AER's policy-led sandboxing regime published in February 2025.² If granted, this would represent a significant shift from the established separation between monopoly network operations and competitive market roles.

Key findings

Ausgrid customer bill impacts not disclosed

The customer bill impacts of the estimated \$72.8m of incremental regulated expenditure is not disclosed in the supporting information accompanying Ausgrid's regulatory sandbox application.³ Insufficient detail on Distribution system operator (DSO) and Distribution market operator (DMO) expenditure is provided compared with a Regulatory Impact Test – Distribution (RIT-D) or regulatory proposal. Similarly, Ausgrid does not provide information on whether any proposed new expenditure corresponds to consumer energy resource (CER)/DSO expenditure that was rejected by the AER in its final decision for the 2024-29 RCP.

Ausgrid appears to be proposing to increase the revenue cap above the AER's April 2024 final decision for 2024-29 by \$72.8m.⁴ No offsetting cost savings have been identified or proposed. A significant net increase in capital expenditure is implied by the application to reopen the decision under Cl. 6.6.5 (the Capex reopener clause).

Compared with Sandboxing trials approved so far (see Table 6), the proposed expenditure for the CPN trial is two orders of magnitude greater than for sandboxing trials approved to date. Therefore, a proportionally higher level of scrutiny is required by the AER of Ausgrid's CPN proposal.

Ausgrid's proposed trial in breach of customer protection rules

² See *Policy-led Sandboxing: Accelerating access, deployment and orchestration of distributed energy resources through the regulatory sandbox*, February 2025, AER

³ See Table 4.1 on page 22 and associated explanation in *Regulatory sandbox application – revision 2 Community Power Network*, July 2025, Ausgrid

⁴ See Appendix 1 illustration of the possible longer-term customer bill impact of the Capex component.

The CPN trial appears to be inconsistent with the following customer protection Rules and previous AER regulatory decisions under those Rules in the following regards:

- The trial appears to commit more than \$7m in Standard Control Service (SCS) capital expenditure which, in the absence of a regulatory impact statement – a distribution (RIT-D), would breach the rule requiring RIT-D (Cl. 5.17.2).^{5 6}
- Recovery of non-SCS expenditure from SCS charges. This appears to contradict the AER’s April 2024 decision not to change the classification of standard control services for the current Revenue Control Period (RCP).
- Undertaking capital expenditure that does not contribute to the capital expenditure objectives. This appears to breach Cl6.5.7(a) and therefore 6.5.7(c) requiring efficiency and prudence relative to forecast demand and other relevant inputs.
- Proposed SCS expenditure that is not disclosed other than related to the benefit of achieving emissions reductions valued at \$42.6m.

The CPN trial as currently proposed by Ausgrid and discussed in the AER Issues Paper cannot proceed under rules protecting customers, even if the waivers being sought are approved. There is no innovative trial principle in the AER’s Policy-led Sandboxing addressing recovery of project costs.⁷ There is no indication that the Sandboxing regime as set out in the NEL and NER permit the AER to waive rules and revenue cap decisions protecting customers from inefficient and imprudent expenditure.

No significant network utilisation benefits from proposed CPN trial

The AER Issues Paper states that:

‘...this trial has the potential to reduce overall peak demand, free up hosting capacity for new loads (such as data centres) and reduce evening peaks. These types of benefits can all contribute to potential efficiency improvements.’⁸

With high network headroom capacity and the second lowest uptake of rooftop solar in the NEM after Tas networks, it seems unlikely that Ausgrid is well placed network candidate to be awarded sandboxing privileges for trialling CER and DSO functions to ease network congestion and manage rooftop solar and battery exports.

⁵ The exemptions in the NER do not apply, and the proposed expenditure for the BESS (\$12.4m) plus the Spatial energy plan (unspecified) is well above the RIT-D threshold of \$7m.

⁶ In response to a question raised in a CPN consultation workshop, AER staff noted they have not received a waiver request in relation to the RIT-T. This point was taken on notice and explored further by the team – see page 23 of the Ausgrid CPN consultation: workshop summaries.

⁷ See AER Issues Paper, page 10.

⁸ See Page 13 of the AER Issues Paper.

Figure 1 below uses data from Ausgrid's 2024 Distribution Transmission Annual Planning Report (DTPAR) to derive the historical and forecast headroom in the three CPN trial zone substations (ZS). This shows substantial headroom between firm capacity and annual maximum demand both historically and forecast for the first part of the CPN trial.⁹

Figure 1 – Historical and forecast “headroom” for CPN trial ZS



Source: Data supplied alongside 2024 DTAPR, Ausgrid, analysis by Tahu Consulting

As shown in Table 1, for the most recent year for which data is available, there remains significant headroom between maximum photo-voltaic (PV) output and maximum firm capacity in the CPN trial Zone Substations (ZS).

⁹ According to the 2024 Ausgrid DTAPR, the CPN ZS are forecast to remain summer peaking. It is possible that some Ausgrid ZS could in future become winter peaking where substantial gas demand is electrified.

Table 1 - Solar penetration in CPN Trial Zone Substations (ZS)

| ZS | Embedded Generation - Solar PV (MW) | PV % max demand (2022/23) | PV % of max firm capacity (2022/23) |
|-------------|--|------------------------------|---|
| PORT BOTANY | 27.44 | 5.4% | 49.7% |
| MASCOT | 2.14 | 6.4% | 2.7% |
| CHARMHAVEN | 27.44 | 64.9% | 43.3% |

Given the substantial headroom (low maximum capacity utilisation) in these areas, it is highly unlikely there will to be any avoided network upgrade or replacement costs from load flattening or reduction in peak demand attributable to the CPN trial.

Weak connection between Higher utilisation (MWh) and lower prices or increased new demand

The increased network utilisation from the CPN pilot is unlikely to deliver lower regulated prices or attract major new demand, such as data centres. The uplift in energy volumes (MWh) from increased PV output and BESS volumes under the CPN trial would not translate into significant network price reductions for most CPN participants.

Volumetric (kWh-based) charges now make up a declining share of network bills. Ausgrid's pricing structures increasingly rely on capacity/demand (measured in kVA or kW) and fixed charges. This shift acknowledges that networks incur little to no marginal cost when customers use more of the existing infrastructure—higher utilisation no longer drives down prices meaningfully.¹⁰

Load flattening from the CPN could create extra network headroom, potentially reducing deep connection costs for any large new entrants in the CPN zone, including data centres. However, such facilities could simply choose other Ausgrid ZS with greater surplus capacity, to achieve similar benefits. Aside from two CPN ZS being near

¹⁰ Marginal costs of higher utilisation mainly consist of network losses, which increase with network loadings and ambient temperature. The cost of network losses is borne by retailers in settling their wholesale market positions, not networks.

Kingsford Smith Airport, there is nothing uniquely attractive about the CPN ZS for possible large loads.

Serious flaws in the CPN trial design and process

The design and outcomes of the proposed CPN trial means it is unlikely to produce reliable evidence for future policy or regulatory decisions on the classification of CER and DSO services. This is because the trial's core hypothesis is not genuinely testable or falsifiable—there's no clear plan to gather data that could contradict or challenge the intended outcomes.

As a result, the trial design does not identify or seek out evidence that might demonstrate unsuccessful results or limitations. Without this possibility, policymakers cannot use the results as meaningful guidance when considering the best way to allocate CER and DSO roles in the future.

No connection between emissions benefits and prudent and efficient regulated cost recovery

No detail is given in Ausgrid's application on proposed regulated expenditure of \$42m. The stated basis for this expenditure is an estimate of market benefits, in this case estimated carbon benefits.

While wholesale benefits are relevant to whether network expenditure is prudent and efficient in a RIT-D, it is not relevant to estimating the capital cost that is recoverable from SCS tariffs. For example, if a \$10m network investment is found in a RIT-D to have a benefit to cost ratio of 2:1, including \$10m market benefits, it does not follow that the network can recover \$20m from regulated tariffs.

Possible duplication with ARENA funded CER project

The total CPN Trial budget is 1.7 times higher than the part-ARENA funded Project Jupiter (\$108.34m). Ausgrid's application does not discuss and identify how its CPN trial is incremental to and does not duplicate Project Jupiter.

Ausgrid does not explain why it has taken the sandboxing route instead of seeking funding from ARENA's competitive process. AER staff, in response to a question in the CPN consultation workshops, stated that '...if participants had expertise on learning

from this [Project Jupiter], [AER would] welcome thoughts on this through submissions.’¹¹

There is a substantial overlap between project goals for Project Jupiter and Ausgrid’s CPN trial. Both have goals relating to DER orchestration and enabling DER to provide network support services and capacity. See Box 2 below.

Unclear incremental benefits over Project Edith

The proposed expenditure for the CPN trial is substantially greater than that allocated to Ausgrid’s Project Edith, understood to be around \$12.1m. Project Edith offers the potential to gain network and non-network benefits from increased and more efficient participation of CER.¹²

Ausgrid’s Sandboxing waiver application does not explain how the CPN trial has the potential to offer substantial economic benefits beyond those available from the DSO function being developed under Project Edith. There is a risk of conflicts arising between Ausgrid developing the DSO function by ensuring open access to the Project Edith DSO platform on the one hand, and the CPN trial where Ausgrid is also a market participant, on the other.

No clear case for waiving ring-fencing rules

Clause 6.17.2 of the NER (“ringfencing”) and the associated AER ring fencing guideline together prevent Ausgrid from directly entering contestable electricity services markets. The ring-fencing rule protects both customers and competitors from the harms caused from monopoly networks cross subsidising competitive activities.

To the extent there is a risk of future network congestion, existing NIP and CER facilitation programs, already funded in the current RCP, appear adequate. Against this background, a case has yet to be made for waiving the ring-fencing rules.

