


Submission on Energy Planning and Regulation in Australia

Senate Select committee

25 October 2024



About ACOSS

The Australian Council of Social Service (ACOSS) is a national voice in support of people affected by poverty, disadvantage and inequality and the peak body for the community services and civil society sector.

ACOSS consists of a network of approximately 4000 organisations and individuals across Australia in metro, regional and remote areas.

Our vision is an end to poverty in all its forms; economies that are fair, sustainable and resilient; and communities that are just, peaceful and inclusive.

Discussion

ACOSS welcomes the opportunity to make a submission to the [Senate Select Committee on Energy Planning and Regulation in Australia](#), to inquire into and report on the institutional structures, governance, regulation, functions, and operation of the Australian energy market.

The energy system is undergoing a massive transition, however many of the objectives and regulations that guide the energy system are still based on the old system and are no longer fit for purpose.

ACOSS believes the energy system – governance, structure, regulations and functions - needs reform. Our submission will concentrate on the need for a greater focus on delivering for people and communities, on equity and inclusion, and demand-side action.

We note that government policy and measures are also critical to addressing these core issues, which we have outlined elsewhere (see section “Other Reading” for further information).

Fair, fast and inclusive action on climate change

Climate change is a threat to our vision to end poverty and inequality. This threat will be compounded by a transition to a clean economy that does not have equity and inclusion at its heart.

Climate change disproportionately impacts people who face disadvantage first, worst and longest, including people on low incomes, people with disability, people with chronic health issues and First Nations peoples. It is driving and exacerbating poverty and inequality.

A rapid transition to net zero emissions, consistent with limiting global warming to 1.5 degrees C, is therefore critical to reducing the impact on people and communities, particularly those already experiencing disadvantage. This will require Australia prioritising emission reductions this decade and aiming for net zero emissions by 2035.

However, to achieve benefits for everybody, the transition to net zero emissions must be fair and inclusive. Putting people with the least at the centre of policy design means we can rapidly reduce emissions, poverty, and inequality in Australia.

Clean, equitable, and inclusive energy system

The energy sector can and should play a leading role in achieving emissions reduction targets because it has the technologies available now.

The energy system is changing rapidly and profoundly as part of the inevitable and necessary transition to cleaner energy and new technology. It has shifted from a fossil fuel dependent centralised energy system with passive users, to a more distributed renewable energy system in which energy users can generate, store and trade as well as consume their own energy.

Rooftop solar is leading the way, but will increasingly be complemented by home and community scale batteries, electric vehicles, smart homes and flexible demand. All these technologies have the potential to be shared in local communities and the wider market at a relatively low cost, as the system is transformed.

While there are many benefits to this transition, the shift is increasing the complexity of the system and requiring active engagement by people to maximise the benefits these technologies provide.

To date the transition has largely benefited people with wealth, choice and control. This leaves people experiencing disadvantage paying disproportionately more for the energy bills and towards the cost of the transition to clean energy, while missing out on the benefits delivered through energy efficiency, electrification and new technologies.

In a recent national survey of people on low incomes, 97% indicated they were struggling to afford their energy bills and are running out of options. People reported taking drastic measures like not heating their home in the middle of winter, turning fridges off overnight, limiting showers, not having visitors, and going without food or medicine to afford their bills.¹ Some people are turning to credit products such as Buy Now Pay Later to pay for

¹ ACOSS (2023) Energy and Cost of living snapshot <https://www.acoss.org.au/wp-content/uploads/2023/10/ACOSS-Energy-Cost-of-Living-Snapshot-October-2023.pdf>

energy bills,² further increasing their costs of energy, with some falling into spiralling debt.³ People are getting sick and, in some extreme cases, dying because they cannot heat their homes in winter and cool them in summer.⁴

As a proportion of income, people on low incomes spend five times more than people on higher incomes.⁵ According to the Australian Energy Regulators *State of the Energy Market Report 2023*, energy equity, particularly affordability, remains a significant concern in energy markets.⁶

The AER noted that:

*"customers experiencing vulnerability are likely to face additional challenges keeping energy bills low because they may be less able to implement some of the most effective means of reducing energy bills, including modifying energy use, making home energy efficiency upgrades, adopting new technologies and shopping around for better deals. As such, customers experiencing vulnerability are more susceptible to periods of high energy prices and disproportionately represented in the number of customers experiencing debt, hardship, and disconnection."*⁷

As more and more costs of the energy transition are being loaded on to energy bills via subsidies and tariffs people experiencing financial disadvantage are paying disproportionately more of the costs of the transition. For example, there is research that finds subsidy schemes for small-scale solar panels recovered through electricity bills are inequitable and regressive, such as feed-in tariffs⁸ and the Small-Scale Renewable Energy Scheme (SRES),⁹ which provide direct financial benefits to solar households.

Network costs make up two-fifths of the electricity bill (more in some network areas) and at present are recovered via consumption tariffs through a combination of fixed and usage charges.

Households able to substantially reduce their usage, like solar owners, contribute less to network costs, which leads to other households paying a greater share of all network costs (under non-cost reflective tariffs and network revenue caps).

Further a shift to cost-reflective tariffs could address some inequities but some consumers will be worse off. Greater attention from market bodies is needed to identify and mitigate negative impacts. Research by the Victorian Energy Policy Centre found that households in

² Financial Counselling Australia (2021) *It's credit, it's causing harm and it needs better safeguards*, p 5 and p 9; CHOICE Consumer Pulse survey September 2022 found 1 in 4 BNPL users used this credit product to pay for essential products or services.

³ For example, The Debt Trap Alliance found that over 5 years, 15% of people who take out payday loans fall into a debt spiral (*The Debt Trap: How Payday lending is costing Australians* (2019) p 6); CHOICE Consumer Pulse surveys from June to September 2022 found:

- 1 in 7 BNPL users were sold more than 20 BNPL loans in the past year.
- 1 in 5 BNPL users missed or had been late with a payment for a BNPL service.

Of those users with late payments, 2 in 5 have taken out another loan to pay for BNPL fees or debts.

