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Anna Collyer
Chair
Australian Energy Market Commission
GPO Box 2603
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Dear Ms Collyer

Re: AER submission to AEMC Pricing Review Discussion paper

The Australian Energy Regulator (AER) welcomes the opportunity to provide this submission to the Australian Energy Market Commission's (AEMC) discussion paper for the pricing review: Electricity pricing for a consumer driven future (the Pricing Review).

We support the Pricing Review's broad and forward-looking framing, including the use of consumer archetypes and preference principles, and agree that reforms should reflect the diversity of consumer capabilities, expectations, and behaviours. Pricing reform will continue to be an important enabler of the energy transition, and this review provides a valuable opportunity to explore how pricing mechanisms function in the context of the future energy system.

We agree that pricing signals have an important role to play in encouraging efficient use of the network and enabling consumer participation. However, realising this potential requires exploration of options for improvements to how signals are designed, how they are translated through retail offers, and how they align with system needs. We also consider that stronger support for consumer enablement, better alignment between network planning and pricing, and the evolving role of retailers will be important to ensure the framework remains fit for purpose in the context of the energy transition. In this submission, we aim to:

- share implementation insights from the AER's role in tariff review and approval, including the practical challenges and limitations of current long-run marginal cost (LRMC) estimation methods, and how these affect price signal quality and investment incentives.

- explore how pricing interacts with network planning, retail incentives, and customer participation, highlighting the need for better alignment to support demand-side flexibility.

- discuss challenges in how network price signals are translated by retailers into customer offers, including issues with residual cost recovery and signal distortion.

- offer potential opportunities to analyse and explore, including signal clarity, retailer enablement, equity, and system efficiency.

We also see this review as a key opportunity to progress developing a Distribution System Operator (DSO) model. In a future energy system increasingly shaped by dynamic distributed demand and flexible resources, price signals alone will likely be insufficient. This is because effectively integrating these resources will require a level of operational visibility, real-time coordination and active management of network constraints which go beyond what pricing signals can achieve on their own.

Coordinated network and market-based responses may be needed to support system optimisation, consumer value and efficient investment. Pricing reform should seek to improve both individual responsiveness and support a broader shift toward orchestrated flexibility and integrated distribution system operation. This can also build on other reforms including in relation to CER data availability, metering, and consumer protections.

We acknowledge that network pricing decisions will inherently involve complex trade-offs between different objectives including cost recovery, economic efficiency, simplicity and consumer fairness and equity. We discuss these trade-offs below and welcome continued collaboration with the AEMC to advance a framework grounded in delivering value to the broader system.

Long-run signal construction

Before exploring how price signals function in practice, it is helpful to briefly outline the structure of the current network pricing framework. The rules provide a flexible framework for tariff design which has enabled reforms and trials since its introduction in 2014. This framework was designed to ensure that distribution networks recover their efficient costs through tariffs and that those tariffs promote efficient use of the network to help avoid unnecessary investment. While this principle remains foundational, realising its full value requires careful tariff design, enablement of consumer response and coordination with planning and investment decisions. This is particularly important as the energy transition continues, new technologies are taken up, and energy use patterns change.

Since 2014, the AER has assessed successive tariff structure statements which have progressed pricing reform in line with the direction set out in the rules. However, we recognise that tariffs are continuously evolving, informed by emerging technologies, new capabilities and shifting consumer expectations. This review provides a timely opportunity to consider how the approach may continue to be adapted to meet the changing needs of consumers in a transitioning energy system.

Under the National Electricity Rules (the NER), distribution network tariffs be based on the long-run marginal cost (LRMC) of providing network services, which represents the cost of meeting an incremental increase in demand over the long term, typically through network augmentation. It is intended to guide efficient consumption, connection, and investment decisions by reflecting the cost of expanding system capacity. Distributors must recover their total allowed revenue, so in addition to recovering LRMC from each tariff, distributors must also recover residual costs (i.e. total efficient cost for each tariff less LRMC).

Distributors allocate residual costs across tariff charging parameters in a way that considers its effect on the LRMC based signal, customer impact, simplicity, stakeholder preferences, and cost recovery stability. The balance between LRMC based signals and residual cost recovery mechanism determines how network costs are communicated to retailers and consumers and how consumption behaviour is influenced.