Reopening the 2024 regulatory determination is a bad precedent

No case has so far been made in the application that the CPN trial requires reopening the AER’s 2024 Capex determination under Clause 6.6.5. The purpose of this clause is to

¹¹ Ausgrid CPN consultation workshop summaries, AER, page 23.

¹² See summary of Project Edith DSO functions in Box 1 below.

address unforeseeable events such as natural disasters, major asset failures, or unexpected large increases in demand.

Ausgrid already has a substantial Capex allocation. The CPN SCS Totex of 2025 \$72.8m represents 2.53% of the total approved Capex of \$2.9 billion. The proposed CPN SCS expenditure compares with Network Innovation Program (NIP) and CER Capex of \$50.3m that was rejected by the AER in its April 2024 decision.¹³

According to AER network performance data for the five-year period to 30 June 2023, Ausgrid gained \$73.4m from the capital expenditure incentive scheme (CESS). This compares with the proposed SCS cost of the CPN trial - \$72.8m. If Ausgrid is on track to “outperform” its cost or CESS benchmarks, then the main purpose of the waiver could be to allow Ausgrid to retain incentive and other increases in returns.

Reopening a regulatory determination under these circumstances appears to set a bad regulatory precedent. It could undermine the integrity of regulatory determinations and encourage other NSPs to use the sandboxing regime to relitigate AER decisions on prudent and efficient expenditure.

The CPN trial appears to pre-empt policy decisions on the role of DNSPs in CER markets

The proposed “DSO” function in the CPN Trial appears to include DMO functions, requiring a waiver of ring-fencing. The draft NEM review report has recently recommended against the creation of distribution-level markets.¹⁴ In DCCEEW’s National Energy Consumer Roadmap Implementation Plan update, decisions on redefining the roles and responsibilities of distribution level market operation are due to Energy Ministers’ consideration by the end of 2025.¹⁵

The AER Issues Paper states that a final decision on the CPN Trial is expected in November 2025. This is possibly before the decision by Energy Ministers on the role of DNSPs in CER markets.

¹³ See Table 9 below.

¹⁴ See <https://www.dcceew.gov.au/energy/markets/nem-wms-review>

¹⁵ See page 28, *National Consumer Energy Resources Roadmap: Implementation Plan Update*, August 2025, Energy and Climate Change Ministerial Council.

Tensions between the AER's sandboxing and regulatory roles

In its Issues Paper for the CPN trial, AER overlooks serious flaws in the process and design for Ausgrid's proposed trial. There appears to be no recognition that customer protection rules would be breached under the proposal, or that several aspects of the CPN trial would contravene important aspects of the AER's April 2024 regulatory decisions regarding the classification of services and decisions to reduce allowed NIP and CER expenditure by more than \$50m. It may not be appropriate for AER to undertake both sandboxing and regulatory functions.

Recommendations for CPN trial conditions (summary)

The AER should not approve the CPN trial for the reasons explained above. If the AER decided to approve the CPN trial, substantial changes to the design and funding of the CPN trial are required to ensure the CPN trial conforms to customer protection rules and the April 2024 AER determination for the current RCP. Moreover, decisions on the CPN trial should not pre-empt Ministerial decisions under the CER roadmap, including on the definition of the role of DSOs vs. DMOs, and the extent any network control services and assets remain contestable.

The following conditions should be applied in the event of any decision by the AER to allow the CPN trial to proceed. These are summarised below and in detail in the main body of the report.

1. Ensure all SCS expenditure meets the relevant tests and process requirements including a regulatory impact statement and confirmation expenditure is efficient and prudent.
2. Proposed SCS expenditure and bill impacts should be transparent, including the balance of Capex and Opex and full disclosure of unspecified SCS expenditure of \$42.6m.
3. The CPN trial objective and trial design should be amended to make this testable and sufficient to support evidence-based decision making in the future.
4. Clear performance metrics for the trial should be specified, in line with best practice.
5. To ensure no conflicts between the CPN trial and the DSO trial (Project Edith), there should be mandated open access to the customer-funded DSO trial.

6. Treatment of remaining assets and liabilities following the trial needs to be in accordance with the relevant rules – only prudent and efficient SCS expenditure can be recovered from SCS charges.
7. A clear case for waiving ring-fencing rules needs to be set out, and ring-fencing rules should continue to protect customers and competitors.
8. An ex-post review of the sandboxing regime and its administration by the AER should be undertaken, in line with best practice performance review for Australian government departments and programs and initiatives funded by public money – in this case regulated network charges.¹⁶

¹⁶ See <https://www.finance.gov.au/government/managing-commonwealth-resources/planning-and-reporting/commonwealth-performance-framework/evaluation-commonwealth-rmg-130>

Ausgrid's proposal and AER Issues Paper

This section summarises Ausgrid's proposal and some aspects of the AER Issues Paper discussion. This forms part of the basis for the analysis in the evidence and analysis section below.

CPN Trial objectives and outcomes

The trial seeks to:

- Extend the benefits of renewable energy and battery storage to households that cannot install their own systems, such as renters and apartment dwellers.
- Aggregate and orchestrate customer energy resources to reduce peak demand, improve local grid performance, and generate network cost savings.
- Redistribute and trade locally pooled solar energy via batteries—profits (dividends) shared with trial participants.
- Gather evidence for policymakers on whether network-led models deliver value, while respecting regulatory boundaries between monopoly (network) and competitive (retail/generation) sectors.

Ausgrid indicates that outcomes from the trial could inform future proposals to expand the current definition of SCS, to include new services to increase Ausgrid's capacity to host CER. The proposed trial objective is to test the hypothesis that:

'...the coordinated deployment and orchestration of distributed storage by the network operator can deliver the lowest cost of electricity to all customers.'

Ausgrid's proposed performance indicators for the trial are reproduced in Figure 2 below.

Figure 2 – Ausgrid measures of success for the CPN Trial

Figure 3.5: Measures of Success for the Pilot

| For Customers... | For the Grid and Market Stability... |
|--|--|
| <ul style="list-style-type: none"> • Reduced electricity prices for customers <i>Size of CPN Dividend</i> • Equitable access to benefits for all <i>Benefits by customer archetype in CPN vs. BAU</i> • Faster transition to renewables <i>Carbon intensity of power consumed in CPN vs NEM</i> • Lower grid costs per kWh <i>Total network tariffs in CPN vs. NEM</i> | <ul style="list-style-type: none"> • Faster transition to renewables <i>Carbon intensity of power in CPN vs NEM</i> • Lower network costs <i>Peak vs. Mean Daily Demand from NEM for CPN</i> <i>Reduction in Peak Demand vs. BAU for CPN</i> • Wholesale Market Stability <i>Reverse power flow events from CPN avoided</i> • C&I Rooftop Solar Market Activation <i>Percentage of solar provided by commercial market</i> |

No performance metrics relating to the above measures are provided in the Ausgrid application. Regarding lower network costs, Ausgrid states:¹⁷

By ensuring the battery capacity and orchestration can shave peaks and avoid minimum demand issues, the concept can reduce the amount of augmentation required to meet future network needs. It can also create the headroom to enable new loads such as data centres to connect and significantly lift the overall utilisation of the network, reducing the tariffs required per kWh that all customers need to pay.

Similarly, in discussing potential reporting conditions, the AER Issues Paper refers to:

- *'...evidence of improved network utilisation and outcomes for consumers (including quantified benefits, reduced network augmentation and how these deliver reduced whole of system costs for consumers)*
- *evidence of delayed or deferred network investment...*¹⁸

¹⁷ See page 16, Ausgrid Op. Cit.

¹⁸ See page 16, AER Issues Paper.

Why a trial waiver is being sought

Ausgrid's application and the AER Issues paper discuss a waiver from the following two Rules.

- Clause 6.6.5 relating to the reopening of the determination for capital expenditure (the Capex reopening rule). If granted, reopening allows Ausgrid to include the costs of the CPN in Ausgrid's 2024-29 revenue allowance. This also protect Ausgrid from any penalties or reduction in rewards under the Capital Expenditure Sharing Scheme (CESS), or an ex-post prudency and efficiency review.
- Clause 6.17.2 of the NER and the associated AER ring fencing guideline (the ring-fencing rule). Ausgrid is prevented from directly entering contestable electricity services markets, in this case leasing out battery storage capacity (BESS) and potentially owning solar energy assets as 'owner of last resort'. It can currently enter these markets via its related electricity services subsidiary (RESP), provided it complies with ring-fencing guidance.

Ausgrid is not seeking a waiver from Cl. 5.17.2 and related requirements for a regulatory investment test – distribution (RIT-D), including the preparation of a cost benefit analysis. The proposed regulated expenditure substantially exceeds the threshold for a RIT-D.

Similarly, Ausgrid is not seeking a waiver from Cl 6.5.7 which governs capital expenditure, including contributing to emission reductions through the supply of standard control services. Related to this, Ausgrid does not state that it is seeking a waiver from the AER's 2024 final determination regarding the definition of standard control services.

Regulated customer bill impacts

Customer bill impacts from the CPN trial are not disclosed in the Ausgrid waiver application or AER Issues Paper and cannot be inferred from the limited available information. Tahu Consulting has calculated indicative customer bill impacts incremental to the AER's 2024-29 final determination and these are summarised in Table 2 below.¹⁹

¹⁹ This is a summary and interpretation of Ausgrid's Table 4.1 on page 22 and associated explanation in *Regulatory sandbox application – revision 2 Community Power Network*, July 2025, Ausgrid.

The Issues Paper notes there is no innovative trial principle addressing project costs, as not all trials impose a cost on consumers. AER is 'seeking feedback on how these costs are allocated and recovered'.²⁰

The proposed total expenditure for the trial is \$186.7m. This includes estimated private sector capital expenditure of \$76.3m. Recovery of this capital cost under the CPN extends beyond the term of the trial.

