ENERGY CONSUMERS AUSTRALIA

Submission to the inquiry into *Investing in cheaper, cleaner energy and the net zero transformation*

Submission to the Productivity Commission

DATE: 15/09/2025

Summary

Energy Consumers Australia (ECA) welcomes the opportunity to provide feedback on the Productivity Commission's interim report on *Investing in cheaper, cleaner energy and the net zero transformation*.

We strongly encourage the Commission to pursue reforms that prioritise consumers, ensuring that the net-zero transition delivers tangible benefits to every household by turning consumer investments into shared savings that support a fair and affordable energy future for all. This will require a fundamental shift in perspective, particularly in recognising that:

1. 'Energy productivity' must be reframed to prioritise efficient energy consumption, rather than defaulting to infrastructure expansion.
2. Australia has a unique opportunity to meet its energy needs by elevating demand-side resources in the energy system and reducing its energy consumption.
3. Strong government intervention is needed to support consumers and ensure that consumer energy resources are integrated as a foundational part of the power system, rather than an anomaly.

Introduction

There can be no infinite growth in a finite world — Jacques Ellul[1]

ECA is pleased to have the opportunity to comment on the Productivity Commission's interim report on *Investing in cheaper, cleaner energy and the net zero transformation*.[2]

ECA is the national voice for household and small business energy consumers. We advocate for a fair, affordable, and reliable energy system—one that meets everyone's needs and leaves no one behind on the journey to net zero. In the context of this inquiry, it means recognising the tremendous opportunities offered by demand-side resources to deliver benefits for all consumers and the overall power system.

While we agree with the recommendations made in the Interim Report, we believe that there are opportunities to expand the scope of this inquiry to achieve bold, consumer-centric reform. In particular, we believe the role of consumers and their assets in the energy system deserves greater recognition, given their potential to deliver significant system-wide benefits.

With over 4 million rooftop solar installations across Australia,[3] households own the equivalent of 25% of all generation capacity in the market, with output now capable of meeting more than half of the underlying energy demand across the NEM in the middle of a sunny day.[4]

As such, consumers have become the driving force of the country's energy transition. While this marks a fundamental shift in how households interact with energy, it also requires significant upfront investment—rewiring homes, electrifying appliances, and upgrading infrastructure to support new energy uses. Yet, policy decisions have often sidelined consumers, both as key participants and as those most affected by this transition.[5]

[1] Jacques Ellul, 1988 – The technological bluff
[2] Productivity Commission, 2025 – Investing in cheaper, cleaner energy and the net zero transformation
[3] Energy.gov.au, 2024 – Australia hits rooftop solar milestone
[4] AER, 2025 – State of the energy market p. 6
[5] ECA, 2023 – Stepping Up Report p. 6

In a country where one in five Australians struggle to pay their energy bills,[6] consumer energy resources (CER) remain beyond reach for many due to their financial and living circumstances. This illustrates the persistent 'energy trilemma' (Figure 1) that governments and the energy sector must address, balancing reliability and security with carbon emissions reduction, without compromising affordability for consumers.[7]