We are in the third round of tariff structure statements (TSS) since the commencement of the framework in 2014. Over this period, CER take up means there is now increased flexible load that can respond to more complex price signals, including short run signals. In the discussion paper, the AEMC concludes that the biggest benefit of CER will be to reduce wholesale market costs for consumers. The AEMC notes that most network costs are sunk or unavoidable and that network cost savings associated with unlocking flexibility will account for only 11% of the system benefits identified by the modelling produced by Energeia.[1] Further, the AEMC appears to use this modelling to underpin its view that wholesale signals are more valuable and that network signals could otherwise be 'getting in the way' of those wholesale signals.[2]

We note that Energeia's modelling sourced LRMC estimates directly from DNSP tariff structure statements.[3] Therefore, many of the limitations with current LRMC estimation methods that rely on an Average Incremental Cost (AIC) approach, explored below, may mean that these LRMC estimates under-represent true marginal cost, resulting in an underestimation of the proportionate value of potential benefits of CER the AEMC observed. There may be value in exploring how alternative estimation methods could better inform analysis of total potential system benefits of CER and the proportion of these benefits that are driven by potential network savings.

Most networks estimate LRMC using the AIC method and calculates the average cost of future load-driven capital investment by dividing projected demand related expenditure over a forecast period by the expected growth in demand. The perturbation method is a further, though less commonly adopted, approach and involves modelling small, hypothetical increases in demand at specific locations across a network to observe the incremental impact on network costs. As noted in the AER's 2021 explanatory note,[4] while AIC is an accepted and practical approach, it may be less suited to capturing the marginal cost of incremental demand in a system where investment drivers are changing due to CER, flexible load, and orchestrated demand response.

The AIC method assumes a simple, linear relationship between demand growth and capital expenditure. That is, it assumes more load equals more investment and less load means less investment. But this relationship is breaking down in today's system. For example, targeted flexibility or orchestrated CER can allow networks to meet peak demand without building new infrastructure. The system's need for investment is no longer a simple function of how much energy is used, it depends on when, where, and how that energy is managed. AIC does not reflect how small changes in localised or peak demand can drive disproportionately large investments. For example, the installation of just five 7kW EV chargers on a single suburban street could exceed the capacity of a local transformer or low voltage feeder, not because simultaneous charging is expected, but because networks must assume it is possible in the absence of any control. This may trigger costly upgrades even when overall load growth across the zone is modest. AIC would average this cost across a broad class, potentially masking the marginal impact and the value of targeted flexibility or

[1] Energeia, *Benefit Analysis of Load-Flexibility from Consumer Energy Resources: Final Report*, 26 March 2025.

[2] AEMC, The pricing review: Electricity pricing for a consumer-driven future: Discussion Paper, 3 June 2025, p. 59.

[3] Energeia, *Benefit Analysis of Load-Flexibility from Consumer Energy Resources: Final Report*, 26 March 2025, p. 27.

[4] AER, Explanatory note: network tariffs and long-run marginal cost, September 2021.

orchestration at the local level. A single average cost estimate cannot reveal where or when customer action is most valuable. The result is a signal that may lack the precision needed to guide efficient responses.

This example also highlights a deeper challenge that even when demand forecasts incorporate some assumed pricing responsiveness, such as EV charging profiles drawn from the ISP, the system value of active orchestration is not explicitly tested. Without a counterfactual scenario that models unmanaged, simultaneous EV charging, it is impossible to quantify the full benefit of enabling coordinated response. As a result, the potential for flexibility to defer augmentation may be partially assumed but not fully valued and the marginal benefit of additional orchestration remains invisible to both planning and pricing design. This could lead to under-stated LRMC forecasts because the demand forecast has already assumed a behavioural response, even though the absence of an LRMC signal could undermine the delivery of that response.

Some networks have begun to experiment with alternative estimation approaches that partially address some of these limitations. For example, in its recent reset process, Ausgrid applied the AIC method to estimate LRMC in growth areas where augmentation is expected but used a perturbation-based approach in non-growth areas to estimate the marginal cost of non-augmentation expenditure.[5] By analysing these marginal changes, the approach can estimate the cost of addressing localised load growth or operational pressures without triggering major capital investment and has the potential to provide a more accurate reflection of costs, which can support more efficient pricing signals and improved investment signals for network development.