⁴ <https://www.acoss.org.au/wp-content/uploads/2023/02/ACOSS-Plus-Submission-to-National-Energy-Performance-Strategy-Consultation-paper-07022023.pdf>

⁵ <https://energyconsumersaustralia.com.au/news/how-to-close-the-energy-divide>

⁶ AER (2023) *State of the Energy Market 2023* <https://www.aer.gov.au/system/files/State%20of%20the%20energy%20market%202023%20-%20Full%20report.pdf>

⁷ Ibid.

⁸ Nelson, T., Simshauser, P. and Nelson, J. (2012) *Queensland Solar Feed-in-Tariffs and the Merit order Effect: Economic Benefit, or Regressive Taxation and Wealth Transfers?*

⁹ Best, R., Chareunsky, A. and Li, H. (2021) *Equity and effectiveness of Australian small-scale solar schemes*

the lowest socio-economic areas do not respond to differences in peak and off-peak prices.¹⁰ A study by ANU found that vulnerable households were the least well equipped to understand and respond to the different pricing structures, and often had the least flexibility in terms of shifting their electricity use to different periods, and ultimately paid higher prices for their electricity under time-of-use tariffs.¹¹

Many of these issues are not being appropriately addressed because social equity is not an objective in the National Energy Objective (NEO). This is despite advocacy by ACOSS, our members and others across business, environment and research sectors,¹² for social equity to be included. We believe with a clear social equity objective in the NEO, market design, rules and regulations can make a positive contribution to social equity, by:

- Distributing costs, benefits and risks transparently and fairly to ensure equitable outcomes regardless of people's ability to engage with the energy system.
- Incentivising energy market participants to innovate in ways that bring benefits to all consumers.
- Providing appropriate protections to support people to access affordable, efficiently priced basic energy supply regardless of how much or little they interact with energy services.

'Rewiring' the energy system is not just an engineering task, people must be at the centre

Getting the engineering and technology right is an important part of the transition to shift to 100% renewable energy and a more decentralised system, but we have to get the people side right too.

Energy is an essential service. It plays a critical role in the health and wellbeing of people and powers the economy.

The transition requires a new way of thinking, managing and structuring the system.

In a recent discussion paper, Dr Ron Ben-David, former head of the Victorian energy regulator, argued that current energy rules and regulations are predicated on misconceived ideas and assumptions and not on the reality of how people (consumers) actually behave, leading to market design failure and harm. He argues:

"the current way of thinking about such things is resulting in market and regulatory design that is making demands on consumers for which they are ill-equipped. Without urgent redress, many consumers will increasingly find themselves bound by incomprehensible contracts that do not align with their interests. The energy market will become a source of significant consumer harm – putting at risk consumers' confidence in the market (and its regulation), thereby imperilling their ongoing support for the energy transition. This is too big a risk to take."

¹⁰ <https://vuir.vu.edu.au/40599/1/200612%20TOU%20tariff%20paper.pdf>

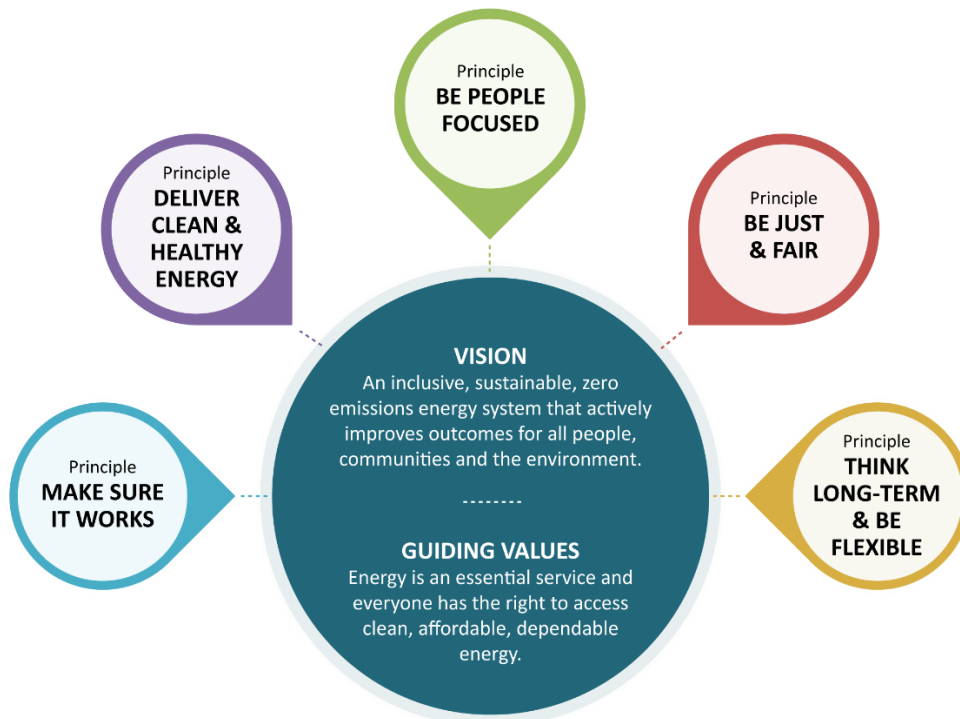
¹¹ <https://reneweconomy.com.au/time-of-use-electricity-tariffs-could-hit-vulnerable-households-with-high-costs-15074/>

¹² See joint statement by 37 organisations calling for social equity and affordability to be included in the NEO, [ACOSS submission to NEO consultation 2023](#)

Dr Ben-David also recommended a new regulatory objective - “To avoid exposing consumers to risks they are ill-equipped to understand, manage or price.” – as a way to inform better market design and reduce consumer harm.

In 2021, ACOSS and the Total Environment Centre (TEC) with the support of Energy Consumers Australia (ECA), undertook an extensive collaborative and consultative process to develop **ourPower**¹³ a vision developed by energy users about the future we want and a basis for working together with industry and governments to get there. It sets out a vision for what people want now and in a future energy system, guiding values to help decision-makers identify what’s most important when making choices, principles to guide the development and evaluation of regulation, policy products and services, and principles in action to guide how each principle can be applied (see figure 1). At its heart, ourPower puts people at the centre on the energy system.

Figure 1 ourPower, vision, values and principles



While we have energy objectives, there is no vision and principles to guide the transition and shape the future energy system to ensure it is people centred, fair, equitable and inclusive.

There is also a lack of representation of consumer expertise in policy design and decision-making, which is a major barrier to centring energy users in the energy transition. A targeted reform agenda to improve consumer representation across relevant organisations and appropriately and adequately fund consumer representatives and diverse representation of people with lived experience in policy design, is critical.