The apparent impacts on Ausgrid regulated customers incremental to the 2024-29 final revenue cap are summarized in Table 2 **Error! Reference source not found.** below.²¹

Table 2 - Ausgrid customer impacts – to extent disclosed

| Totex 2026-2030 | \$2025m |
|---|---------------|
| Cost of implementing the DSO (spatial energy plan & BESS despatch, DMO energy trading) | \$17.8 |
| BESS to be included in Ausgrid's RAB (26% of total BESS) | \$12.4 |
| Undisclosed Standard Control Service (SCS) cost equivalent to estimated emissions benefit | \$42.6 |
| Subtotal (incremental impacts) | \$72.8 |
| Upstream NUOS charges transferred from CPN customers | \$9.1 |
| Non-CPN Ausgrid regulated customer impact | \$81.9 |

Ausgrid appears to be proposing to increase the revenue cap above the AER's April 2024 final decision for 2024-29 by \$72.8m.²² No offsetting cost savings have been identified or proposed. A significant net increase in capital expenditure is implied by the application to reopen the decision under Cl. 6.6.5 (the Capex reopener clause).

The nature of the proposed SCS expenditure is not fully itemised. For example, it is not clear how much of the total expenditure is capitalised or expensed, as a Totex approach is applied.

²⁰ Issues Paper, page 10.

²¹ This is a summary and interpretation of Ausgrid's Table 4.1 on page 22 and associated explanation in *Regulatory sandbox application – revision 2 Community Power Network*, July 2025, Ausgrid.

²² See Appendix 1 illustration of the possible longer-term customer bill impact of the Capex component.

Ausgrid proposes transferring \$9.1m medium and high voltage network charges from CPN customers to the wider customer base.²³ It therefore appears \$81.9m of the proposed project funding is from SCS charges.

It appears \$42.6m of the proposed regulated expenditure is not identified or explained. Instead, it is presented as an emissions related benefit from the CPN trial that is recoverable from SCS tariffs.

Compared with Sandboxing trials approved so far (see Table 6), the proposed expenditure for the CPN trial is two orders of magnitude greater than for sandboxing trials approved to date. Therefore, a proportionally higher level of scrutiny is required by the AER of Ausgrid's CPN proposal.

As shown in Table 3, the cost per CPN customer over the duration of the trial is significant.

Table 3 - Regulated cost per CPN customer

| Regulated Totex per CPN customer (2026-2030) | Count |
|--|--------------|
| CPN customers | 32,000 |
| SCS recovery | \$72,800,000 |
| Regulated cost per CPN customer | \$2,275 |

Trial expenditure and revenue

Over the trial period, estimated non-regulated expenditure is \$79.4m. This is shown in Table 4 - CPN Non-regulated expenditure.

Table 4 - CPN Non-regulated expenditure

| Non-regulated operating expenditure 2026-30 | \$m |
|---|-------------|
| Premium feed in tariff | 3.4 |
| Power purchase payments for solar | 33.8 |
| Repayment on CPN assets & costs | 19.3 |
| Customer dividend | 22.9 |
| Total operating expenditure | 79.4 |

²³ See Figure 4.3 and discussion under 4.4.2, Op Cit. Ausgrid states that: 'Under the CPN model, the energy generated and consumed locally will not use any assets above the ZS (distribution or transmission) which provides a network pricing benefit to customers in the zone.' These costs continue to exist and are therefore transferred to the non CPN customer base.

During the trial period, total estimated CPN revenue is \$148.8m, as summarised in

Table 5. Commercial revenue (\$76.0m) is slightly lower than commercial expenditure (\$79.4m).

Table 5 - Ausgrid projected CPN revenue

| Projected CPN revenue 2026-30 | \$m |
|---|-------|
| Regulated network charges before charges shift | 72.8 |
| CPN solar direct | 22.5 |
| CPN solar arbitrage | 33.3 |
| Network charges shift to non CPN customers | 9.1 |
| Wholesale trading | 10.3 |
| Ancillary services | 0.8 |
| Commercial revenue subtotal | 76.0 |
| Total regulated and commercial revenue | 148.8 |

Options following the trial, and solar owner of last resort

If the project is deemed to achieve its objective, then in the 2029-34 regulatory determination, the classification of SCS could be expanded to include CPN as a 'distribution service.'²⁴ The remaining CPN assets, including Ausgrid funded BESS, DSO and other assets would then continue to be depreciated from SCS revenues.

Alternatively, if the project is deemed not to achieve its objective, or the CPN is not reclassified as part of SCS, then surplus assets would be disposed of and Ausgrid would bear any shortfall. The CPN DSO assets, including the spatial energy plan would remain on the SCS RAB. This is described by the Issues Paper as '...an effective reversion to current settings.'²⁵

²⁴ See AER Issues Paper, page 12.

²⁵ Ibid.

Comparison with expenditure under approved sandboxing trials

As shown in Table 6, the proposed expenditure for the CPN trial is two orders of magnitude greater than for sandboxing trials approved to date.

Table 6 – Approved sandboxing trials

| Trial Name | Proponent | Status | Estimated Cost Recovery |
|---------------------------------------|-------------------|----------|---|
| Flexible DER Integration Trial | SA Power Networks | Approved | ~\$2.1m recoverable via demand management innovation allowance mechanism (DMIA) |
| Dynamic Tariff Trial | Jemena | Approved | ~\$1.4m recoverable via standard opex allowance |
| Virtual Storage Aggregation | Endeavour Energy | Approved | ~\$3.6m proposed; subject to final AER determination |

Evidence and analysis regarding CPN costs and benefits

This section sets out the detailed evidence and analysis relative to the findings and recommendations in the Executive Summary. Detailed findings and recommendations are also provided, along with an Appendix on the possible long-term impacts of the CPN SCS expenditure for customer bills.

Customer protection rules not invalidated by regulatory sandboxing

Even if the waivers sought are authorised, the CPN trial as proposed would breach multiple customer protections

The CPN trial as currently proposed and discussed in the AER Issues Paper cannot proceed under the NER, even if the waivers being sought are approved. The CPN Trial application and AER Issues Paper both appear to assume rules, protecting consumers from inefficient expenditure and associated increased SCS expenditure and prices, can be set aside.

As the AER notes, there is no innovative trial principle addressing recovery of project costs. It therefore appears the Sandboxing regime as it currently stands does not dilute, downgrade or otherwise permit the AER to waive rules and revenue cap decisions protecting customers from inefficient and imprudent expenditure.

It appears that most if not all of the proposed regulated expenditure represents an increase in the revenue cap in the AER's April 2024 final decision. No offsetting cost savings have been identified or proposed and a net increase in capital expenditure (and hence the revenue cap for the RCP) is implied by the application to waive Cl. 6.6.5.

Ausgrid nevertheless appears to be proposing to breach numerous customer protection rules and the current regulatory determination handed down in April 2024. The AER's Issues Paper does not identify these protections and the impact on the proposed expenditure for the CPN trial.

Relevant customer protection rules and AER regulatory decisions under those rules include:

- Committing Standard Control Service (SCS) capital expenditure of more than \$7m, as seems to be proposed. In the absence of a regulatory impact statement – distribution (RIT-D), this would breach Cl. 5.17.2.^{26 27}
- Recovery of non-SCS expenditure from SCS charges. This appears to contradict the AER’s decision not to change the classification of standard control services for the current RCP.
- Undertake capital expenditure that does not contribute to the capital expenditure objectives. This appears to breach Cl6.5.7(a) and therefore 6.5.7(c) requiring efficiency and prudence relative to forecast demand and other relevant inputs.
- Propose expenditure to achieve emissions reduction targets which appears unrelated to the cost of the supply of standard control services but instead relates to an estimated value of the emissions reduction from non-SCS expenditure (for example power purchase agreements (PPAs) for solar).

AER decisions to reduce Network Innovation Program and CER expenditure

In its April 2025 Final Decision AER did not accept Ausgrid’s Innovation proposal of \$49.2 million (\$4.5m Opex) for the NIP and reduced this by \$32m to \$17m (\$1.5m Opex).²⁸

In its reasons for this reduction, AER set out the criteria it used to assess Ausgrid’s NIP. The criteria included being innovative, meet the expenditure objectives (prudence and efficiency) and have stakeholder support. AER stated:

‘...we would expect that a business could demonstrate the potential benefits to consumers in the event the activity is successful... be untested at scale’²⁹

As discussed in the following section regarding network utilisation benefits, we do not consider the CPN trial can meet the AER criteria. There is significantly less expenditure detail and justification provided in the CPN sandboxing information compared with the expenditure proposals that the AER partly rejected in April 2024.

²⁶ The exemptions in the NER do not apply, and the proposed expenditure for the BESS (\$12.4m) plus the Spatial energy plan (unspecified) is well above the RIT-D threshold of \$7m.

²⁷ In response to a question raised in a CPN consultation workshop, AER staff noted they have not received a waiver request in relation to the RIT-T. This point was taken on notice and explored further by the team – see page 23 of the Ausgrid CPN consultation: workshop summaries.

²⁸ See page 35 *Ausgrid Electricity Determination 2024 to 2029; Attachment 5 Capital Expenditure*, April 2024, AER.

²⁹ See page 37, *Ibid*.

Moreover, the extent the CPN trial is innovative may be doubtful given the apparent duplication with the ARENA funded Project Jupiter Trial discussed under the section on flaws in the CPN trial design and process, below.

It is also possible some of the proposed expenditure for the CPN trial corresponds to proposed CER integration expenditure that was not approved in the AER's final 2024-29 determination.³⁰ As noted in a consultant report for the AER:³¹

Ausgrid has a looming CER integration challenge but not currently at the same level as some peers due to relatively low CER penetration in its network

The EMCA report also noted that Ausgrid's forecast of CER curtailment was likely to be overstated.³² Drawing on EMCA's advice, in its final decision, AER substantially reduced the capital expenditure allowance for CER integration.

