



10 July 2025

To: Australian Energy Market Commission
Re: Draft 2025 Electricity Network Options Report

Thank you for the opportunity for the Institute for Energy Economics and Financial Analysis (IEEFA) to provide input to the Australian Energy Market Commission (AEMC)'s Pricing Review Discussion Paper.¹

IEEFA is an independent energy finance think tank that examines issues related to energy markets, trends and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable and profitable energy economy.

IEEFA thanks AEMC staff for the significant effort put into discussion paper and recognises the importance of reviewing electricity pricing to ensure it is suitable in the future National Energy Market (NEM). Our insights and recommendations for the AEMC to consider are summarised below:

- Retail market
 - Improving electricity pricing structures is necessary to incentivise customers to reduce peak demand, which can reduce wholesale costs and network costs for all consumers.
 - The ability of virtual power plants (VPPs) to deliver services to the grid could be enhanced through increasing the number of revenue streams available to them. Furthermore, the AEMC review should consider how to ensure VPPs have appropriate consumer protections in place.
- Retail and network interface
 - The AEMC should consider updating the network tariff setting process to give the Australian Energy Regulator (AER) a larger role in the tariff structure proposal process, as distribution network service providers (DNSPs) who currently propose tariff structures do not have significant commercial incentives to reduce peak demand and network augmentation requirements. The AER could set standardised network tariff structures across the NEM or jurisdictions to improve consumer awareness of tariff structures and reduce retail costs.
- Network tariffs
 - A first principles review of the economic regulation of distribution networks in a high-distributed energy resource (DER) world should be undertaken, given that DER can provide a range of network services.

Kind regards,

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¹ AEMC. [Discussion Paper – The pricing review](#). June 2025.



Product sophistication

Question 1: If we focus on enabling bookend products (from basic to sophisticated), is this sufficient to enable the range of products and services that will meet consumer preferences and lower system costs?

Enabling a spectrum of sophistication in offerings appears to be a reasonable approach. IEEFA notes that there may be other offerings outside of those identified in the AEMC's table "spectrum of potential future offering types". The electricity pricing review should enable the development of innovative energy services that have not yet been envisaged, to the extent possible.

Retail market

Question 2: Can we rely on competition in the retail market to deliver the mix of products and services that customers value?

Here we discuss two key ways through which households and businesses can be rewarded, or incentivised to provide particular services to the grid: electricity pricing and co-ordination via a VPP.

Electricity pricing

IEEFA just released a report which found that improved pricing structures are necessary to reward household behaviour that reduces peak demand, particularly as more households install batteries or engage in load shifting.² Reducing peak demand can reduce wholesale costs and network costs for all consumers, as we found in prior research.³ Key findings from our report are below.

- "Our modelling identified peak demand reduction as a key benefit of household energy upgrades. However, the rewards for providing these services are weak.
- "Households on a time-of-use tariff will benefit from using a battery to reduce their energy consumption in the evening, and will also have an incentive to import energy from the grid in the middle of the day. However, this benefit is modest relative to the actual wholesale value of electricity at those times of day.
- "Very few retailers offer a feed-in tariff that is higher in the evening period than the middle of the day. This means, after losses are considered, households lose money by exporting from their battery during the evening peak, despite this being valuable for the system as a whole.
- "While reforming electricity prices alone is unlikely to drive significant change, it is still essential that consumers have access to fair rewards for the services they are providing to the grid.
- "Improved pricing structures would provide opportunities for engaged consumers to configure their batteries to operate in ways that support the grid, or for more service providers to provide innovative solutions to automate this for consumers."⁴

² IEEFA. [A focus on homes, not power plants, could halve energy bills](#). July 2025.

³ IEEFA. [DER could provide \\$19 billion economic boost by 2040](#). 15 February 2024.

⁴ IEEFA. [A focus on homes, not power plants, could halve energy bills](#). July 2025.



Co-ordination via VPPs

While improving pricing structures is a necessary step, this alone cannot be expected to drive consumers to reduce their peak demand. Shifting consumers to plans with sharper pricing signals often does not lead to a significant change in behaviour.⁵

Virtual Power Plants (VPPs) offer an appealing business model to allow distributed energy resources (DER) to support the grid, as they could allow consumers to receive a return for the services they provide to the grid while not imposing the expectation that consumers will actively manage their DER in response to grid conditions.

AEMO anticipates co-ordinated DER via VPPs will be a key component of the future energy system.⁶ VPPs have demonstrated technical capability to aggregate DER to provide generation, demand response, contingency frequency control ancillary services (FCAS) and, in some cases, network services.⁷ As the NEM transitions to a high-renewables system and thermal plant exits occur, VPPs can provide fast to install, low-cost, low-emissions, flexible capacity to the system.

IEEFA's 2022 VPP analysis that VPPs had significant start-up costs and did not have large dependable revenue for customers or VPP providers, and thus had thin margins. However, we identified that as the uptake of electric vehicles (EVs) with vehicle to grid (V2G) capability grows, VPP profits could increase. We also identified a likely significant untapped VPP opportunity at C&I sites.⁸ However, competition in the retail market is unlikely to be sufficient to unlock the full potential of co-ordinated DER via VPPs.