¹³ <https://ourpower.org.au/>

Harness the power and flexibility of demand side energy resources

Australia's current energy system governance does not encourage the deployment of demand side measures such as energy efficiency and demand flexibility – measures that are among the most effective means to reduce emissions at the least cost. Importantly, energy efficiency and demand flexibility also increase the speed and reduce the cost of the energy transition, through avoiding unnecessary investment in new energy infrastructure – helping reduce the need to gain social licence for these developments at the same time.

Energy law, policy frameworks and regulatory arrangements need reform to catalyse action on the demand side and remove existing barriers to coordinating the actions of millions of energy users. If effectively implemented, such coordination could create substantial savings – a recent report from ARENA estimated that demand flexibility could save consumers up to \$18 billion in net present value.

Realising these benefits will require significant reform of energy governance and market frameworks at both Commonwealth and state and territory level. ACOSS, AIG, EEC and the Property Council, have prepared a paper that further outlines the issues and identifies potential actions for reform. The paper is replicated in appendix 1. Created with extensive consideration and consultation, we believe these measures are sensible, implementable and foundational to elevate the focus on, and effectiveness of, demand side policy in Australia.

Recommendations

Recommendation 1 - Review and amend the National Energy Objectives (NEO) to address inequity, consumer risk and harm, and demand side through the addition of the following objectives:

- Social equity
- Energy affordability (not just price)

And consideration of the following objective:

- Avoid exposing consumers to risks they are ill-equipped to understand, manage or price.

Further reading:

- [ACOSS submission to NEO consultation 2023](#)
- Ben-David, R (2024) [What if the consumer energy market were based on reality rather than assumptions.](#)
- ACOSS, AIG, EEC, property Council (2024) Demanding Better: A reform for harnessing the power and flexibility of demand side energy resources (appendix 1)

Recommendation 2: The National Energy Agreement or similar, incorporates a vision and guiding principles to ensure the energy system is people centred, fair, equitable, inclusive, sustainable, and dependable.

Further reading:

- [ourPower](#)

Recommendation 3: Establish an energy equity framework and energy equity workstream in the National Energy Transformation Partnership

Further reading:

- [ACOSS submission on draft Energy Equity Framework](#)
- [ACOSS Submission to Electricity and Energy Sector Plan discussion paper](#)

Recommendation 4: Increase representation of consumers and demand side experts in engagement and decision-making, including:

- consumer and demand side expertise at board level of energy market and other relevant bodies;
- consumer expertise and demand side expertise within energy market agencies and departments;
- expanded roles for consumers and demand side experts in energy planning and policy development from the outset;
- Increased and ongoing funding to adequately resource research, advocacy and engagement across a diverse range of groups representing energy users, particular users experiencing disadvantage; and
- processes to regularly engage diverse groups of energy users in policy design

Further reading:

- ACOSS, AIG, EEC, property Council (2024) Demanding Better: A reform for harnessing the power and flexibility of demand side energy resources (appendix 1)

Recommendation 5: Put the demand side at the heart of broader energy governance reform

Further reading:

- ACOSS, AIG, EEC, property Council (2024) Demanding Better: A reform for harnessing the power and flexibility of demand side energy resources (appendix 1)
- [ACOSS Submission to National Energy Performance Strategy 2022](#)

Recommendation 6: Establish a National Energy Performance Agency

Further reading:

- ACOSS, AIG, EEC, property Council (2024) Demanding Better: A reform for harnessing the power and flexibility of demand side energy resources (appendix 1)
- [ACOSS Submission to National Energy Performance Strategy 2022](#)

Other reading

[ACOSS Submission to Electricity and Energy Sector Plan discussion paper](#)

[First Nations Clean Energy Strategy: consultation paper 2024](#)

[ACOSS Submission on Senate Inquiry on Electrification 2024](#)

[ACOSS Submission CCA Targets Issues Paper 2023](#)

[ACOSS Submission on Future Gas Strategy 2023](#)

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Appendix 1



Demanding better

A reform agenda for harnessing the power and flexibility of demand side energy resources

Introduction

As Australia embarks on the transition to net zero in earnest, it is becoming clear that progress towards a clean economy is held back by governance arrangements that are no longer fit for purpose across energy systems, buildings, industry and communities.

As we try to create an energy system fit for the 21st century and beyond, we are held back by fragmented policy and regulations that fail to foster investment on the demand side of our energy system.

Demand-side actions create a wide range of benefits – from health outcomes to productivity improvements. And by using our whole energy system, instead of just half of it, demand-side action can lower costs, empower participants to unlock value for themselves and society and help us reduce emissions as fast as possible.

Our failure to fully harness the power of demand-side action needlessly locks us into higher future energy costs and emissions, while failing to serve the interests of either individual energy users or the community as a whole.

Importantly, the failure to focus on demand has contributed to an energy system that often doesn't work for consumers, large and small. We need an energy system that centres consumers *and* an energy system that drives appropriate levels of investment in the demand side. These two characteristics are mutually reinforcing, and prioritising them both will help rebuild consumer trust, and ensure our energy system works for all Australians.

It's time for change. This position paper, written by the Australian Council of Social Service, the Australian Industry Group, the Energy Efficiency Council and the Property Council of Australia, argues that if we want a prosperous, just and fair transition to a net zero future,

we need to get serious about embracing all the opportunities open to us, starting by using our energy system¹⁴ holistically.

The 'demand side'

Very broadly, the 'demand side' means *energy use*, as distinct from the 'supply side,' or *energy supply*. In electricity and reticulated gas systems, consumer energy use happens 'behind the meter' – the energy user creates *demand* for energy. In other energy systems the boundary between supply side and demand side occurs at the point of supply of energy to the end-user, although the distinction between supply- and demand-side is most relevant where energy is served through regulated distribution networks.

Demand-side measures are actions taken by energy users to reduce or alter their energy use. These actions can reduce the volume of energy used or manage the timing of their energy use to make it more cost-effective, including maximising the self-consumption of on-site renewable energy. Among policy makers, these actions are often described as 'Consumer Energy Resources'. The pairing of onsite generation with energy storage (through solar PV and electric batteries) is a highly visible example of a demand-side measure.