Network congestion and short-run signals

The AEMC’s discussion paper highlights that many parts of the distribution network continue to have substantial capacity headroom, and that uniform (‘broadcast’) pricing signals are often applied despite variations in local network conditions. For example, the paper notes that over 75 per cent of zone substations in Queensland have at least 40 per cent spare capacity relative to their historical peak demand, suggesting that most consumers are not at immediate risk of contributing to network congestion.

While we agree that congestion provides useful visibility into where the network is under pressure, it may increasingly be a poor proxy for where demand-side flexibility is both available and valuable. Some existing tariffs are designed to reflect periods of peak demand and associated constraint risk, the signals they provide can be broad, time-based, though sometimes not directly linked to specific or evolving network conditions.

Looking ahead, distribution businesses are already anticipating future network constraints and have proposed targeted investment in their regulatory proposals to address these emerging constraints. For example, in the 2026–31 Victorian draft distribution determinations, DNSPs have identified expected network pressure due to continued uptake of CER, EVs, and electrification of household appliances. These forecasts demonstrate that while parts of the network currently exhibit headroom, DNSPs are proposing investment in specific areas. Although these additional loads have the potential to contribute to peak demand, their inherent flexibility—if effectively harnessed—may help to moderate peak demand impacts and improve system utilisation. This underscores the importance of pricing in signalling the value of this flexibility, complementing, and enabling other mechanisms such us product and platform innovations.

[5] Ausgrid, *Revised proposal, Attachment 8.1 – Tariff Structure Statement Compliance Document 2024-29*, p. 9.

The current framework allows short-run marginal cost signals to be layered into tariffs, evidenced by the increasing use of critical peak pricing (charges and rewards) for large customers and flexible loads. Critical peak pricing sends short run cost signals to encourage customers to reduce or increase their demand/exports on anticipated peak event days. Typical operation is that DNSPs provide customers with notice of the event and customers who respond as directed (increase/decrease their imports/exports) are rewarded with reduced charges. While this approach has primarily been applied to large customers to date, its relevance may increase for residential customers as the penetration of highly flexible, high-volume loads (such as electric vehicles and home batteries) continues to grow. These signals, if properly designed and implemented, could support more dynamic and granular coordination, particularly where augmentation is not planned but flexibility can still improve efficiency. This could form part of a more layered approach to pricing, supporting the evolution toward a DSO model.

Strengthening the planning-pricing feedback loop

The effectiveness of price signals depends on how these are calculated and how they are embedded in planning assumptions and investment forecasts. In many cases, network forecasts incorporate behavioural expectations such as time-shifted EV charging or solar self-consumption) often drawing from ISP scenarios.[6] While these assumptions reflect likely system evolution, they are not grounded in observable control, automation, or active orchestration. As a result, planning decisions may account for the benefit of flexible demand without recognising the value of enabling or delivering that flexibility.

This creates the circular logic discussed above, that if pricing is meant to signal investment needs, but these needs already reflect assumed behavioural response to pricing, the marginal value of actual customer action is obscured. The planning-pricing feedback loop becomes closed and unable to test or expose where targeted flexibility could avoid augmentation, reduce expenditure, or improve utilisation. Using counterfactual forecasts that model unmanaged demand scenarios and/or segmenting forecasts by customer cohort or flexible load type (e.g. CER owners, renters, etc) could assist in addressing these concerns.

This could support the development of more granular and actionable price signals, better aligned with real system constraints and flexibility opportunities. It could also create clearer visibility for retailers and aggregators seeking to invest in orchestration solutions.

The challenges associated with forecasting and incentivising demand-side flexibility are mirrored in broader system planning processes. As highlighted in the AEMC's consultation paper for *Integrated Distributing System Planning* rule change request,[7] Energy Consumers Australia (proponents of the rule change request) is concerned that there remains a disconnect between planning processes despite the AEMC's recent *Improving consideration of demand side factors in the ISP* rule change. The ECA suggests that the ISP is not a whole-of-system plan, with the focus on transmission planning and ISP, and annual distribution plans are not required to compare any similar inputs such as load forecasts nor undertake consistency checks.[8]

[6] See for example, AusNet, EDPR 2026-31 proposal p. 115: "For electric vehicles, our demand forecasts are based on AEMO's EV usage profiles, which determine the percentage of customers who charge during the day, at night and at peak, based on tariff response and managed charging. EV tariff response is therefore assumed in our expenditure forecasts."