No connection between market benefits and prudent and efficient regulated cost recovery

No detail is given on how the proposed regulated expenditure, corresponding to an estimated \$42m carbon benefit, is allocated. The size and nature of the corresponding expenditure is not disclosed.

Under the capital expenditure rules, only the SCS network expenditure required to provide the additional network hosting capacity is recoverable from regulated network charges. The value of the market benefits, in this case estimated carbon benefits, is not relevant to estimating the cost that is recoverable from network tariffs.

Lack of transparency/insufficient information on customer bill impacts

Compared with a RIT-D, there is a lack of transparency and limited information provided so far. Operating costs and revenues are not given on a yearly basis, and capitalised and expensed costs are not identified separately.

³⁰ In its 30 April 2024 final determination, AER did not accept Ausgrid's CER integration capex proposal of \$45.3m as it considered this did not reflect the capital expenditure criteria. Ausgrid's proposal was reduced by \$16.2m.

³¹ See *Review of proposed expenditure on CER and for ERP system*, August 2023, EMCA

³² Ibid. page 21.

Insufficient detail on DSO/DMO expenditure is provided compared with a RIT-D or regulatory proposal. Similarly, the Ausgrid material does not provide information on whether any proposed new expenditure corresponds to CER/DSO expenditure that was rejected by the AER in its final decision for this RCP.

There are no significant network utilisation benefits under the CPN trial

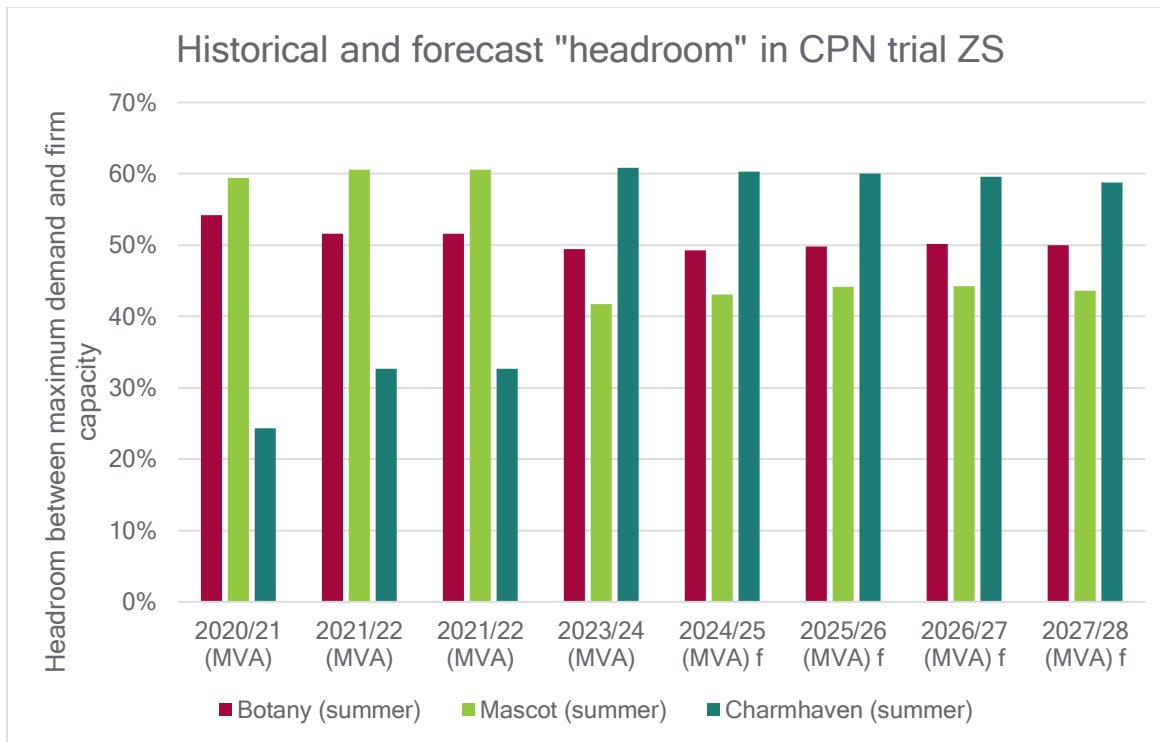
The three CPN ZS have ample headroom (MVA) and there is no network congestion requiring the proposed deployment of BESS

Ausgrid's 2024 DTAPR indicates forecast maximum demand growth (MVA) is flat or falling across all three relevant ZS. This means network benefits from 'load flattening' under the proposed trial do not exist. If there were a sound case for increased capital expenditure to manage minimum demand issues, this expenditure would have been approved for the current RCP.

Figure 3 below uses data from Ausgrid's 2024 Distribution Transmission Annual Planning Report (DTPAR) to derive the historical and forecast headroom in the three CPN trial ZS. This highlights there is substantial headroom between firm capacity and annual maximum demand both historically and forecast for the first part of the CPN trial.³³

Figure 3 – Historical and forecast “headroom” for CPN trial ZS

³³ According to the 2024 Ausgrid DTAPR, the CPN ZS are forecast to remain summer peaking. It is possible that some Ausgrid ZS could in future become winter peaking where substantial gas demand is electrified.



Source: Data supplied alongside 2024 DTAPR, Ausgrid, inverted from maximum demand as percent of firm capacity to headroom as percent of firm capacity by Tahuconsulting

Given the substantial headroom (low maximum capacity utilisation), there are unlikely to be any avoided network costs from load flattening or reduction in peak demand attributable to the CPN trial. Mascot has recently experienced a substantial reduction in headroom. This reflects high new connections growth in the area. By contrast, Charmhaven has experienced a substantial increase in headroom, possibly reflecting a substantial increase in rooftop solar uptake.

Higher utilisation (MWh) may not mean lower prices or increased new demand

Any increase in utilisation because of the CPN trial will not result in lower regulated prices or result in entry of major new demand from the likes of data centres.

The proposed CPN could increase energy flows (volume) across the CPN network assets. This reflects the impact on network volumes of additional solar exports, and additional BESS charging and discharging.

The increased volumes (MWh) would not result in significant network price reductions for most CPN customers because volumetric charges make up a declining portion of total network bills. This reflects a move toward more 'cost reflective' network pricing

structures consisting of capacity/demand (MVA related) and fixed charges and away from volumetric (kWh) charges. This move reflects the fact that the marginal cost to networks of higher utilisation of sunk assets is close to zero.³⁴

As a result, volumetric charges currently make up less than half of Ausgrid's regulated revenues. Revenue from volumetric charges will fall substantially over the CPN trial period as all analogue (type 6) meters are replaced by 2030 under the smart meter mandate, enabling increased use of demand/capacity charges.³⁵

The increase in headroom from load flattening could result in some avoided deep connection costs for any new large loads, such as data centres. However, data centres could simply find locations served by other ZS with greater excess capacity to achieve the same saving.

No avoided network augmentation benefits over 10-year planning horizon

Ausgrid's 2024 DTAPR mentions that a RIT-D is expected to be undertaken for Botany ZS switchgear replacement. The waiver application does not discuss whether the proposed trial is a potential non-network alternative to the switchgear replacement. Ausgrid is in the process of replacing a number of aging or obsolete switchgear³⁶ to ensure safe, reliable and efficient operation of the network.

No requirement for a RIT-D assessment is identified for the Charmhaven ZS is mentioned in the 2024 DTAPR. A dual function asset upstream from the Mascot ZS (Mascot East STSS) is mentioned as a possible response to new connections growth.³⁷ Again, the waiver application does not discuss whether the proposed trial is a potential non-network alternative to network augmentation at the Mascot East STSS.

The three ZS in the CPN trial are not identified in the Houston Kemp LRMC export model for the purpose of deriving export tariffs. This suggests that CER hosting constraints are not forecast to be binding over the entire 20-year forecast period for the

³⁴ Marginal costs of higher utilisation mainly consist of network losses, which increase with network loadings and ambient temperature. The cost of network losses are borne by retailers in settling their wholesale market positions, not networks.

³⁵ [National Smart Meter Rollout - Ausgrid](#)

³⁶ "Switchgear" refers to a set of electrical disconnect switches, circuit breakers and fuses used to control, protect and isolate electricity equipment. In ZS, it typically manages the flow of electricity between 33kV and 11kV voltage levels.

³⁷ See page 60 of Ausgrid's 2024 DTPAR.

LRMC export model.³⁸ As a result, it is possible there is little benefit (avoided network investment) from the CPN trial in terms of increasing capacity for hosting rooftop solar.