However, this paper focuses on demand side measures that are less visible – but highly effective – ways to reduce costs and emissions. They include energy efficiency, electrification, energy management, demand response, demand flexibility, demand management and load shifting. All these measures focus on delivering the same or better energy *services* – the things we want to achieve with energy, like improved health and wellbeing for households or raised industrial productivity – with less, cheaper and cleaner energy.¹⁵

Why focus on the demand side?

Matching demand with supply as the system transitions

As Australia progresses toward an energy system characterised by high levels of variable renewable energy, the factors driving energy costs are changing considerably. As the Energy Efficiency Council's recent report *Clean Energy, Clean Demand* sets out, the time and place of energy use is becoming more important to the cost of energy, which can influence financial and non-financial outcomes for energy users.

For example, at 1PM on a bright spring day when solar panel production is high, energy supply is very cheap. Between 6PM and 9PM, with solar production dropping and householders returning home and turning on appliances, energy use will be more expensive. And energy is likely to be very expensive during extended periods of cold,

¹⁴ In this paper 'energy system' refers to the supply and use of energy in Australia. This includes energy usage through electricity and gas networks, as well as liquid fuel, renewable and distributed energy use. Energy systems include not only those things that supply energy, but also the things that *use* energy.

¹⁵ Energy deprivation, where people are forced to use less energy at the expense of health and wellbeing because they simply can't afford it, is not a demand side solution; in fact, energy deprivation can be minimised or avoided through demand-side measures. Energy conservation, in which energy is saved by delivering fewer energy services, is outside the scope of this paper.

overcast, still conditions. How energy is demanded – the time, place, and volume - can dictate outcomes for energy users.

The ability to use energy flexibly varies greatly. Some users have highly inflexible energy needs and require energy at a very specific time and place. Others have the ability to save money by shifting their energy use to take advantage of lower cost energy, providing them with a direct benefit. However, these actions also provide a broader system benefit.

When a large enough subset of consumers use energy flexibly, *all* consumers are better off. Flexible energy use that lowers demand on energy systems at times of high underlying demand reduces energy system costs for all users, which flows through on everyone's energy bills.

Providing energy services exclusively through the supply side, by building energy generation and transmission infrastructure, is a very expensive way to meet consumer needs. Instead, by harnessing demand side measures – including efficiency and flexibility – we can reduce the cost of providing energy services when people need them, and meet the needs of households and businesses while lowering total system costs.

Demand-side measures reduce energy costs, both for those who undertake the measures and other system users. For example, minimum energy performance standards for refrigerators and freezers were estimated to have reduced demand for energy by 360MW in 2017¹⁶ - about the size of a moderately large gas fired generation plant. Removing the need to build and run that supply infrastructure saves money for all energy users, while also saving money for the owners of the refrigerators themselves.

Multiple benefits for households and businesses

Demand-side measures also lead to multiple benefits, extending beyond energy system costs. For example, making buildings energy efficient not only reduces energy costs and emissions, but also makes significant contributions to the health and welfare of occupants. The Victorian Healthy Homes Program found that small energy efficiency improvements to houses – including thermal performance improvements – yielded health system savings around ten times higher than associated energy bill savings. Further, participants in the program – which was targeted at low-income Victorians with a health or social care need – reported significant improvements in health and wellbeing.¹⁷

Finally, better use of demand side levers could facilitate an expedited transition to a zero-emissions energy system. Improved energy performance reduces the amount of new infrastructure that must be built to replace high-emissions infrastructure. Firming of variable renewable energy and peaking generation will play a crucial role in the transition to an electricity system with high levels of renewables. However, it makes sense to ensure we utilise these methods only to the degree they are needed. Directly using cheap renewable energy as it is generated reduces reliance on higher cost technologies, such as battery storage, pumped hydro and gas peaking plants. Unlocking the potential of the demand side of the energy system would reduce the cost of the transition and bring forward its benefits sooner.

¹⁶ Collyer, A, 2019, [Independent review of the Greenhouse and Energy Minimum Standards Act](#), Australian Government, Canberra.

¹⁷ Sustainability Victoria 2022, [The Victorian Healthy Homes Program research findings](#), Victorian Government, Melbourne.

The critical role of the demand side in the pressing challenges facing our energy system

The Commonwealth, states and territories are very alive to the many and various challenges of effectively navigating the energy transition. What is less discussed is the critical, cross cutting role of the demand side in addressing many of these challenges.

While adding institutional reform focused on the demand side could be seen as throwing another shrimp on a very crowded barbie, in reality, demand side governance reform will support effective outcomes across a range of pressing issues:

- **Consumer Energy Resources (CER):** Energy ministers recently signed off on the CER Roadmap process, which will make an important contribution to dealing with a range of critical technical issues – such as data architecture, device interoperability, etc – that will help to unlock the full value of behind the meter technologies, including batteries, air conditioners and bi-directional EV charging. However, the Roadmap's scope is limited to priority issues and coordination is needed to account for intersections between the Roadmap and other policy reform processes that will strongly influence the level of CER – such as minimum energy performance standards for appliances, and policies to improve the thermal performance of existing homes.
- **Efficiency and electrification:** The Step Change scenario in the Australian Energy Market Operator's Integrated System Plan (ISP) is considered by experts as the most likely scenario, and is the reference used by industry and government to plan for system transition. Yet Step Change assumes rates of efficiency improvement and electrification well beyond what current state and federal policies can deliver. Current efforts to close this gap are piecemeal.
- **Energy affordability, equity and inclusion:** There has been an increase in cost-of-living pressures, energy inequity and energy hardship. Strategies and support to unlock demand side energy efficiency, and access to behind-the-meter technologies for low-income households and others current locked out, is insufficient and poorly coordinated.
- **Structural shortfalls in gas supply:** The 2024 Gas Statement of Opportunities identified significant challenges in meeting gas demand in Victoria from 2027 onwards, but proposed only supply side measures for dealing with these shortfalls. In time, reducing gas use via efficiency and electrification could make a significant contribution to securing gas for uses that are challenging to substitute (such as an industrial feedstock). However, this requires national-level planning and coordination to scale up efforts by individual jurisdictions like the ACT and Victoria.
- **Energy security and reliability:** Over the past decade Australia has been buffeted by significant volatility in energy markets, with major impacts on households and businesses. Effective demand side policy will enable a more resilient system, lessen reliance on imported liquid fuels, and can lessen or break the link between electricity prices and international gas prices. However, the present rate of policy action is unlikely to achieve any of these outcomes within a meaningful timeframe.
- **Infrastructure bottlenecks:** The rollout of transmission and large-scale renewables is being hampered by skills, supply chain and social license concerns. Unlocking the value on the demand side of our energy system would take some of the pressure off

this effort, and help spread the load of system transition and emissions reduction across the economy. This would require electricity system planners to treat demand side investments equally with supply side investments, which is not the case under current institutional arrangements.