[7] AEMC, *National Electricity Amendment (Integrated Distribution System Planning) Rule 2026*, 26 June 2025

[8] Energy Consumers Australia, *Rule change request, Integrated Distribution System Planning*, pp. 12-13.

Role of price signals in driving behaviour

The AEMC correctly identifies that price signals alone may be insufficient to shift behaviour at scale, particularly given the diversity of customer preferences, capabilities, and the complexity of current pricing structures. Currently few consumers have the tools, information, or confidence to respond optimally to dynamic or seasonal tariffs. However, we recognise that behavioural patterns may change as new technologies, retail products, and service models increasingly automate customer responses and reduce the need for individuals to actively engage with tariff complexity. At the same time, retailers often flatten or repackage network signals to create simpler and more hedgeable retail offers. This observation is supported by feedback referenced in the AEMC's discussion paper, which notes that retailers may prioritise simplicity and predictability over signal fidelity, especially when managing wholesale hedging strategies and customer expectations.

In some cases, this may create misaligned incentives or unintended behavioural effects. For example, when export rewards apply during peak periods but are outweighed by high consumption charges in the same window, consumers may choose to avoid drawing from the grid rather than discharging stored energy, even if system value would be better served by export. Similarly, challenges for DNSPs large residual cost mean that some DNSPs opt to recover residual charges in off-peak periods. As the AEMC notes, when applied during high PV output periods these can discourage additional demand at times of excess supply, even though that demand could improve network utilisation and reduce curtailment. We note many DNSPs are implementing solar soak tariffs to mitigate against this.

Signal design and recovery structures

Even where LRMC-based tariffs are well-designed, their effectiveness is shaped by how the remainder of the network's allowed revenue is recovered. Under the current framework, residual costs are often embedded in variable usage-based charges for simplicity and to align contribution with perceived fairness (i.e. higher users pay more).

However, this approach may have unintended consequences, including:

- diluting marginal signals, making it harder for consumers or retailers to distinguish cost-reflective components.
- undermining pricing consistency, particularly during periods where consumption is encouraged (e.g. solar soak) but still incurs a residual-based charge.
- perceived fairness with inequitable outcomes, where the perspective that 'higher users pay more' is sometimes used to justify volumetric residual recovery. While this may appear fair in principle, it can lead to inequitable outcomes, disproportionately affecting customers with inflexible or essential usage. For example, research from the ACCC highlights that hardship and payment-plan customers consistently have significantly higher electricity usage than other customers likely due to factors such as larger household sizes, poor housing efficiency, and limited access to rooftop solar or efficient appliances.[9]

From a retailer's perspective, recovery of residual costs from variable charges also introduces volatility with limited hedgeability. While DNSPs are guaranteed revenue, retailers must manage short-term volume risk and may avoid promoting actions that reduce

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[9] ACCC, Inquiry into the National Electricity Market, June 2024, p. 46.

consumption if it threatens their own margin or complicated product design.

The AEMC suggests that network tariffs do not share the costs of paying for distribution infrastructure fairly among electricity consumers because those with CER can more easily shift their consumption to avoid contributing to the recovery of residual network costs. In addition, the AEMC notes that LRMC-based price signals are not effectively signalling network costs because they are often overshadowed by the need to recover residual costs, which weakens the price signal and reduces the incentive for consumers to shift or moderate their usage in ways that support efficient network utilisation.

We agree and note the implications for signal integrity, retail translation and consumer equity. We suggest that the AEMC considers whether alternative residual cost recovery approaches could better avoid distorting behaviour, protect customers experiencing vulnerability and support innovation in retail pricing. There may be value in revisiting the foundational works of the Brattle Group that helped inform and assess the AEMC's original Distribution network pricing arrangements rule change. This analysis explores in detail the problem of recovering residual costs and alternative approaches.[10] There may be other potential recalibration options to explore in the context of greater smart meter penetration levels beyond higher fixed charges per connection, which improves predictability but may disadvantage low-usage households unless tiered or mitigated.