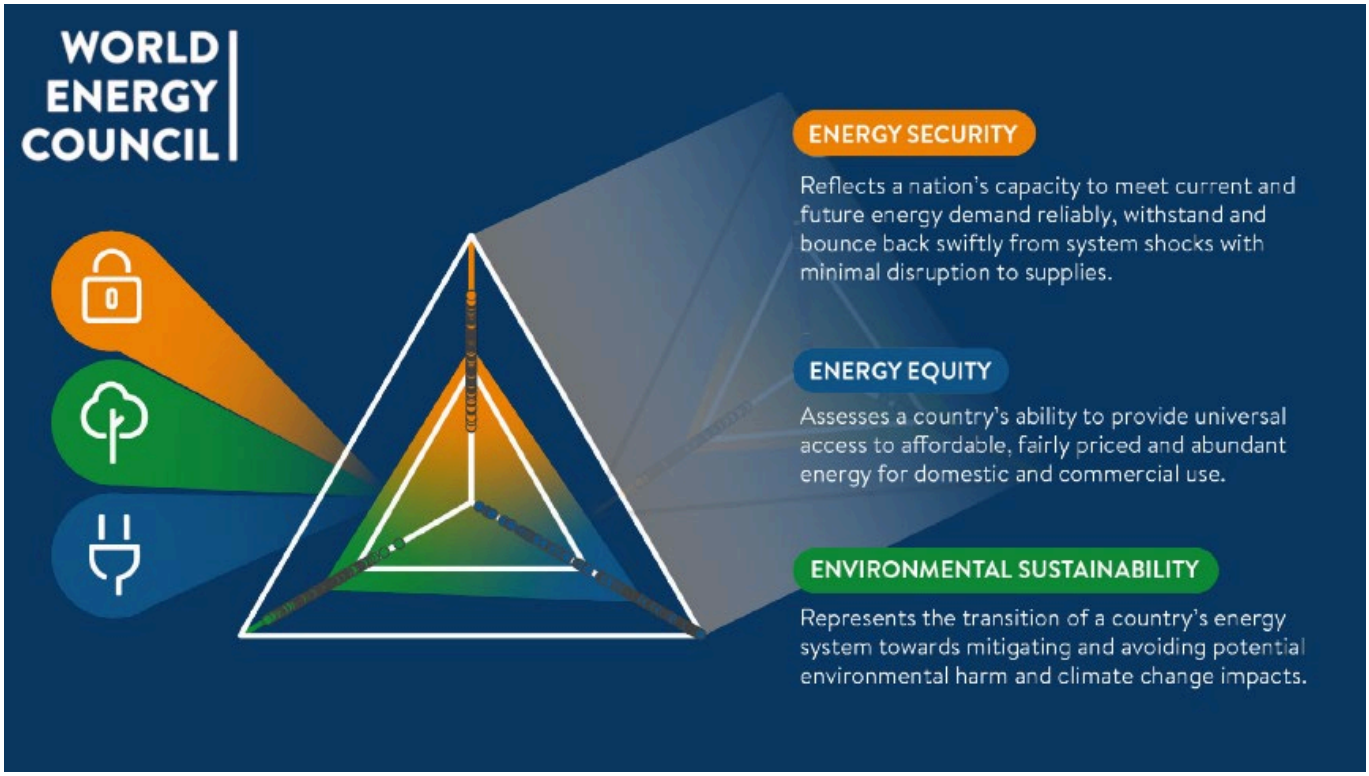

Figure 1. The energy trilemma.[8]

While not unique to Australia, our country has the opportunity to address this issue by harnessing the potential of CER. This vision positions consumers at the centre of the power system, where they produce energy for themselves and the community, receive fair compensation for their services, drive down bills for all consumers, and reduce emissions.

However, bold policy reforms and strong leadership will be essential. It requires addressing a fundamental question: *how do we maintain our quality of life within the limits of finite resources*? Resource depletion and environmental limits make it clear that renewables, while essential, cannot solve the problem if consumption patterns remain unchanged. A profound cultural shift is needed that promotes consuming *efficiently*—that is, better and less. This is not a regression, but rather about adapting to constraints that can no longer be ignored or negotiated with.

[6] ECA, 2025 – Consumer Energy Report Card: Understanding and measuring energy hardship in Australia
[7] CSIRO – The energy trilemma – what matters the most to consumers?
[8] World Energy Council – World Energy Trilemma Framework

Such major transformation cannot rely solely on household initiatives. Instead, it demands comprehensive, coordinated policies that establish an inclusive, consumer-centred energy transition—one that addresses not only how much energy is produced, but also who produces it, how, and for what purpose.