- **Sector decarbonisation plans:** The six sector decarbonisation plans currently under development by the Commonwealth and similar plans at the state and territory level should all take advantage of demand side in achieving cost effective emissions reductions. However, realising this opportunity presents significant coordination challenges across jurisdictions and sectors.

The table below uses simple scenarios for New South Wales to illustrate the difference that high-quality versus low-quality electrification could make to overall electricity consumption and peak electricity demand. Considerable supply-side investment could be avoided with better attention to the demand side.

	Annual demand (TWh)	Peak demand (GW)
NSW base case (2030 Step Change)	73.3 TWh	15.7 GW
<u>Efficient</u> electrification (Average COP 3, cars & appliances charge/run 12 hrs/day during daylight)		
Passenger vehicles 100% EV	5 TWh (+7%)	1.5 GW (+0% to +9%)
Space & water heating 100% electric	-2.7 TWh (-3.6%)	1 GW (+0% to +6%)
<u>Inefficient</u> electrification (Average COP 1, appliances charge/run 12 hrs/day and cars charge 3 hrs/day in evening)		
Passenger vehicles 100% EV	5 TWh (+7%)	7 GW (+44%)
Space & water heating 100% electric	3.8 TWh (+5%)	4 GW (+27%)

Table 1: High quality versus low quality electrification in NSW. Source – underlying data AEMO 2024 Step Change. Electrification scenarios Ai Group. Scenarios deduct the electrification already built into Step Change.

About this report

This report is the result of extensive research and consultation undertaken by the Australian Council of Social Service, Ai Group, the Energy Efficiency Council and Property Council of Australia.

The process included the development of a Discussion Paper, a call for submissions in response to the Discussion Paper and a series of online workshops.

The feedback received through this process played a critical role in the development of the thinking represented in this paper. The project partners thank the many individuals and organisations who contributed their time and expertise.

The problem

At a high level, demand side action is the proverbial 'no brainer'. However too many of these 'no brainer' measures fall between the cracks between portfolios and jurisdictions. As a result, a huge amount of value that would otherwise accrue to Australian households and businesses is lost.

There are five specific barriers to improving demand side involvement:

1. Unaccountability: The value on the demand side is huge, but realising it isn't anyone's job.
2. Misprioritisation: Energy system frameworks are not designed to unlock the value on the demand side.
3. Invisibility: The demand side is routinely disregarded in system planning.
4. Misunderstanding: Energy governance misconceives barriers and motivations facing energy users.
5. Inaudibility: Energy users are poorly represented in policy making.

This paper will discuss these barriers and will set out a roadmap for a more holistic energy system.

Unaccountability

In aggregate, the opportunity on the demand side of our energy system is huge, however the vast bulk of these opportunities are small, and spread across every part the economy. Unlocking the value on the demand side requires catalysing many small actions through market design, incentives, standards and information. This is absolutely possible when it is somebody's responsibility, as demonstrated by experience overseas (see Section 3).

However in Australia we have multiple institutions whose activities affect the demand side, yet many critical issues fall between the gaps, and no institution has a specific remit to coordinate actions on the demand side.

Policy measures that influence energy demand are within the remit of a wide range of portfolios (transport, energy, buildings/housing, industry, innovation, state development, agriculture, social services, consumer protection etc.), and distributed across federal, state/territory and local government.

This means that no single department, agency or government has responsibility for coordinating policies that encourage demand-side measures in the energy system and connected sectors like buildings, industry and transport. Further, it means that policies which have effects on energy demand are disconnected from policies and institutions that deal with energy supply.

In contrast, supply-side energy policy is focussed on a relatively narrow sector with a well-defined set of stakeholders and participants. While political responsibility for energy supply is shared between the Commonwealth and state jurisdictions, each jurisdiction has a comparatively well-defined set of administrative arrangements enabling effective policy development for energy supply.

Currently there is no mechanism for building connections and coordination between energy system policy and policies that affect – or seek to shape - energy demand and consumer outcomes. For example, there is little linkage between the setting of building codes and energy system planning, or between transport planning (which is becoming increasingly interrelated with energy system planning as the transition to electric vehicles gathers pace) and energy market participants.

An important corollary of this is that there are few internal policy advocates for the demand side of the energy system within energy governance. This means that demand side measures receive significantly less attention from policy makers. No person or agency has responsibility for tracking, advising, coordinating, planning or facilitating demand side measures.

This lack of responsibility for demand side measures among energy governance bodies leads to a clear outcome – very little progress in uptake of demand side action.

Misprioritisation

Australia's energy governance arrangements were designed in a different time, for a different set of circumstances. When Australia's energy governance arrangements were conceived in the 1990s, challenges and priorities were different. Against the backdrop of a liberalising economy and the adoption of national competition frameworks, energy systems moved from State and Territory government control into a nominally competitive marketplace that would apply private sector efficiencies and discipline to energy supply, even where public ownership continued.

The basic framework of Australia's energy governance is contained in the Australian Energy Market Agreement (AEMA) and the national energy laws that operationalise it. However, these frameworks were never conceived to keep pace with the largest industrial revolution in history – the transition to net zero. Instead, the frameworks were designed in a time when the business of developing the energy system was considered to be largely complete, and market approaches would deliver the greatest value from the system to consumers.

Given this, it is unsurprising that the legacy energy frameworks that are currently relied on for delivering the transition aren't fit for that purpose. The governing objectives of these frameworks fail to activate the involvement of the demand side and neglect some important matters completely.