Each of these options, and those previously explored by the Brattle Group, involves trade-offs. But the current use of variable residual charges may no longer be fit for purpose in a high-CER, flexible-demand environment. A more deliberate separation between price signals for behaviour response and structures for cost recovery may support better outcomes across efficiency, equity, and innovation. Further, as indicated by recent analysis commissioned by the Victorian Council of Social Services, there may be value in balancing equity and efficiency considerations through the general segmentation of load. This analysis posited a proposal for two instruments to achieve two distinct goals, namely, equitable essential energy provision and efficient use of flexibility.[11] The pricing principles already acknowledge a concern about the extent to which customers can mitigate the impact of changes in tariffs through their decisions about usage of services. Exploration of what weight should be given to considerations about the opportunity and capacity of households to act in tariff design, particularly as capabilities continue to diverge among customer cohorts.

Signal allocation and orchestration pathways

One of the most significant structural barries to effective flexibility is that the value of avoided network investment is not easily captured or shared. Even when consumers respond to tariff signals, the benefits do not typically result in a transferable value stream. Instead, while network costs are avoided, and result in lower network charges overall, there is no positive value stream for customer agents to share in this cost saving. This limits the ability of retailers or aggregators to finance flexibility because there is not a direct value to access and weakens the economic case for retailers to invest in increasing opportunities and capacities for customers to act.[12]

A central assumption in the current tariff design framework is that retailers will pass through network signals to consumers and that those consumers will respond. But this model breaks

[10] T. Brown, A. Faruqui and L. Grausz, *Efficient tariff structures for distribution network services*, 6 November 2015

[11] Dr B Stumberg, *Watt equity? Australians deserve a basic energy right*, July 2024

[12] Export reward tariffs are to some extent considered an exception to this, where the 'reward' portion of the tariff arrangement allows the 'capturing' of the value, though these rewards are not always designed symmetrically with either within period consumption or opposing period export.

down when customers do not understand the signal, cannot respond to it or when retailers are structurally disincentivised from supporting behaviour change. In many cases, retailers hedge consumption risk based on peak periods and need to simplify retail offers to ensure customer engagement. This creates tension between economic efficiency and practical delivery.

The outcomes of this breakdown are demonstrated soundly by AusNet in its recent reset proposal noting that:

> "…evidence from smart meter data suggests that even where customers are assigned to a time of use network tariff, there is no observable difference in their peak demand compared to customers on flat tariffs. This suggests that even if an adjustment were to be made for assumed additional tariff response over the next regulatory period it would not be material.
>
> While the 45-50% of our customer base on time-of-use tariffs is captured in the historical data that informs our demand forecasts, our research shows many of our residential customers are convenience motivated, limiting tariff engagement and response. In particular, our segmentation study shows that many of our residential customers, who contribute most to the evening peak, are on a single rate tariff and therefore may not change their behaviour in response to tariff reform. Our sentiments research also shows approximately 40% of customers are either unable to or unwilling to shift usage of appliances. This is reflected in the figure below which, using meter data, shows there is no difference in peak between single rate and TOU customers today."[13]

This sentiment is important context when contemplating the AEMC observation that network tariffs are not designed for retailers and may limit retail offers and different and changing network tariffs present a cost and risk to retailers. This is because tariff structures are primarily developed by networks to reflect cost recovery, rather than to support retail product design.

Under the current framework, network tariff design is not a binary choice between targeting either retailers or customers and attempts to balance cost reflectivity and applicability to both retailers and customers. This balance is necessary because while cost-reflective pricing is essential for signalling efficient use of the network, tariffs must also be capable of being interpreted, implemented, and ultimately acted upon by retailers who develop and deliver products to customers. At the same time, tariffs must remain sufficiently understandable and predictable for consumers, particularly small customers, to ensure informed decision-making and to avoid equity or affordability impacts. The appropriate balance will vary across different tariff types and customer segments, depending on the nature of the load, flexibility, and level of retailer involvement.

This highlights that, crucially, the NER require that tariffs reflect the impact on retail customers, but the best-placed party to understand and manage that impact is the retailer. Retailers observe real-time consumption behaviour, carry billing risk and face the reputational and commercial consequences of pricing complexity.[14]

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[13] AusNet EDPR 2026-31, p.115.