Recommendations

1. **'Energy productivity' must be reframed to prioritise efficient energy consumption, rather than defaulting to infrastructure expansion.**

Energy productivity refers to how much value is produced per energy unit, and is essential when assessing energy efficiency and trying to balance economic expansion with environmental constraints.[9, 10] In Australia, improving energy productivity has been an ongoing challenge, especially as the nation works toward modernising its energy infrastructure, shifting toward renewables and cutting down its carbon emissions.[11] As a result, most of our focus has been—and remains—on "planning, approving, and building [energy] infrastructure".[12]

Meanwhile, other approaches remain in a blind spot. This was identified early on in the United States, when in 1976, Foreign Affairs published Amory B. Lovins' '*Energy Strategy: The Road Not Taken?*'.[13] Lovins identifies two distinct energy futures: one reliant on the continued expansion of large-scale, centralised infrastructure to meet ever-growing demand, and the other focused on efficient energy use and the rapid deployment of renewables.[14]

It is worth noting that Lovins' analysis clearly articulates the relationship between energy choices and consumption habits, observing that the former are "real but tacit choices of personal values".[15] Further, he challenges the notion that using less electricity inevitably compromises quality of life, contending that early 20th century energy levels combined with modern efficiency improvements could sustain comparable living standards.[16]

This points to a fundamental need to recentre energy policy around consumers and their well-being, rather than trying to enable "unconscionable levels of material consumption".[17] We can choose to produce and consume more energy—which would necessitate considerable infrastructure expansion—but this comes at a cost many consumers may be unable to bear.[18] In contrast, Lovins shows that flexible and efficient energy use can deliver the essentials of a good life: "comfortable homes, lights, vehicular motion […] and other real things".[19] These are the tangible outcomes that should be the standard guiding energy decisions.

Addressing these challenges is more crucial, more imminent than ever. It demands political courage, and a willingness to confront uncomfortable truths about energy, equity, and ultimately, the kind of society we wish to sustain. The future of our energy system hinges on prioritising efficiency, flexibility and renewable

[9] Australian Alliance for Energy Productivity, What is energy productivity
[10] Elgar Encyclopedia of Energy Economics, 2025 – Chapter 50. Energy Productivity
[11] Grattan Institute, 2025 – How to boost energy productivity
[12] *Ibid.*
[13] A. Lovins, 1976 – Energy Strategy: The Road Not Taken?
[14] *Ibid*.
[15] *Ibid.* p. 94
[16] *Ibid.*
[17] *Ibid,* quoting Duane Elgin
[18] Australian Financial Review, 2025 – Households face 9pc power bill rise amid ageing coal plant outages
[19] A. Lovins, 1976 – Energy Strategy: The Road Not Taken? p. 78

resources[20]—not only to reduce emissions, but also to lower costs for consumers and ensure energy remains accessible for all to live with dignity. Energy productivity cannot be separated from deeper decisions about what we consume, how much is enough, and who ultimately pays the price.

2. **Australia has a unique opportunity to meet its energy needs by elevating demand-side resources in the energy system and reducing its energy consumption.**

Data released by the Clean Energy Regulator show that consumer investment is reaching new heights, with solar batteries alone having provided a total nominal capacity of 825 MWh since 1 July this year.[21] This reflects a broader transformation: household and small-scale investments are expected to accelerate drastically in the coming decades, likely outpacing public and corporate spending.[22] As such, the 2024 Integrated System Plan (ISP) Step Change scenario projects that in 2030 there will be 18 times more electric vehicles on the road than today, more than a 50% increase in rooftop solar PV, more than a 600% increase in small-scale energy storage, and nearly 30 TWh of additional electricity use from electrification.[23]

As much more energy is produced and stored by consumer-owned assets, downward pressure is put on overall system costs by reducing the need for utility-scale generation, storage projects, and network upgrades.[24, 25] Unlike large projects, CER face fewer planning and social licence barriers. They can also be built modularly, which reduces financial risk and allows for faster deployment. This flexibility, along with their proximity to the end user, makes them a cost-effective alternative to meeting energy needs efficiently.[26] A report commissioned by the AEMC identified $45 billion in system benefits from the flexible operation of CER, derived mainly from lower wholesale prices and avoided network costs, resulting in lower electricity bills for all consumers.[27]

Despite these substantial benefits, the potential for CER to serve as an alternative to network augmentation remains largely underexamined. Supply-side infrastructure often predominates in government planning and investment in energy, as evidenced by the disproportionate focus on supply-side projects compared to limited funding allocated to demand-side uptake (see Figure 2).