For example:

- The energy market agreement, and the National Energy Objectives, are largely expressed in terms of regulating the orderly *supply* of energy;
- The objectives seek to promote efficient investment in energy supply with respect to the price of energy. However they do not prioritise driving down the total cost of the energy system, or the size of consumer energy bills, which are affected by fixed charges, variable charges, peak demand and energy consumption;
- The objectives do not recognise the rights of households and businesses to access affordable energy;
- The objectives do not consider equity between consumers or between generations.

Other jurisdictions have taken a different approach to spelling out the matters that energy system governance should consider. For example, the United Kingdom's *Utilities Act 2000* notes that the objectives of regulation of gas and electricity explicitly includes:

- Protecting the interest of consumers;
- Having regards to the interests of individuals who are disabled or chronically sick, of pensionable age, with low incomes or residing in rural areas;
- Having regard to the interests of both existing and future consumers;
- Securing a diverse and viable long term energy supply;
- Having regard to environmental impacts; and
- Promoting effective competition wherever appropriate.

Australia's energy governance arrangements, in contrast, are narrowly and tightly focussed on keeping the unit price of energy low and maintaining the security and reliability of the energy system. While these goals are important elements of the operation of energy systems, there are a wider range of priorities that regulation of energy services should serve and consider, and many of them are directly related to the demand side.

Invisibility

A huge amount of data and analysis is routinely produced to guide investment in generation and network infrastructure. By contrast, the data and analysis that would underpin policy and investment in demand side measures is virtually non-existent. This means policymakers are simply not presented with compelling evidence that demand side investments should be prioritised, which makes it unsurprising that the demand side is routinely ignored in system planning and coordination.

For example:

- The Integrated System Plan treats energy efficiency as a fixed scenario assumption, not a system component to be optimised alongside network investments;
- Development of new infrastructure is closely observed and coordinated by energy governance bodies, while opportunities for demand-side solutions are neither investigated nor highlighted in system planning processes;
- Limited data on flexible demand resources is collected by energy market bodies, beyond limited and low-takeup of demand side participation mechanisms;
- Limited data is collected on how the demand side can improve energy affordability, energy equity, and contribute to achieving net zero targets;
- Demand side measures that do exist – such as state and territory energy efficiency schemes – have limited linkages to energy governance and system planning;
- New policy measures – such as the Capacity Investment Scheme – have frequently overlooked demand side measures;
- Network regulatory processes such as the Regulatory Investment Tests for transmission and distribution network enhancements have limited input from third parties, and lack a mechanism to extensively investigate demand side solutions that could negate the need for additional infrastructure.

The invisibility of demand side measures in energy governance and system planning means that demand side measures are often ignored as solutions to energy problems.¹⁸

Misunderstanding

Australia's energy governance systems assume a level of agency among energy end users that is in practice only applicable to a minority of large and highly capable entities. As a result, these systems pursue solutions that are often not relevant to the majority of end users. Some consumers are indeed engaged, rational economic actors that have the capacity and capability to allocate their resources to maximise their own utility. But most do not match this model and are never likely to.

Common Australian approaches to economic regulation include preferring market signals to regulation where possible; limiting intervention to cases of market failure; prioritising consumer choice; neutrality between technologies and business models; and allocation of risks to those seen as best placed to manage them. Each of these approaches are backed by strong arguments, and in some cases are useful and appropriate. However in combination, and in the context of the demand side and smaller users, they have often worked against meeting consumer needs:

- Many energy consumers have little real choice in the marketplace, and see little incentive in exercising what little market power is available to them;
- The vast majority of consumers are disengaged from the energy system, and will not take an active role in the energy system until the proposition is credible, trustworthy and of significant value to focus their attention;
- Where consumers fail to behave as 'model' actors, ad-hoc, partial and reactive guardrails are applied, adding to complexity without addressing underlying root causes;
- Demand-side measures to lower the cost and/or emissions of the energy system that focus on consumer choice will only be effective with adequate consumer knowledge, control, resources, supports, and in some cases regulation. With the right settings it's possible to catalyse millions of small actions that in aggregate represent huge value, but in practice, we don't get the settings right;
- Without sufficient coordination and facilitation, energy markets are unlikely to be able to achieve a zero-emissions energy transition at sufficient speed to avert the worst impacts of climate change. This includes coordinating and facilitating demand-side measures.

It is time for a fundamental reform of how the energy system considers consumers, and how their interests are best served. In some cases, guidance (including by regulation) may be a far more effective way to promote consumers' interests than relying on the facade of a competitive marketplace that ultimately delivers them little choice or agency.

¹⁸ The authors note that NSW is a notable exception to this trend, as their Consumer Energy Strategy is designed to help address security and reliability gaps resulting from the impending closure of Eraring power station.

Inaudibility

Consumers and other energy users are represented by a number of different groups in national energy markets. However, the voices representing consumers – particularly small consumers – are limited in scope and poorly resourced compared to energy companies and the voices representing the supply side of the energy market.

Although it is not the intention, as presently constituted existing market frameworks and governance are not well equipped to properly incorporate genuine consumer perspectives. While all three market bodies have mechanisms for consumer consultation, at the time of writing only one director of the AER, AEMO or AEMC has identified expertise involving consumer issues. The balance of energy market body corporate leaders are former energy industry executives, business executives, public service executives or lawyers. While these leaders provide valuable expertise, there is a clear gap in systemically driving the activities of these bodies towards the evolving interests of consumers, who are likely to benefit most from expanding demand-side measures in energy markets.

In addition to greater representation within market bodies, more resources are needed to support greater numbers and diversity of consumer representation in energy market decision making processes, and facilitate genuine consultation with a diversity of energy users.

Many stakeholders have also pointed out that most small consumers lack significant agency in energy markets, and cannot give voice to their priorities through using their market power. This can be due to consumers not being able to exercise market power due to a range of structural and systemic disadvantages, or through consumer market power essentially not existing in a highly concentrated market. The inability for consumers to be properly represented in energy governance, either through their market power or through energy governance bodies themselves, leads to a clear barrier to engaging the demand side in the energy system.

The case for reform

The interlocking systems of policy and governance that impact on demand side action are not fit for purpose to guide a rapid transition to zero emissions energy at least cost, while promoting equity and prosperity. An economic regulation framework devised in the 1980s and 1990s did not contemplate the necessity of wholesale system replacement, and clings to approaches to promoting the interests of consumers that have long since failed.

Yet this need not be the case.