[14] As part of the AEMC's Smart Meter Review, the Australian Energy Council (AEC) the AEC said it was disingenuous for regulators or networks to suggest retailers should shield consumers from cost-reflective tariffs when the whole point of the reforms was to send end users a clear signal. Under current arrangements … it is challenging to understand the rationale for cost-reflective network tariffs if customers do not see them. For further discussion see: Electricity retailers label complex power prices 'perverse' as industry goes to war with itself - ABC News

Retailers engage in tariff development with DNSPs and with the AER, including in distributors' stakeholder engagement processes for tariff development, frequently collaborating with distributors on tariff trials, speaking directly to AER Board members in tariff reform roundtables, engaging with AER staff at the retailers' request and providing the AER with written submissions. For example, under the current framework, some distributors are allowing retailers to control devices on controlled load network tariffs. This allows retailers the flexibility to use the device to respond to wholesale market signals while also aligning with the supply windows of the network tariff. Yet retailers are not the recipients of the underlying network signal.

An alternative structural approach could be explored whereby marginal capacity signals are redirected to retailers themselves. Under this approach, retailers could receive a capacity price or allocation at a portfolio level, allowing them to internalise the cost of network constraints and respond accordingly. Rather than passing through static per-customer tariffs, retailers would face a bulk cost that varies with their aggregate impact, creating a stronger incentive to reduce or shift load using innovative retail products and orchestration programs.

A practical example: DNSP says to Retailer X – you are responsible for managing your customers' combined maximum demand to stay below 20% of allocated zone substation capacity between 5-8pm on working weekdays. If you succeed, your network cost is capped at $X. If you exceed, a marginal capacity charge of $Y/kVA applies.

This structure could also allow retailers to manage complexity and risk at a portfolio level, rather than relying on individual customers to understand and act on detailed price signals. The design of this type of an approach would need to consider the unintended outcome of simple cost pass-through, and we acknowledge that this concept would not resolve all challenges, such as specific locational demand. In theory, and as the AEMC suggests in its discussion paper, the benefits of greater retail competition could mitigate this concern to the extent that exposing retailers to cost risk should therefore incentivise retailers to share those savings with customers. This would be contingent on the signal being designed in a way that can be meaningfully managed by retailers, the value can be captured and significance of competitive pressure.

Such a shift would require careful calibration to preserve cost-reflectivity and transparency, but it could better align incentives, support risk management, and enable retailers to take a more active role in system optimisation. It could also improve alignment between wholesale and network incentives. Retailers are uniquely positioned to integrate both cost streams and orchestrate CER in ways that deliver system-wide value, particularly when network peaks do not coincide with wholesale peaks. A retailer-facing signal structure could help overcome the 'two-signal' coordination problem the AEMC highlights in its discussion paper and support the delivery of bundled retail products that balance simplicity with efficient response.

If tariffs are to support a consumer-driven and flexibility-enabled future, they must reflect the system's true marginal costs, and those signals must reach the actors best paced to act on them. That includes retailers.

Spectrum of potential future offering types

The AER agrees with the AEMC that future consumers will require a variety of different products and services that are suited to their needs. We acknowledge the proposed 'bookend' spectrum of potential future offers is a useful starting point for illustrating the breadth of offerings that may be needed to accommodate diverse consumer preferences.

However, framing retail products along a linear spectrum ranging from 'basic' to 'sophisticated' does not sufficiently consider the role consumer engagement (ranging from passive to active) and load flexibility (ranging from rigid to flexible) plays in shaping the suitability of different offerings.

In particular, the spectrum risks oversimplifying consumer preferences by assuming that more flexible products inherently require higher levels of active engagement. In practice, flexibility can be enabled through both passive means (such as automated load control or managed services requiring minimal consumer input) and active means (such as consumers manually responding to real-time price signals or adjusting usage behaviour).

Given these considerations, we believe a two-dimensional framework mapping engagement and flexibility on separate axes more effectively captures the diversity of consumer preferences and capabilities. Creating a structure similar in design to the consumer archetypes presented in the discussion paper[15] reflects that retail products should be developed that ideally seek to account both willingness to engage and opportunity to do so. For example, retailers could design products for consumers with the opportunity to act, e.g. because they own an electric vehicle, and low willingness to engage, such as offering set and forget controlled load or passive VPP products, while developing different offerings for consumers with different profiles. This approach would better illustrate how both active and passive forms of flexibility can align with different consumer segments, support varying load types, and result in distinct behavioural responses across the energy market.

We consider that adopting a two-dimensional framework to classify future energy offerings based on both consumer engagement and load flexibility could also assist the AEMC in thinking about the design of signals, how these may integrate with customer preferences and the impact on equity of outcomes.