[20] *Ibid.* pp 77-96
[21] PV Magazine, 2025 – Two months into federal home battery scheme, uptake hits 825 MWh
[22] ECA, 2025 – Integrated Distribution System Planning (Electricity) rule change request p. 20
[23] AEMO, 2024 – 2024 Integrated System Plan
[24] C4NET, 2025 – Techno-Economic Modelling of Non-Network Solutions
[25] ECA, 2025 – Integrated Distribution System Planning (Electricity) rule change request
[26] Stanford Understand Energy, 2025 – Electricity Part 1: Drivers of Transformation. Amory Lovins. Extreme Energy Efficiency
[27] AEMC, 2025 – Energeia finds that CER flexibility could deliver $45B in benefits by 2050

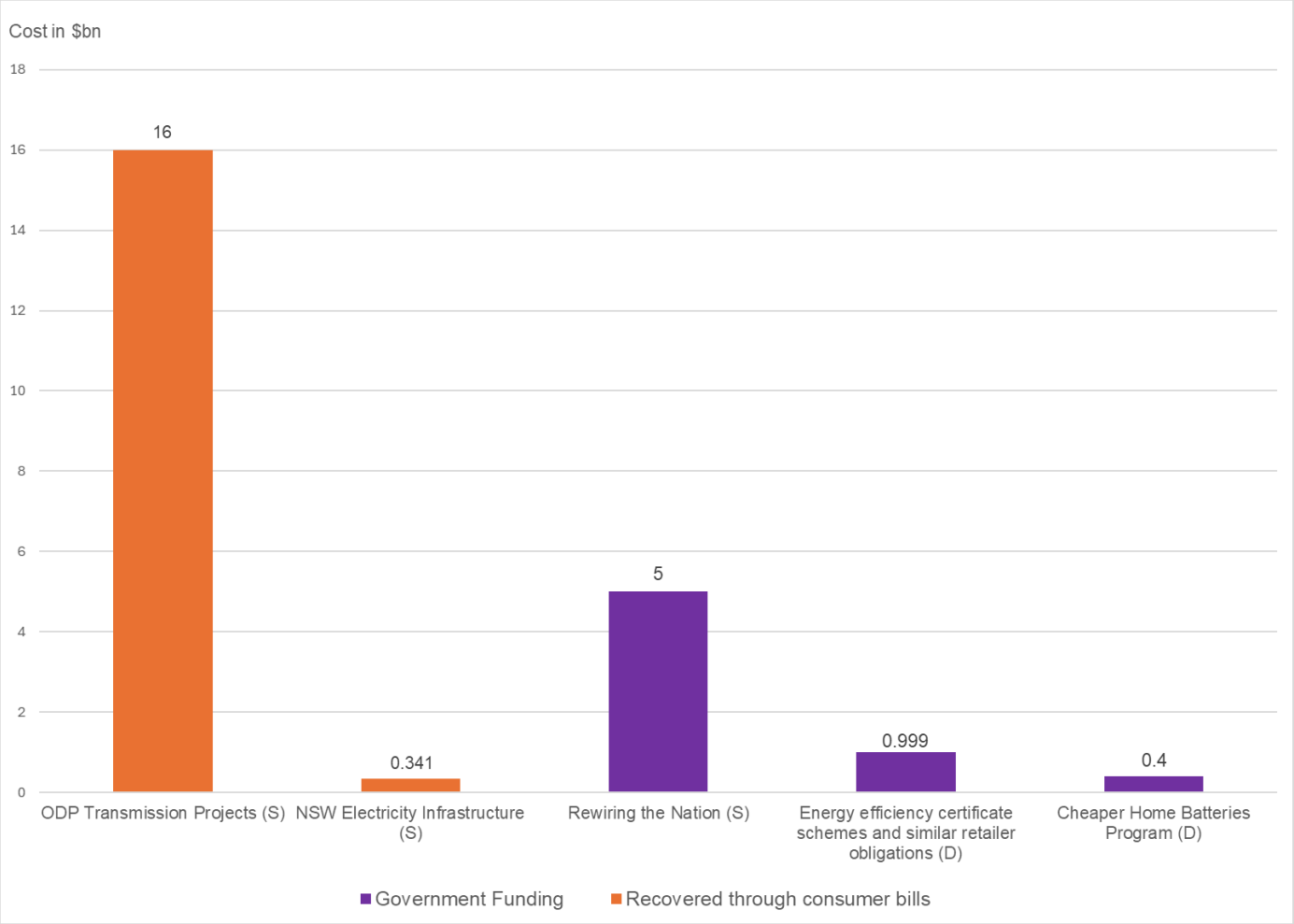

Figure 2. Annualised cost of supply-side (S) vs demand-side (D) infrastructure investments.[28, 29, 30, 31, 32]

At the same time, it is critical to acknowledge that our homes and businesses can do more than generate and store energy. In line with A. Lovins' analysis, we firmly believe that consumer energy cannot be addressed in isolation from energy efficiency.[33] In this regard, we welcome Draft recommendation 3.3 and are convinced that greater efforts are needed to improve housing resilience across jurisdictions.[34]

[28] AEMO, 2024 – 2024 Integrated System Plan p. 47
[29] AER, 2024 – NSW Electricity Infrastructure Fund – Contribution determination 2024-2025
[30] Budget, 2024 – Budget Strategy and outlook. Budget Paper No.1 pp. 216-217. See 'Renewable Energy' in Table 6.12.1, which primarily comprises loan expenses for *Powering Australia – Rewiring the Nation*.
[31] ACIL Allen, 2025 – Advancing support and better outcomes for consumers at risk of, or experiencing energy hardship. Stakeholder consultation guide (forthcoming) p. 11
[32] ACIL Allen, 2025 – Advancing support and better outcomes for consumers at risk of, or experiencing energy hardship. Companion document to the stakeholder consultation guide (forthcoming) p. 47
[33] Stanford Understand Energy, 2025 – Electricity Part 1: Drivers of Transformation. Amory Lovins. Extreme Energy Efficiency
[34] Productivity Commission, 2025 – Executive summary p. 6