There are a raft of international jurisdictions that are doing better with demand side governance, and Australia can learn from them:

- California's Energy Commission has an entire division devoted to looking at the demand side of the energy system, and brings important demand-side policy levers (such as appliance standards and building codes) into the purview of energy system policy.
- The United Kingdom has understood the need for a holistic approach to energy system planning, and has established a National Energy Systems Operator to take a *'whole system approach to strengthen energy security, help deliver net zero and ensure household bills are affordable in the long-term.'*
- New Zealand's Energy Efficiency Conservation Authority provides a single point of coordination to encourage and support energy efficiency as well as renewable energy, and create strategies and programs to improve energy efficiency and conservation.
- Ireland has established the Sustainable Energy Authority of Ireland with a broad remit in the energy system, to promote 'environmentally and economically sustainable production, supply and use of energy', energy efficiency and renewable energy, minimising the environmental impact of energy production and supply, and promoting and assisting related R&D.

In these jurisdictions, there is a greater role played by demand-side measures, as there are agencies or other accountability mechanisms for improving energy performance through demand side measures.

Independent analysis conducted in 2022 found that Australia ranked worst in the developed world for energy efficiency policy and performance.¹⁹ The lack of appropriate governance arrangements is a major contributor to this outcome.

However, we can change this. With some sensible reforms, Australia could leverage demand side solutions to complement our renewable energy resources and achieve a transition to a net zero emissions energy system at lower cost than our current trajectory.

Some examples of global demand side governance are examined in more detail in Appendix A.

¹⁹ American Council for an Energy-Efficient Economy 2022, *2022 International Energy Efficiency Scorecard*, ACEEE, Washington.

Principles for reform

We propose that reforms to energy governance should follow these principles:

Establish accountability

Make demand-side policy someone's job. Without accountability, progress in accelerating uptake of demand side measures is unlikely. Clear frameworks for gathering data, setting policy direction, designing effective programs, measuring and evaluating progress must be established if demand-side activities are to be a significant part of the effort to reduce emissions and power a rapid and equitable transition. This is particularly important given the distributed nature of the demand side of the energy system.

Provide clear guidance, enhance planning and coordination

Energy system objectives and policy should explicitly include the demand side to better guide planning. Demand-side actions should be clearly prioritised in climate change mitigation and adaptation strategies.

Ensure end users benefit from the transition

Improving the ability for end users to access energy efficient technology and products, meaningfully control and manage their energy use, including through innovative product and service offerings, can help unleash demand-side action. End-users – particularly households – should also be supported with sensible regulations that ensure their interests are adequately protected. Demand-side action should provide benefits for all energy users, not only those with the resources and agency to make demand-side investments.

Foster equity

Recognise that markets do not necessarily deliver equity. We need to design policy from the beginning to more equitably share the costs and benefits of the energy transition. Energy governance frameworks should consider equity for current and future generations.

Support broader community goals

Recognise that energy is an essential service, the energy system exists to support the community and is not an end in itself. Demand-side actions can significantly increase community wellbeing through multiple benefits including economic prosperity, health and wellbeing, emissions reduction, environmental stewardship and equity.

The reform agenda

The full raft of reforms required to ensure we unlock the value of the demand side is beyond the scope of this paper. However, after extensive consideration and consultation we have identified the following reforms that we believe are foundational to elevating the focus on, and effectiveness of, demand side policy in Australia.

Immediately establish a National Energy Performance Agency

It is clear that lack of accountability for demand side policy is significantly hampering efforts to improve demand side action. An agency dedicated to driving down energy costs for all consumers, by championing, co-ordinating and facilitating demand-side actions is a critical enabler to advance this agenda. This is particularly important as demand side actions are distributed across a wide range of portfolios, governments and organisations.

Such an agency is not a silver bullet. It would have much work before it, and it would not address all the issues identified above. Success would require the work of this agency to be paired with a broader reform agenda. However, in the *absence* of a dedicated coordinating agency, success is very unlikely. Further, the work of this agency would also help catalyse the broader reform agenda that is needed.

The exact remit of this agency is a matter for governments, and our organisations do not wish to be prescriptive. However, through the consultation process undertaken for this report some broad parameters emerged:

- A National Energy Performance Agency is not simply a new energy market body. To be sure, this Agency should be constituted in such a way that it is empowered to make a material contribution to improving the effectiveness of energy system governance. However, its remit will necessarily extend beyond that, to the various portfolios and regulatory regimes that play a role in demand side action.
- The provision of high quality, granular data and analysis around the opportunity associated with particular demand-side interventions should be a core function of the Agency. It is anticipated this data would be an important input into existing national, state and territory policy and regulatory processes, including the ISP.
- The Agency's role in directly enabling energy performance improvements would be a key design consideration. While this could include the delivery of grants or programs, it need not. The Energy Efficiency Council has [previously argued](#) there is a need for a national effort across skills, supply chains, regulatory reform and information provision to activate the residential retrofit market. Similar efforts are required across the economy, and a central body driving this reform agenda would be complementary to government efforts at the state and federal level.
- While this should be a national body, state and territory buy-in will be essential, particularly because critical regulatory areas like energy and building codes are within the state's constitutional remit. Collaboration across jurisdictions on the design of the Agency will help ensure this buy-in is achieved.

Set national energy performance targets, and measure progress

It remains a truism that it is impossible to manage that which is not measured. Australian governments should agree on an appropriate target to increase energy performance, and a range of metrics to measure progress towards that target. A target provides a clear point to aim for, and a frame of reference for policies and programs to achieve it. Better informing the Integrated System Plan and plans to close the gas shortfall currently projected for 2027 would be particularly useful.

Increase representation of consumers and demand side experts in engagement and decision-making

Lack of representation of consumer and demand side expertise in policy design and decision-making is a major barrier to centring energy users in the energy transition and driving demand side outcomes.

A targeted reform agenda to improve representation across relevant organisations is an important, complementary measure that would support the work of the new National Energy Performance Agency. This should include:

- consumer and demand side expertise at board level of energy market and other relevant bodies;
- consumer expertise and demand side expertise within energy market agencies and departments;
- expanded roles for consumers and demand side experts in energy planning and policy development from the outset;
- Increased and ongoing funding to adequately resource research, advocacy and engagement across a diverse range of groups representing energy users, particular users experiencing disadvantage; and
- processes to regularly engage diverse groups of energy users in policy design.