Supporting greater customer opportunities and capacities to act, innovation, and co-design

The AEMC appropriately acknowledges that price signals coupled with automation and orchestration-controls represent a significant opportunity to provide system and consumer value. Though current access to these enabling technologies is limited to those consumers with the greatest opportunity to act, as identified within the AEMC's consumer archetype matrix.[16] The AEMC could further explore increasing the access to these opportunities to act for consumers currently residing in the left half of the matrix, particularly those with medium-high interest to engage. Opportunities to explore in this context include:

- default automation settings or reconfigured control modes in consumer energy resource programs (e.g. inverter-based export response or EV charging delay windows), current and future technologies potentially coordinated through the CER Technical Regulator Workstream to ensure these settings are interoperable with dynamic network signals and tariff structures.
- embedded orchestration capabilities and energy efficient products as part of subsidy programs or appliance standards (e.g. air conditioning with demand response functionality).
- coordinated consumer protection mechanisms, ensuring that as pricing and control complexity increases, protections and support keep pace, particularly for low-income households or households experiencing vulnerability.

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[15] AEMC, The pricing review: Electricity pricing for a consumer-driven future: Discussion Paper, 3 June 2025, p. 24.
[16] AEMC, *National Electricity Amendment (Integrated Distribution System Planning) Rule 2026*, 26 June 2025, p.24.

- retail product innovation, such as ‘set and forget’ flexible plans, shared savings models or bundled ‘home energy insurance’ offers that shield consumers from volatility while enabling orchestrated action.
- public-interest trials that pair pricing reform with enablement interventions to build the evidence base for impact, equity outcomes and system value.

We see particular value in testing modular tariff structures and orchestration bundles in controlled settings, with transparency and rigorous evaluation. This could include co-funded sandbox trials that involve networks, retailers, and consumer representatives in design and oversight. These efforts could help answer open questions about:

- what kinds of automation are most effective and acceptable?
- how should orchestration rewards be shared across value chains?
- what role should DNSPs play in providing platform capabilities, such as data access, interface layer or visibility platforms?

As pricing reform intersects with the development of a DSO role, enablement becomes a core infrastructure question in addition to a behavioural one. The system should seek to be structured to deliver orchestrated, fair, and contestable flexibility at scale. To support this shift, there may be value in exploring reforms that would:

- clarify the classification and treatment of DNSP-facilitated services (e.g. access platforms, co-use of battery capacity, or shared telemetry infrastructure).,
- improve visibility of where flexibility is most valuable (e.g. through dynamic hosting capacity or congestion forecasting),
- establish guardrails to ensure new models, such as retailer-led orchestration, deliver consumer benefit and do not entrench new forms of market power.

In a high-CER, high-choice system, enablement is a prerequisite for it to function effectively. Without it, price signals may remain theoretical or create inequitable outcomes by only benefiting the most engaged or resourced consumers.

Real world pricing complexity: heating control and flexible load in practice

A June 2025 post on the My Efficient Electric Home Facebook group explored a deceptively simple question: is it more efficient to run a reverse-cycle air conditioner (RCAC) at low temperature overnight, or to switch it off and reheat the space in the morning?

Over two similar nights, a household tested both strategies using a 7kW RCAC in their southeast Melbourne home

- Night 1: turned off at 10pm, reheated to 18^{o}C from 5:30am, drawing >3kW for 5 hours.
- Night 2: Set to 15^{o}C overnight, then increased to 18^{o}C at 7am. The unit cycled gently all night and only peaked for 2 hours.
- Total energy use was nearly identical, 19.4kWh vs 20kWh, but the demand profiles were very different.

The community's commentary was telling:

"Spreading the load overnight is easier on the grid"

"More wind is available overnight – probably cleaner energy"

"Flat rate tariffs give no signal. Dynamic pricing would make these choices clearer."

"We can't run heating around peak windows with kids in the house – it has to work for real life."

The commentary also extended to issues like appliance lifecycle and noise considerations for neighbours.

While this is just one household's experience, it is likely to be informatively illustrative of the challenges faced by even the most engaged and energy-aware consumers. The fact that such a thoughtful experiment still produced uncertainty about the 'best' outcome highlights the complexity consumers face in interpreting and acting on tariff signals, even when they want to do the right thing.