Poor energy performances have revealed that too many Australians currently live in “glorified tents”,[35] with many rating their home’s efficiency as just above average.[36] While State and Territory-based white certificate schemes to deliver energy efficiency upgrades have been successful in some areas,[37] significant progress is still needed to deliver nationally-consistent upgrades to the existing housing stock. This presents a significant opportunity to reduce energy use, provide bill relief, and reduce emissions.[38] Similarly, by shifting demand away from peak times, many homes and businesses can also alleviate pressure on the system by addressing capacity challenges while reducing costs. Previous studies found that enabling load flexibility could reduce electricity system costs for consumers by $6-18 billion in net present value over the next two decades.[39]

3. **Strong government intervention is needed to support consumers and ensure that consumer energy resources are integrated as a foundational part of the power system, rather than an anomaly.**

Current CER policies lack clarity and consistency, and assume that consumers will adopt these new technologies without requiring adequate support. The absence of coordinated leadership is evident in the lack of any consistent definition of CER across the sector. While the NSW CER Strategy takes a broader approach by including energy efficiency and electrification, the Commonwealth CER Taskforce solely focuses on “assets that generate or store electricity”.[40] This fragmented approach inevitably leads to inconsistent messaging, support, and outcomes at the consumer level. In this context, it is hardly surprising that consumers struggle to navigate this environment.

At a time when only 3% of Australians strongly agree that governements have clearly explained how the energy transition will affect households like theirs,[41] there is a urgent need for government departments and agencies to ensure that those expected to play such an essential role in the energy transition are fully equipped and supported.

Research by the Insight Centre—which ECA commissioned—shows that the problem is not so much a lack of education, but an overload of inherently complex information which leads to consumers giving up.[42] This is why we have been advocating for Australians to receive the right information, at the right time, from the right sources.[43] Only then will they be empowered to make the right investments for their circumstances, regain control over their energy bills, and ultimately contribute to the decarbonation of our energy system.