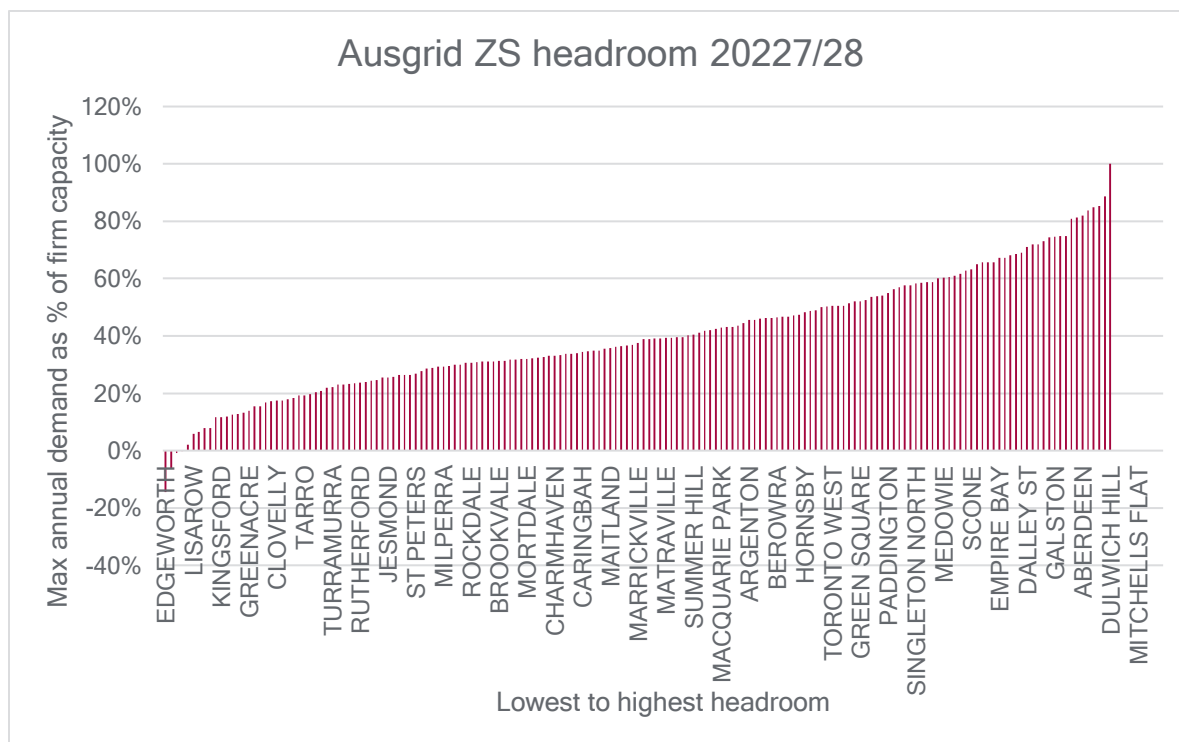
Potential CPN benefits in other parts of Ausgrid's network also appear modest

Due to the high headroom and relatively low uptake of CER across Ausgrid's network, potential CPN benefits in other parts of Ausgrid's network appear modest. According to data supplied alongside Ausgrid's DTPAR, ~85% of Ausgrid's ZS (for which data are provided) currently have more than 20 percent "headroom" between maximum annual demand and firm capacity. 53.8% have more than 40% "headroom."³⁹ This is shown in Figure 4.

³⁸ <https://www.aer.gov.au/documents/ausgrid-revised-proposal-att-85-long-run-marginal-cost-export-model-30-nov-2023>

³⁹ Note that ZS with zero or negative headroom do not necessarily require capacity augmentation or BESS. Often, there is sufficient transfer capacity from nearby ZS to remain within planning standards, or other solutions including demand response or non-network solutions are in place that avoid any requirement to augment an apparently congested ZS.

Figure 4 – Ausgrid ZS headroom

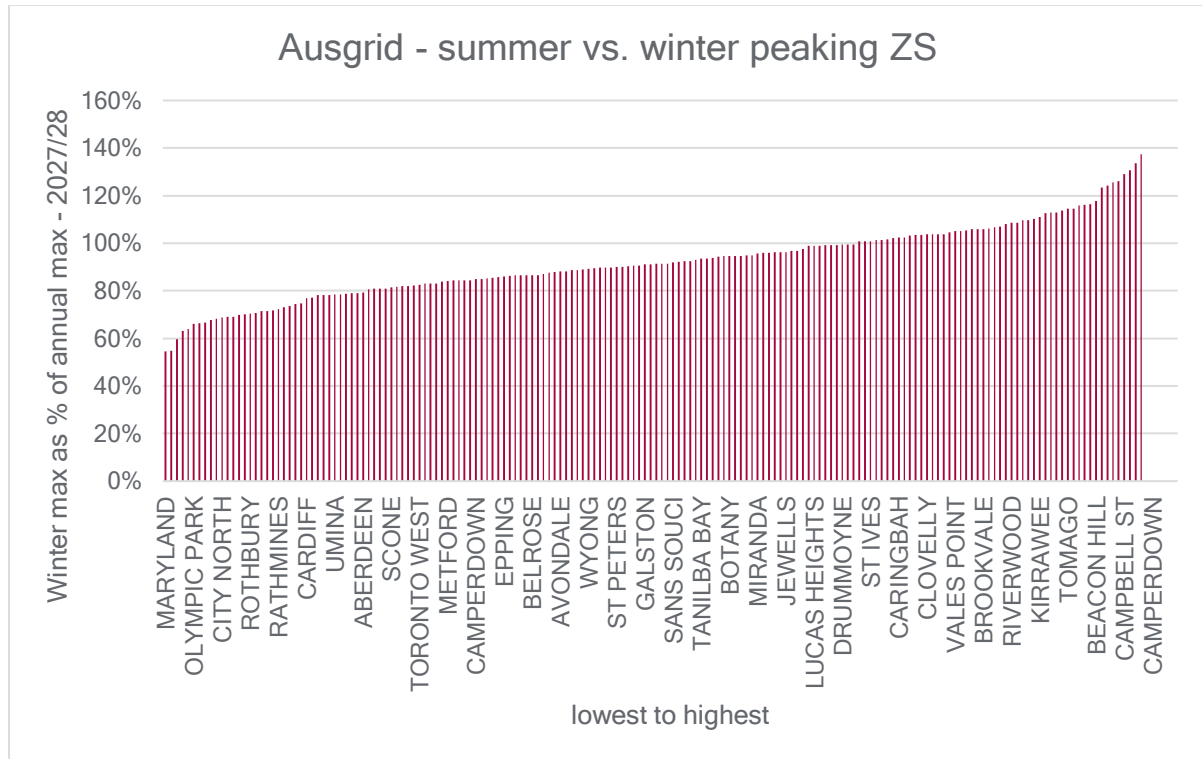


Source: Tahuconsulting analysis of Ausgrid DTPAR data. For some ZS data is missing or otherwise not available and these ZS therefore appear on the right-hand side of the charts above and below.

Similarly, there are currently no RIT-D assessments over a ten-year planning period to augment ZS capacity. All proposed RIT-D assessments over the 10-year period relate to replacement of poor condition or aging assets.

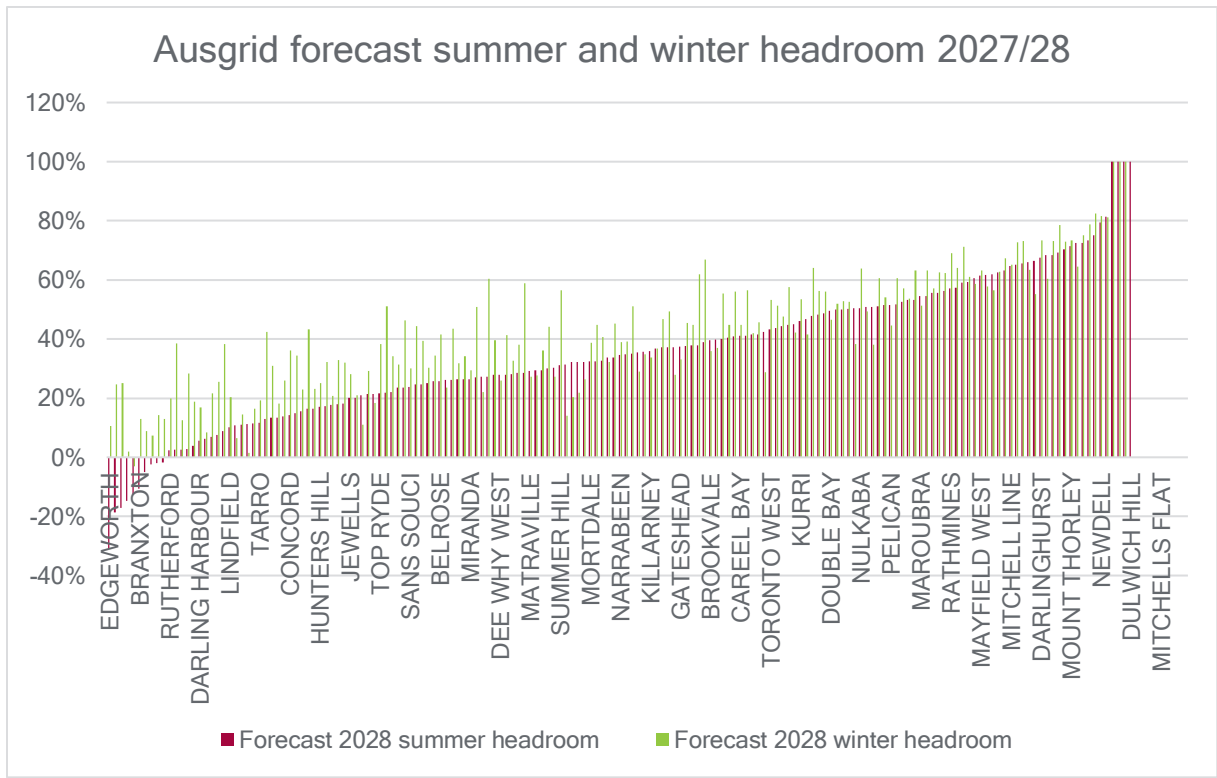
Electrification of gas and oil demand may increase demand peaks or shift demand peaks to winter. 69.5 per cent of Ausgrid ZS are forecast to be summer peaking in 2027/28. See Figure 5.