This example highlights that even highly engaged and energy-literate consumers may face uncertainty when attempting to align their behaviour with system objectives. It underscores the limitations of relying on consumers to manually interpret and respond to complex tariff structures, and reinforces the importance of clear, actionable signals—ideally delivered through automation and retailer-led optimisation—to support efficient outcomes without placing additional burden on households. [17]

Opportunities to explore

Realising the full potential of tariff reform as both a system optimisation tool and a fair consumer engagement mechanism, will require coordinated action across planning, pricing, retail design and customer enablement. As discussed throughout this submission, the AER sees several areas where further exploration and analysis could inform potential reform to better align with the energy system's changing needs.

- There is a growing case to improve how planning assumptions, pricing structures and demand-side flexibility are aligned. Better coordination could be supported by more consistent use of scenario testing, including counterfactuals that assess the impact of active orchestration/demand response, and greater consistency over embedded flexibility assumptions in network investment plans and tariff proposals.
- As investment drivers shift, LRMC estimation methods need to evolve. Opportunities could include encouraging more granular, locational, and counterfactual-based methods.
- Residual cost recovery plays a significant role in shaping the effectiveness and equitability of pricing signals. Areas worth further exploration include alternative recovery models that may improve alignment with system cost drivers and ways to balance simplicity, equity, and behavioural incentives in residual allocation.
- Retailers play a critical interface role in translating network signals into customer-facing offers. To enable this function there may be value in exploring whether

[17] Facebook, My Efficient Electric Home, 14 June 2025

marginal signals (not customers) could enable retailers to share in the value they help create by reducing network costs.

- Customer enablement is essential. For tariffs to be effective and inclusive enablement should be integrated into design, implementation, and evaluation. Key enablers include bundled retail products that integrate automation, risk management and consumer simplicity and inclusive design practices that recognise barriers faced by specific consumer cohorts (e.g. renters, CALD, customers that may be facing vulnerability).

These opportunities are also supported by broader reforms already underway, including:

- Smart meter acceleration – enabling more responsive pricing and dynamic control.
- Secondary metering frameworks – supporting sub-load measurement and modular tariff offers.
- Policy-led sandboxing – creating space to test novel orchestration and tariff-enablement combinations.
- CER Data Exchange – improving foundational visibility of CER for targeting and coordination.
- DSMO workstream of the CER Roadmap – laying the foundation for distribution-level orchestration aligned with price signals.
- Consumer protection and retail guideline reviews, including the DCCEEW's Better Energy Customer Experiences review and the AER's Review of consumer protections for future energy services – increasing the certainty and transparency of prices consumers pay for energy services and improving confidence in the retail energy market.

The opportunities discussed above seek to explore how we can collectively make electricity pricing work for people, recognising that flexibility already exists in many homes, but remains untapped or misdirected without practical tools and real-world usability.

The earlier heating example illustrates this challenge clearly and it is worth returning to it briefly to draw out what it tells us about the limits of even well-designed tariffs and the broader design task ahead. This is what consumer energy resources can look like in practice, not just solar panels or future EV's, but everyday appliances like reverse-cycle heating, already shaping demand in subtle ways. In this case, the household did not have solar or a battery and had deliberately chosen a flat-rate retail tariff to avoid exposure to peak pricing risk. Yet even without real-time incentives, they were actively experimenting with heating load and trying to act differently.

Even with well-designed network tariffs, like SAPN's inclusion of a morning peak,[18] it is challenging for most households to determine whether strategies like overnight heating will save them money or contribute to energy efficiency objectives without doing detailed analysis themselves. We consider retailers, with access to smart meter data and system price signals, are far better placed to perform this optimisation on behalf of customers.

There are a range of other potential barriers that may prevent some consumers from being able to engage or benefit such as language, technology, and housing situation. This points to the broader design challenge: it is not just about sending a price signal – it's about making it useable by those equipped to act. Without clearer signals, automation or innovative retail products that translate price into action, even well-structured tariffs may not translate into

[18] AER, Draft Decision SA Power Networks Electricity Distribution Determination 2025 to 2030, 27 September 2025, pp.12.

meaningful behavioural change. A system built around retailer-led orchestration, supported by transparent, shareable value may shift the burden away from consumers and unlock flexibility at scale.

Continued engagement

We support the AEMC's ongoing stewardship of these challenges and opportunities and look forward to contributing further to this important conversation.

Yours sincerely,

Sent by email on: 14.07.2025