Government must elevate the policy focus on CER and ensure its optimal integration into the energy system. We firmly believe that a clear, national vision statement about the role of these resources is essential—particularly in a system that was originally designed for large-scale generators. While a recent Energeia report finds that CER flexibility could deliver $45 billion in system-wide savings through reduced

[35] CSIRO, 2022 – Tents to Castles: Building energy efficient, cost saving Aussie homes
[36] Renew, 2022 – Energy Efficient Housing Research
[37] Energy Efficiency Council, 2023 – National Efficiency Schemes Summit. Final Report
[38] CSIRO, 2022 – Tents to Castles: Building energy efficient, cost saving Aussie homes
[39] ARENA, 2022 – Valuing Load Flexibility in the NEM
[40] Energy.gov.au, – Consumer Energy Resources Taskforce
[41] ECA, 2025 – June 2025 Consumer Energy Report Card data
[42] The Insight Centre, 2023 – Evidence base to support the development of an effective communications campaign for energy consumers
[43] ECA, 2023 – The recipe to empower consumers: how to run a successful energy information campaign

generation and storage costs,[44] it is unlikely to be realised without deliberate and strategic prioritisation of CER.

Specifically, this vision must be supported by a planned and coordinated approach to integrating CER into the power system. At present, there is no dedicated body responsible for overseeing the effective integration of these assets—placing consumer investments at risk of being underutilised. A Rennie Advisory report—which we commissioned—shows that without the right policy and market settings, we are currently missing out on lower electricity prices and improved reliability for all consumers, including those without CER.[45] The same applies to demand response, which plays an important role in driving down prices.[46]

As highlighted in both our Integrated Distribution System Plan (IDSP) rule change request and our submission to the CER Taskforce's M2 and M3/P5 consultation papers,[47, 48] the conflict between certain costs and uncertain benefits has too often allowed short-sighted thinking and decision-making. ECA reaffirms that governance, market, and operational arrangements must place all consumers—including renters, low-income households, and those without CER—at the centre of their reflection, ensuring that any arrangements maximise benefits to all consumers.[49, 50]

Conclusion

ECA thanks the Productivity Commission for the opportunity to comment on *Investing in cheaper, cleaner energy and the net zero transformation*.

While we agree with the Commission's recommendations, we believe there is a missed opportunity to adopt a whole-of-system perspective that fully recognises the pivotal role of CER and reflects the rapid changes underway in the energy system. We are convinced that the Commission's recommendations would be significantly strengthened if they were to move beyond traditional supply-side models to support a more resilient, integrated energy system.

We strongly encourage the Commission to pursue reforms that prioritise consumers, ensuring that the net-zero transition delivers tangible benefits to every household by turning consumer investments into shared savings that support a fair and affordable energy future for all. This will require a fundamental shift in perspective, particularly in recognising that:

1. 'Energy productivity' must be reframed to prioritise better energy production and consumption, rather than defaulting to infrastructure expansion.
2. Australia has a unique opportunity to meet its energy needs by elevating demand-side resources in the energy system and reducing its energy consumption.

[44] AEMC, 2025 – Energeia finds that CER flexibility could deliver $45B in benefits by 2050
[45] Rennie Advisory, 2025 – Opportunities for CER participation in wholesale markets and grid services
[46] *Ibid.*
[47] ECA, 2025 – Integrated Distribution System Planning (Electricity) rule change request
[48] Department of Climate Change, Energy, the Environment and Water, 2025 -- National Consumer Energy Resources (CER) Roadmap - Redefine roles for market and power system operations – M3/P5
[49] Rennie Advisory, 2025 – Opportunities for CER participation in wholesale markets and grid services
[50] Dragoman Global, 2025 – Response to AEMC Pricing Review Discussion Paper

3. Strong government intervention is needed to support consumers and ensure that consumer energy resources are integrated as a foundational part of the power system, rather than an anomaly.

For any questions or comments about our submission, please contact Pauline Ferraz at Pauline.ferraz@energyconsumersaustralia.com.au.

Yours sincerely,

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