Figure 5 – Winter maximum demand as % of annual maximum demand - 2027-28



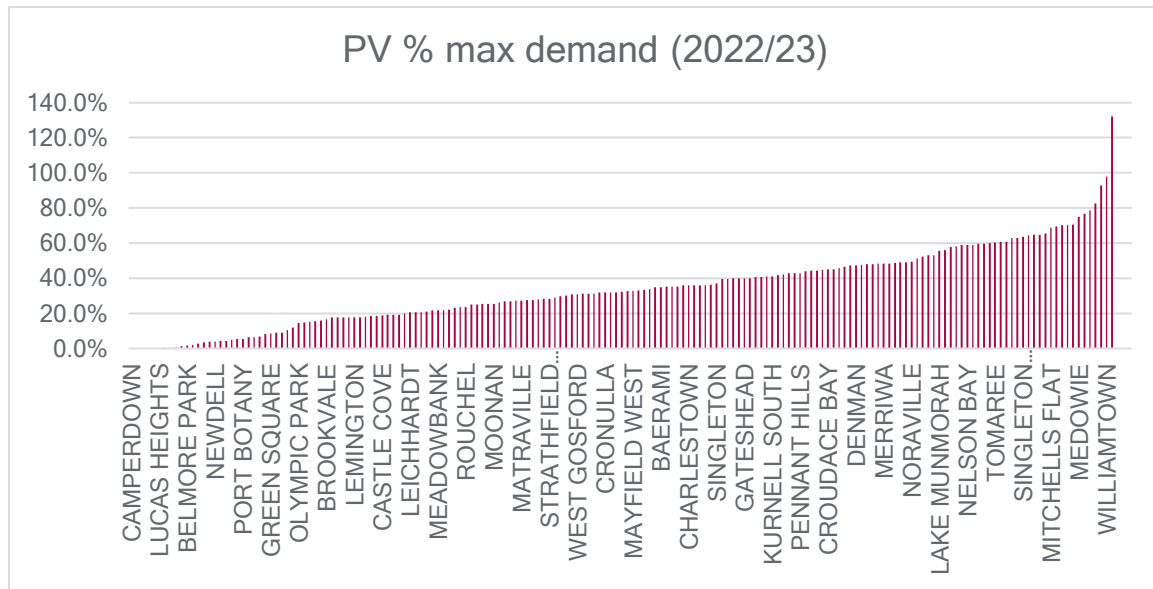
For many ZS, firm capacity in winter is significantly higher than summer, due to the impact of ambient temperatures on ZS without AC. As a result, even if there were a substantial demand shift to winter, this does not result in a significant reduction in headroom. The increase in winter headroom is summarised in Figure 6

Figure 6 – Ausgrid forecast summer and winter headroom - 2027/28



The Ausgrid wide utilisation data suggest it is unlikely that a wider rollout of the CPN model would offer substantial benefits until well after the end of the CPN trial.

Figure 7 - PV as percent of maximum firm demand



CPN outputs appear to be unrelated to SCS or proposed DSO function

There may be a legitimate discussion at a future regulatory reset on whether DNSPs should gain new DSO functions necessary to 'orchestrate' CER at the low voltage network level. However, as shown in Table 7 most Ausgrid proposed Trial KPIs appear to relate to DMO and CER market making functions, not DSO functions.

Table 7 - Evaluation of Ausgrid's proposed CPN KPIs

| From Figure 3.5 | Ausgrid's proposed trial KPIs | Benefit type | Regulated network benefit (avoided cost & DSO function) |
|-----------------------------------|--|--------------|--|
| For customers | Reduced electricity prices for CPN customers (CPN dividend) | Retail | No. Not a DSO function |
| | Equitable access to CER benefits in CPN | | No |
| | Reduced carbon emissions in CPN | Green | No. Not a DSO function |
| | Lower grid costs in kWh - total network tariffs in CPN | Network | This is a \$9.1m cost transfer to other customers, not a benefit |
| For the grid and market stability | Reduced carbon emissions in CPN | Green | No. Not a DSO function |
| | Peak vs mean daily demand for CPN | Wholesale | No avoided network cost in CPN |
| | Reduction in peak demand vs. BAU for CPN | Wholesale | No avoided network cost in CPN |
| | Wholesale market stability (avoided reverse power flow from CPN) | Wholesale | Not a DSO function |
| | Rooftop solar market activation | Wholesale | Not a DSO function |

Expenditure for Project Edith already allocated can achieve network benefits proposed by a CPN

As explained in Box 1 below, expenditure for Project Edith that has already been allocated would be used to develop and operate a platform for CER to allocate network capacity and incentivise network support. According to an EMCa report for AER, Project Edith, Ausgrid is planning to spend \$12.1m over the 2024-29 RCP.⁴⁰ This is significantly more than proposed for the CPN trial.

⁴⁰ See EMCa, Op. Citm page 26

Box 2: Project Edith overview

Project goals

- Enable customer energy resources (CERs)—like solar panels, batteries, and EVs—to participate in energy markets.
- Use dynamic pricing to allocate network capacity more efficiently.
- Incentivize network support, such as voltage regulation, from customer-owned energy assets.

Project pathways

- Customers opt in via their energy retailer.
- Network charges are based on real-time conditions at the customer's location.
- Negative export prices signal network constraints—customers exporting energy during these times get paid for helping the grid.

Currently, the DSO platform does not appear to be open access, although Ausgrid states that, as the project is scaling up, it is welcoming additional partners to onboard the initiative. More information is available at [*Project Edith - Ausgrid*](#)

Ausgrid states that the CPN trial is being run separately from Project Edith.⁴¹ It also states that:

'In the Community Power Network pilot, we aim to test how leveraging similar building blocks (network monitoring, network modelling and operational forecasting) can expand the effectiveness of a DSO.'

Ausgrid's Sandboxing waiver application does not explain how the CPN trial has the potential to offer substantial economic benefits beyond those available from the DSO function being developed under Project Edith.

Most CER orchestration benefits across the NEM appear to be non-network benefits

A report for the AEMC finds that most CER orchestration benefits relate to wholesale markets and only a small portion of these benefits relate to networks.⁴² This is shown in **Error! Reference source not found.**

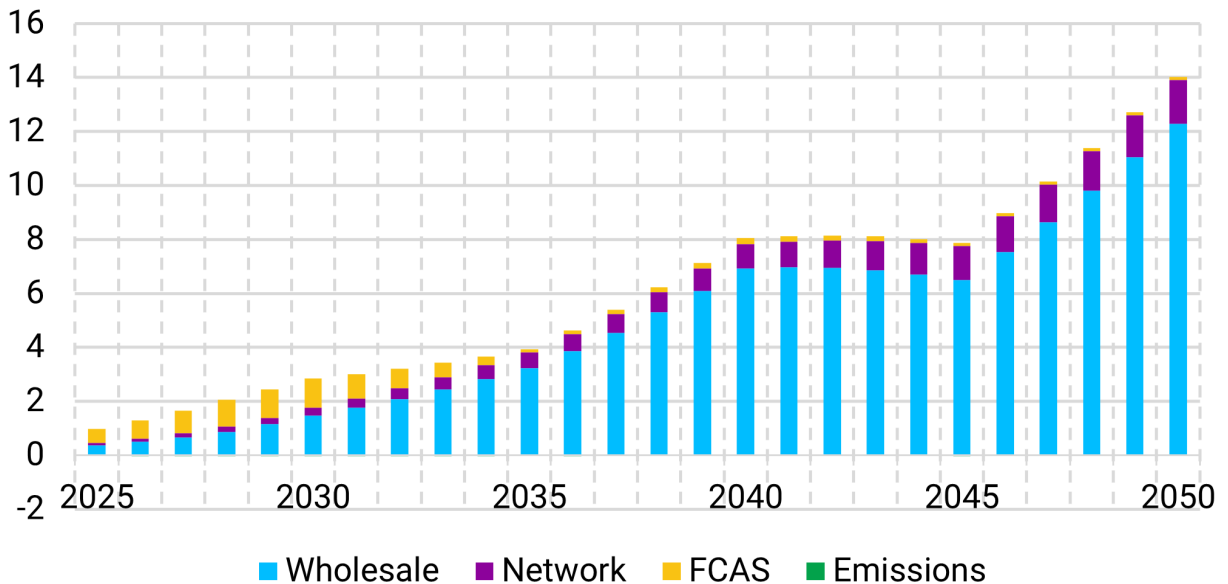
⁴¹ See Ausgrid Op. Cit, page 32.

⁴² <https://www.aemc.gov.au/energeia-finds-cer-flexibility-could-deliver-45b-benefits-2050>

Figure 8 - Estimated system benefits from CER orchestration, by value

Figure 1: System benefits due to CER orchestration by value stream

Billions (2023 Australian Dollars)



There are serious flaws in the CPN trial design and process

CPN trial outputs insufficient to sustain future policy decisions

The information supplied in the AER Issues Paper and Ausgrid application does not explain how the trial can meet its stated objectives. As proposed, the outcomes of the trial can have no value in terms of generating evidence for future policy development or decision-making on the future classification of services.

The proposed trial hypothesis is not a testable (falsifiable) hypothesis. This is because no potential evidence that could contradict the hypothesis would be acquired under the design of the CPN trial.

To test the hypothesis, a control group and a second alternative would be required. Conceptually, this is similar to a CBA and RIT-D where more than one alternative option to doing nothing needs to be tested.

The CPN trial scope appears to duplicate large parts of an ARENA funded trial

Ausgrid's application does not discuss and identify how its CPN trial is incremental to and does not duplicate Project Jupiter. Ausgrid does not explain why it has taken the sandboxing route instead of seeking funding from ARENA's competitive process.

The total CPN Trial Budget is 1.7 times higher than the part-ARENA funded Project Jupiter (\$108.34m). There is a substantial overlap between project goals for Project Jupiter and Ausgrid's CPN trial. Both have goals relating to DER orchestration and enabling DER to provide network support services and capacity.

Box 2: Project Jupiter overview

Project goals

- Build a DER orchestration system for the South West Interconnected System (SWIS)
- Enable households and businesses to participate in Virtual Power Plants (VPPs)
- Ensure all new solar and battery systems are visible, compliant, and VPP-ready by 2028

Project pathways

- Technical systems and regulatory frameworks to support DER at scale
- Customer pathways for joining VPPs and unlocking more value from energy assets
- Market mechanisms for DER to provide network support services and capacity

Western Power is undertaking the DSO role (network operations) but will not be undertaking the DMO role (managing trading within the low voltage SWIS). This role is being defined but will be undertaken by some combination of AEMO, VPP aggregators and retailers. Non network support services (e.g. system security) are contestable and not a DSO function.