Develop new policies and delivery models that meet energy users where they are

Current policy models rely on household and small business energy users to have capital and specialist energy knowledge to engage, resulting in low take-up.

With the support of the National Energy Performance Agency, governments should develop a new, realistic policy framework and measures that meets energy users where they are and make it as simple as possible to benefit from demand side action:

- provide consumers with regulated minimum standards, clear and comparable labelling of products, default pricing that serves energy consumers as well as the system;
- provide clear financial incentives for all small energy users to manage their energy use;
- provide targeted financial incentives and supports for consumers experiencing disadvantage;
- tailored and trusted education and support services to connect people with solutions, finance and qualified specialists; and
- intermediaries to manage complexities

Depending on its remit, a number of the activities outlined above could plausibly be delivered by the National Energy Performance Agency.

Identify, understand and mitigate risks to equity

It is imperative that a just transition to net zero does not leave anybody behind. There are significant risks to equity in the energy transition – both in terms of consumers experiencing disadvantage, and also intergenerational equity. Governments should proactively identify, understand and minimise these risks. Elements include centring people in the energy transition, establishing consumer safeguards, ensuring costs are shared equitably, and prioritising supports so people and communities experiencing disadvantage can benefit from the energy transition.

Put the demand side at the heart of broader energy governance reform

We recognise that the demand side is one part of a much broader conversation around energy governance reform. Future reviews of energy market design and governance must be established with a view to elevating energy users to the centre, and fully harnessing the power of demand side action.

Where to next?

State, territory and Commonwealth governments are jointly responsible for energy system governance and policy. ACOSS, Ai Group, the Energy Efficiency Council and Property Council of Australia will continue to advocate for Energy and Climate Ministers to commence a new era of energy governance and market reform through the actions recommended in this paper.

We welcome support and input from other interested organisations. If you would like to support our efforts, please get in touch via info@eec.org.au.

Appendix 1: Global examples of demand-side governance

Internationally, there are strong examples of jurisdictions that have recognised the need to have a strong framework to promote demand-side market participation. Lessons could be learned from these examples for application in Australia.

New Zealand – Energy Efficiency and Conservation Authority (EECA)

The EECA is established under the Energy Efficiency and Conservation Act 2000 to encourage, promote and support energy efficiency, energy conservation and the use of renewable sources of energy. The EECA's role combines advisory, grants and regulatory functions:

- Creating and maintaining a National Energy Efficiency and Conservation strategy, that must include the Government's policies in energy efficiency and renewable energy, the 'objectives to be pursued' to achieve those policies, targets to achieve those policies that are 'measurable, reasonable, practicable and considered appropriate by the Minister', and the means by which targets are to be achieved.
- EECA is also able to make grants and/or loans, and is presently making grants for decarbonisation across residential, government and industry.
- EECA is also the regulator for product and vehicle efficiency standards (E3) etc.

Energy system operation, planning and regulation is undertaken by others:

- The Electricity Authority is responsible for system planning (including the transition to 100% renewables), sets the market rules (Electricity Industry Participation Code), promotes consumer competition and choice, as well as regulates compliance with the code. (This combines some functions of the AEMC, AER and AEMO).
- The system operator (Transgrid) both owns the transmission grid and operates the system on a day-to-day basis.
- The Commerce Commission regulates electricity distribution businesses.

The existence of the EECA provides a clear focus point in energy policy for the demand side of the energy system. This helps ensure that demand-side measures are a clear part of New Zealand's energy policy in residential, commercial and industrial settings.

California – California Energy Commission

There are three principal market bodies in the California energy system.

The California Energy Commission (CEC), which is the state's primary energy policy and planning agency and has seven core responsibilities that guide the agency:

- Forecasting electricity and natural gas demand to ensure adequate supplies are developed.
- Promoting energy efficiency and conservation by setting the state's appliance and building energy efficiency standards.
- Investing in energy innovation that advances energy science and technology through research, development, and demonstration projects.
- Developing renewable energy resources.
- Advancing alternative and renewable transportation fuels, vehicles, and technologies.
- Certifying thermal power plants 50 megawatts and larger.
- Planning for and directing state response to energy emergencies.

A real strength of the CEC is that has explicit responsibilities in both supply-side and demand-side energy system planning, as well as relevant policy levers. Its role as a creator of energy efficiency standards gives it strong visibility of energy demand, as well as the energy supply landscape. Combining these functions into one body provides a strong platform for holistic, optimised energy system planning.

The other market bodies are the California Public Utilities Commission, which regulates electricity and gas utility companies and acts as the economic regulator in the market, and the California Independent System Operator, which owns and operates most of the transmission system, as well as operating the wholesale market.

Ireland – Sustainable Energy Authority of Ireland (SEAI)

The SEAI is established as a governmental agency with the functions of promoting and assisting 'environmentally and economically sustainable production, supply and use of energy', energy efficiency and renewable energy, minimising the environmental impact of energy production and supply, promoting and assisting related R&D, as well as advising the Minister and other users.

The SEAI is largely an advisory and promotion body, rather than a body with regulatory or planning functions.

- EirGrid operates the transmission network and acts as system operator. EirGrid also undertakes some system planning and development work, although primary responsibility for long-term planning rests with government.
- The Commission for Regulation of Utilities provides consumer regulation, as well as network licencing, regulation and market rule setting.

While SEAI's functions are advisory in nature, it helps to lift the visibility of demand-side measures.

New York – New York State Energy Research and Development Authority (NYSERDA)

The NYSERDA is a semi-governmental agency devoted to increasing energy efficiency, saving money, using renewable energy, and reducing New York State's reliance on fossil fuels. The authority's responsibilities are:

- Overseeing an energy and environmental R&D program;
- Providing assistance to homes and businesses to implement energy efficiency and energy affordability measures;
- Advice and analysis to guide energy market decisions;
- Energy efficiency financing; and
- Managing nuclear energy matters.

NYSERDA has a limited role in regulation and system planning but does undertake some functions such as procuring and financing large renewable energy projects.

Other New York energy bodies include the New York Power Authority which operates substantial amounts of generation and transmission lines, and the Public Service Commission which regulates consumer-facing utilities. NYSERDA helps drive attention towards demand-side measures, but its role is more limited than in some other international examples.