The ARENA funding is explicitly based on the principle that experience from Project Jupiter can be transferred to the NEM, including via the development of consistent technical standards. To this end, ARENA has already published its National Alignment Report for Project Jupiter.⁴³ In one of the CPN Trial consultations,

The CPN trial appears to pre-empt policy decisions on the role of DNSPs in CER markets

⁴³ <https://arena.gov.au/knowledge-bank/project-jupiter-national-alignment-report/>

The proposed “DSO” function in the CPN Trial appears to include DMO function. It is therefore likely the CPN trial pre-empts policy decisions on defining the role of DNSPs in policy decisions on track for delivery by the end of 2026.

In DCCEEW’s National Energy Consumer Roadmap Implementation Plan update, decisions on redefining the roles and responsibilities of distribution level market operation are due to Energy Ministers’ consideration by the end of 2025.⁴⁴ The AER Issues Paper states that a final decision on the CPN Trial is expected in November 2025, possibly before the decision by Energy Ministers.

No clear case for waiving ring-fencing rules

Clause 6.17.2 of the NER (“ringfencing”) and the associated AER ring fencing guideline together prevent Ausgrid from directly entering contestable electricity services markets. The ring-fencing rule protects both customers and competitors from the harms caused from monopoly networks cross subsidising competitive activities.

To the extent there is a risk of future network congestion, existing NIP and CER facilitation programs, already funded in the current RCP, appear adequate. Against this background, a case has yet to be made for waiving the ring-fencing rules is a) beneficial and b) necessary for achieving efficiency benefits.

No competitive process for CPN trial

In contrast to ARENA’s funding of Project Jupiter, the Australian government’s Smart Grid Smart City trial and Ofgem’s innovation program, there is no competitive process for the allocation of network consumer funding for this trial.

It seems unlikely that Ausgrid is the best placed network to test DSO and CER hosting options. It has a low rate of CER penetration and faces little network congestion. An expert report for the AER found that capital expenditure during the present RCP for Ausgrid would be premature.⁴⁵ Another DNSP experiencing high rates of CER uptake and associated network congestion may be a better candidate to undertake a CPN trial.

Proposed CPN does not address a key cause of flat and falling network utilisation – inefficient tariffs

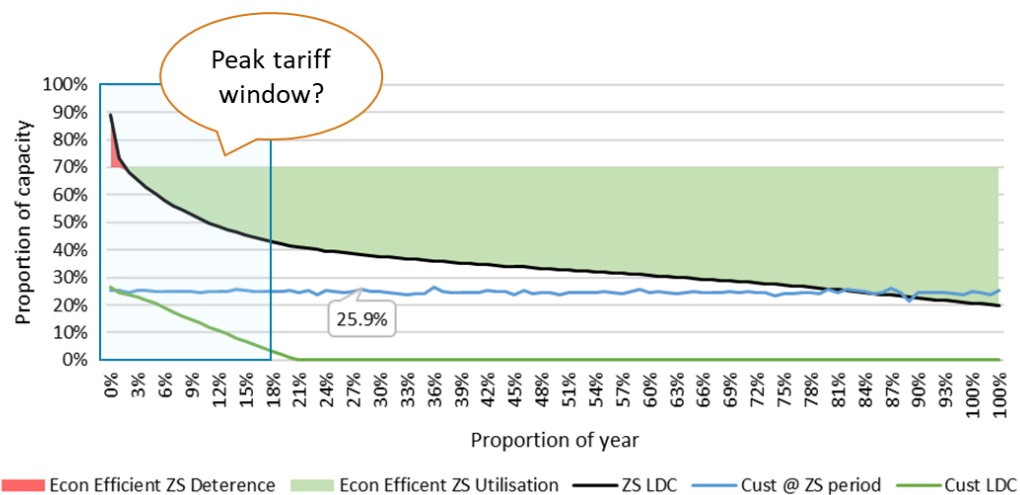
⁴⁴ See page 28, *National Consumer Energy Resources Roadmap: Implementation Plan Update*, August 2025, Energy and Climate Change Ministerial Council.

⁴⁵ See EMCa Op. Cit.

Low network utilisation in Ausgrid and elsewhere is partly a product of inefficient tariff designs. This highlights that more effective regulation including better tariff design are more likely to increase network utilisation than the CPN proposal. As shown in the example ZS demand duration curve (LDC) in

Figure 9 below, Ausgrid's tariff designs penalise efficient inframarginal demand in the green zone to the left of the peak tariff windows.

Figure 9 - Example Ausgrid ZS LDC and impact of tariffs on utilisation



Source: Ausgrid ZS data contained in DTAPR tariff structure statement explanatory statement attached to Ausgrid's 2023 amended regulatory proposal.

Ausgrid has recently introduced export tariffs intended to fund expenditure to relieve congestion from solar and any other CER exports. As evident from the LRMC modelling attached to the Tariff Structure Statement (TSS), congestion from electricity exports is very low over the current RCP and well into the 2030s at which time congestion is projected to affect only a small minority of ZS and associated assets. While the forecast revenue from the new export tariffs over the current RCP is relatively modest at \$14m, these charges nevertheless create a disincentive to higher utilisation of the network.

AER Issues Paper does not identify the serious flaws in Ausgrid's CPN trial proposal and supporting information

The AER Issues Paper for the CPN trial does not identify the serious flaws in Ausgrid's CPN trial proposal. Similarly, the Issues Paper does not provide relevant information on key matters such as the likely breach of customer protection rules, previous AER decisions, limited potential benefits from load flattening, and flaws in the trial design. Information on these matters is essential to enable expected and best practice consultation with stakeholders on the merits of the CPN trial.

Issues that should have been identified by the AER to enable fully informed consultation include the following:

- Best practice competitive processes for procuring innovative technical and market trials, such as by ARENA and Ofgem.
- Apparent conflicts between consumer protection rules and previous AER decisions, on the one hand, and the CPN proposal to increase regulated revenues by \$72m, on the other.
- The low level of CER penetration in Ausgrid and high headroom capacity in the CPN ZS contradicting the AER Issues Paper implication of significant utilisation benefits from the CPN trial.
- Whether the CPN trial pre-empts policy decisions regarding the definition of the role of the Distribution Level Market Operator due by the end of the year.
- The difference between DSO and DMO roles and the very limited DSO-related benefits
- The extent the CPN trial duplicates ARENA funded Project Jupiter in Western Australia.
- The lack of any evidence adduced by Ausgrid or the AER as whether there is a market failure and if so whether extending the classification of SCS services and waiving ring-fencing is the best option for addressing this.

The case for reopening the AER's revenue determination is questionable

No case has been made so far that the CPN requires reopening the AER's 2024 capital expenditure determination under Clause 6.6.5. The purpose of this clause is to address unforeseeable events such as natural disasters, major asset failures, or unexpected large increases in demand.

Ausgrid already has a substantial Capex allocation but very little is required for network augmentation

As shown in Table 8 the proposed SCS Totex of 2025 \$72.8m represents just 2.53% of the total approved Capex of \$2024 2.9 billion.

Table 8 - Ausgrid Capex allocation for current RCP

| Ausgrid final Capex determination \$2024m | Proposed | Final | Difference | Reduction |
|---|-----------|-----------|------------|-----------|
| Network augmentation | \$139.6 | \$139.6 | \$- | 0.0% |
| Total CAPEX | \$3,069.4 | \$2,882.7 | \$186.70 | 6.1% |

In 2024, AER rejected \$50.3m of proposed Capex for NIP and CER

The proposed increase in SCS Totex (\$72.8m) is on top of the AER's capex allocation to NIP and CER integration of \$44.5m (after a reduction of \$50.3m), as shown in Table 9.

Table 9 - Summary of AER decisions on NIP and CER Capex

| Ausgrid innovation & CER CAPEX 2024-29 (\$2024m) | Revised proposal | AER final decision | Difference | Approved as % proposed |
|--|------------------|--------------------|------------|------------------------|
| NIP | \$49.5 | \$15.4 | \$34.1 | 31.1% |
| CER (including EV integration) | \$45.3 | \$29.1 | \$16.2 | 64.2% |
| Total | \$94.8 | \$44.5 | \$50.3 | 46.9% |

Historically, Ausgrid has gained net benefits from incentive schemes

For example, according to AER network performance data for the five-year period to 30 June 2023, Ausgrid gained \$73.4m from the capital expenditure incentive scheme (CESS). This is slightly more than the proposed SCS cost of the CPN trial - \$72.8m.

If Ausgrid is on track to “outperform” its cost or incentive scheme performance benchmarks, then the main purpose of the waiver could be to allow Ausgrid to retain incentive and other increases in returns.

Reopening a regulatory determination under these circumstances appears to set a bad regulatory precedent. It could undermine the integrity of regulatory determinations and encourage other NSPs to use the sandboxing regime to seek to relitigate regulatory determinations.

Possible Ausgrid benefits from the trial are significant

Ausgrid has clear commercial motivations for undertaking the trial. These include the following.

- Expanding the scope of its regulated business through changes to the classification of SCS to include DSO and potentially DMO functions in future regulatory decisions.
- Substantially expanding its regulated asset base (RAB) and regulated revenues.
- Increasing the uptake of CER within its network area so this approaches its peers in NSW and elsewhere.

It may be possible for Ausgrid to seek a waiver allowing it to invest in DSO assets for the CPN, without increasing SCS charges. The assets could be held by Plus ES rather than Ausgrid and the cost allocation methodology would apply to ensure financial ring-fencing of the non-regulated assets. Similarly, in the event there is insufficient private investment in new solar and BESS capacity, Plus ES could invest in these assets in its own capacity, funded by the PPA and energy trading function proposed as part of the CPN.

Recommendations for CPN trial conditions (detailed)

The AER should not approve the CPN trial for the reasons explained above. If the AER decided to approve the CPN trial, substantial changes to the design and funding of the CPN trial are required to ensure the CPN trial conforms to customer protection rules and the April 2024 AER determination for the current RCP. Moreover, decisions on the CPN trial should not pre-empt Ministerial decisions under the CER roadmap, including on the definition of the role of DSOs, distribution market operators (DMOs) and the extent any network control services and assets are deemed contestable.

The following conditions should be applied in the event of any decision by the AER to allow the CPN trial to proceed.

1. **Ensure all SCS expenditure meets the relevant tests and process requirements including the following.**
 - a. Conducting a RIT-D on the proposed CPN SCS expenditure as required under Cl. 5.17.2, If the RIT-D is negative, then this is the amount that needs to be funded from sources other than SCS revenue.
 - b. Remaining within the classification of SCS for the current RCP – no DMO functions funded from SCS.
 - c. Ensuring capital expenditure is consistent with the capital expenditure objectives Cl6.5.7(a) and is prudent and efficient 6.5.7(c).
 - d. Ensuring compliance with clause 6.17.2 of the NER (“ringfencing”) and the associated AER ring fencing guideline
 - e. Ensuring that SCS customer charges are limited recovering SCS expenditure.
 - f. All DMO related expenditure should not be recoverable from SCS charges.
2. **Proposed SCS expenditure should be transparent**
 - a. SCS expenditure should be itemised in full and split into Opex and Capex.
 - b. There should be full disclosure of the bill impacts during the current RCP and beyond
 - c. The unspecified cost equivalent to the estimated avoided emissions benefit of \$42.6m should be specified. Only the SCS expenditure can be recovered from SCS charges, not the value of any associated market benefit.
 - d. Any estimate of the emissions benefits from SCS expenditure is relevant to whether the SCS expenditure is prudent and efficient but not relevant to the amount of SCS expenditure that is recoverable from SCS charges.
 - e. Related to the previous point, identify verifiable performance metrics with and without the trial should be established from the outset.
 - f. The rationale for the proposed transfer of \$9.1m of cost recovery for MV and HV assets and services “above” ZS, from CPN to non-CPN customers, needs to be demonstrated. If this is not supplied, then the cost transfer should not proceed.
3. **Amend the CPN trial objective and trial design to make this testable and sufficient to support evidence-based decision making in the future**
 - a. The current trial objective is not capable of being falsified and hence is untestable.
 - b. A new trial objective is therefore required, along with:
 - i. a control (‘do nothing’) inclusive of existing NIP and CER programs (including Project Edith)
 - ii. an expanded DSO function, per a fully scaled and open access Project Edith
 - iii. the proposed network led arrangement with Ausgrid undertaking DMO as well as DSO functions.
4. **Clear performance metrics for the trial should be specified**
 - a. There should be clear performance metrics that are relevant to SCS services and DSO (not DMO) functions. These should refer to:

- i. Existing and forecast network headroom (firm capacity minus AMD) and minimum demand in each of the three Trial ZS areas (baseline)
 - ii. The forecast cost of the major components of the Trial
 - iii. Forecast customer uptake, participation and energy transfers, & compensation paid (PPAs)
 - iv. Forecast change in network headroom and minimum demand for each year of the Trial for each ZS and the difference by the end of the Trial period
 - v. The network benefits (e.g. avoided costs in dollars) from changes to each ZS demand profile attributable to the CPN Trial
 - vi. The non-network (market) benefits attributable to the CPN trial.
 - b. Incremental benefits relative to Ausgrid's DSO Pilot (Project Edith) should be specified and tracked.
- 5. Ensure no conflicts between the CPN trial and the DSO trial (Project Edith), including by**
- a. Requiring the DSO platform to be open access, rather than limiting access only to some market participants as is currently the case.
 - b. Requiring public disclosure of any charges for using the DSO platform and the basis for those charges (avoiding over-recovery).
- 6. Treatment of remaining assets and liabilities following the trial**
- a. The status quo before the trial was approved should be restored. Unless or until there is a classification of services, the DSO and especially the DMO assets should remain separated from the SCS RAB, following the trial.
 - b. There should be no ongoing SCS liabilities for SCS customers.
- 7. Ring-fencing rules should be upheld, to protect customers and competitors.**
- a. Ring-fencing rules should not be waived until there is clear evidence that:
 - i. a) waiving ring-fencing rules is beneficial for SCS customers and
 - ii. b) these benefits can be achieved only if the ring-fencing rules are waived.
- 8. There needs to be a performance review of regulatory sandboxing and its administration**
- a. An ex-post review of the sandboxing regime and its administration by the AER should be undertaken, in line with best practice performance review for Australian government departments and programs and initiatives funded by public money – in this case regulated network charges.⁴⁶
 - b. This review should consider the extent sandboxing principles, including reference to equity, are supported by the relevant parts of the NEL and NER.

⁴⁶ See <https://www.finance.gov.au/government/managing-commonwealth-resources/planning-and-reporting/commonwealth-performance-framework/evaluation-commonwealth-rmg-130>

- c. The review should consider relevant performance outcomes compared with the performance metrics established when the sandboxing program was established.⁴⁷

⁴⁷ These should be available from the regulatory impact assessment accompanying the introduction of the sandboxing changes to the NEL. We have been unable to locate a RIA or similar document in the public domain.

Appendix 1: Illustration of long-term impact of CPN SCS capex

This section illustrates the long-term customer impact of CPN CSC Capex. Key input assumptions are set out in Table 10 below. These are from AER Ausgrid PTRM distribution 2025-26 ROD update spreadsheet.

Table 10 – Input assumptions for modelling whole of life impact of increased RAB

| Inputs | Value |
|---|-------|
| Equity % of RAB (actual equity is likely to be lower) | 40% |
| Depreciation (15-year asset life) | 6.67% |
| Forecast CPI – per AER PTRM | 2.66% |
| Post tax real return on equity – per AER PTRM | 5.11% |
| Post tax real return on debt – per AER PTRM | 1.94% |
| Post tax real WACC | 3.54% |
| Annual Opex per \$1m of assets | 2.65% |

The additional assumption is that annual OPEX per \$1m of assets is 2.65%. This is extrapolated from Opex as a percent of RAB over the current RCP.

This input may be conservative for “hands on” and relatively short-lived assets such as those for DSO/CER orchestration asset functions. Significant parts of Ausgrid’s asset base have asset lives exceeding 50 years (2% annual depreciation). These may require relatively low levels of Opex compared with CER/DSO/DMO assets.

If we assume the CPN trial results in an increase in the RAB of \$50m⁴⁸, the bill impact over the assumed asset life is shown in Table 11 below. The total (not discounted) cost in \$2025 is 1.73 times the value of the asset or \$86.26m.

⁴⁸ Ausgrid has not disclosed the portion of the \$72.8m SCS for the CPN trial is Capex.

Table 11 – Total bill impacts over assumed asset life

| Cost elements | \$2025m, real |
|--|---------------|
| Assumed increase in RAB | \$50.00 |
| Depreciation charge over life of asset | \$50.00 |
| Post tax real return on equity | 8.18% |
| Post tax real return on debt | 4.66% |
| Total financing cost (cf. WACC) | 12.8% |
| Opex | \$10.6 |
| Total bill impact | \$36.26 |
| Financing cost as % of asset | 25.7% |
| Total cost as % of asset value | 173% |

Ausgrid’s actual real return on equity over the decade to June 2024 is 1.96 times the “allowed” real return on equity equivalent to the return on equity above.⁴⁹ If this trend were to continue, the long-term bill impact would be substantially higher than indicated above.

⁴⁹ Tahuconsulting analysis of AER financial performance data to 30 June 2024, for Ausgrid.

Acronyms & abbreviations

| | |
|-------|---|
| ACT | Australian Capital Territory |
| AEMC | Australian Energy Market Commission |
| AER | Australian Energy Regulator |
| ARENA | Australian Renewable Energy Agency |
| BESS | Battery energy storage system |
| CAM | Cost allocation methodology |
| CBA | Cost-benefit analysis |
| CER | Consumer energy resources |
| CESM | Contestable electricity services market |
| CESS | Capital expenditure sharing scheme – an incentive scheme |
| CPN | Community Power Network |
| DER | Distributed energy resources |
| DMO | Distribution Market Operator (real time energy dispatch) |
| DNSP | Distribution network service provider |
| DSO | Distribution System Operator (real time network management) |
| DUOS | Distribution use of service charges (DNSP regulated monopoly charges) |
| EBSS | Efficiency benefits sharing scheme |
| ESCV | Essential Services Commission of Victoria |
| EV | Electric vehicle (battery) |
| EVCI | EV charging infrastructure |
| FCAS | Frequency control ancillary service |
| MWh | Megawatt hour (used for volumetric network charges) |
| MVA | Megavolt amperes (incorporates power factor losses) |
| NEL | National Electricity Law |
| NEM | National Electricity Market |
| NEO | National Electricity Law Objective (as amended) |
| NER | National Electricity Rules |
| NIP | Network innovation program |
| NSW | New South Wales |
| NUOS | Network use of service charges – including approved jurisdictional scheme amounts |
| Opex | Operating and maintenance expenditure |
| PV | Photo-voltaic or solar panel |
| KEVCI | Kerbside EV charging infrastructure |
| RAB | Regulated asset base |
| RCP | Regulatory control period |
| RESP | Related electricity service provider |
| RERT | Reliability and Energy Reserve Trader |
| REZ | Renewable Energy Zone |
| RIT | Regulatory investment test – statement of need, cost benefit analysis |
| SAPS | Stand-alone power system |
| SCS | Standard control service – as classified by AER |
| STPIS | Service Target Performance Incentive Scheme |
| SWIS | South West Interconnected System |
| ZS | Zone substation |