The AEMC review should focus on unlocking additional opportunities for VPPs, and DER more broadly, to contribute to the grid through means such as aggregated households participating in the wholesale demand response mechanism, DER providing regulation FCAS, and DER provision of distribution network services.⁹

The AEMC review should also focus on improving the regulation and guidance around VPPs to protect consumers. Our recent report observed the risk that batteries are operated in a way that benefits the VPP operator but not the consumer, and we noted there is little transparency over how VPP operators utilise batteries. It is well understood that “bounded rationality” often leads consumers to make non-optimal decisions regarding energy. However, the lack of information regarding VPP management makes it especially difficult to analyse the trade-offs between joining a VPP, versus operating a battery for self-consumption and/or self-managed imports and exports. More regulation may be needed to ensure consumers understand what they are signing up to, receive a net benefit from participating in VPPs, and that VPPs provide an appropriate level of value to the grid.¹⁰

⁵ For example, CitiPower. [Regulatory Proposal 2026-31. Tariff structure statement: Explanatory statement](#). January 2025. Page 17.

⁶ AEMO. [Integrated System Plan 2024](#). June 2024.

⁷ IEEFA. [What is the state of Virtual Power Plants in Australia?](#) March 2022.

⁸ Ibid.

⁹ Ibid.

¹⁰ IEEFA. [A focus on homes, not power plants, could halve energy bills](#). July 2025.



Retail and network tariff interface

Question 3: How can better outcomes for consumers be enabled through network tariff setting processes?

Network tariffs should be designed to keep costs down in the long-term interests of consumers. This involves setting network tariff structures that appropriately reward customers for reducing peak demand and shifting consumption into periods of lower network constraints, with the aim of reducing network build requirements, increasing network utilisation and reducing network costs.

Not all customers can be expected to respond directly to price incentives, and tariffs must be designed in a way that does not punish consumers who are unable to respond to price signals. However, having inadequate or wrong price signals may lead to perverse outcomes. For example, a well-managed rollout of rooftop solar and batteries provides an opportunity to use network assets more efficiently. However, consumers will be disincentivised to take up those technologies if those benefits are not passed through to them.

Distribution network businesses appear to have little incentive to introduce tariffs that reduce long-term demand for network capacity. The primary commercial goal of network businesses is to recover their costs through the regulatory process, and to gain returns above the cost of capital. These returns will be higher in absolute terms if the RAB is higher. As KPMG noted, network businesses have “incentives to achieve financing efficiencies and regulatory asset base (RAB) growth”, which are “having an important influence in both business planning and delivery.”¹¹ Despite this, distribution network businesses are responsible for proposing tariff structures through the Tariff Structure Statement (TSS) process, for the AER to review, assess and approve.

Distribution network businesses propose tariff structures on a network by network basis and peak periods, off peak periods and other elements of the tariff structure vary across network areas. This can create additional costs for retailers and aggregators and does not allow for state wide or NEM-wide tariff education campaigns to enhance consumer understanding.

The AEMC should consider re-allocating the initial tariff structure proposal step to the AER, who has the objective to keep costs down in the long term interests of consumers, and who therefore is likely better placed to propose network tariff structures that reduce peak demand, increase network utilisation and reduce the need for network capacity build over time. The AER would also be able to increase standardization of tariff structures. The AER could take a leading role in the proposal stage of the distribution network tariff setting process, informed by broad stakeholder consultation.

The AER could set standardised tariff structures across jurisdictions or across the NEM while running education campaigns to improve consumer understanding of tariff structures. IEEFA has observed considerable consistency across distribution network load profiles, with distribution network peaks occurring at similar times (typically focused around 9am and 6pm) in many regions. Given this, there does not appear to be a strong case for individual distribution networks

¹¹ KPMG. Optimising Network Incentives. 2018.



to offer highly divergent tariff structures. A standardised national tariff structure could provide adequate signals to reward peak demand reduction and incentivise increased network utilisation across any distribution network.

In IEEFA's view, some level of cost-reflective pricing in the standardized tariff structure would be helpful. This should balance the need for simple, non-punishing tariff structures while also providing an appropriate level of reward for households to use power in periods of low network utilisation, and reduce their consumption (or export power) in peak demand periods. One standardised national tariff structure could, for example, include a peak period, off peak (or shoulder) period and solar soaker period at the same times across DNSPs. This could then be clearly communicated across states or the NEM through education campaigns.

A national standardised tariff structure could be developed by the AER following stakeholder consultation, and adopted by DNSPs – rather than following the current process where DNSPs propose individual tariff structures through the Tariff Structure Statement process. A national standardised tariff structure alongside education campaigns could improve understanding across consumers and reduce retailer costs.

Certain DNSPs may wish to also offer an alternative tariff structure to the standardized national tariff structure. This would require submission to the AER for their review and approval. For example, for certain DNSPs a more dynamic network tariff could be offered as an alternative to the standardized national tariff structure. The more dynamic network tariff could be better suited to more engaged consumers, and could include more targeted incentives. This would fit with the AEMC's concept of enabling both basic and sophisticated products.

While adjustments to network tariffs would be a helpful step, overall, IEEFA recommends a deeper review of the economic regulation of distribution networks be undertaken to ensure networks and non-network solutions are appropriately incentivised in the context of a high-DER future.¹² This would enable greater change than looking at network tariffs in isolation without changing the underlying economic incentives of network businesses and DER asset owners.

Network tariffs

Question 4: What role can network tariffs play in meeting customer preferences while also efficiently and effectively contributing to lower overall costs?

We believe a deep review of the economic regulation of electricity distribution networks is required, given that DER can provide network services, such as easing congestion to avoid augmentation or replacement of network infrastructure. Internationally, momentum is growing towards reform of the economic regulation of electricity networks, with overseas jurisdictions introducing contestability and payments for DER to provide network services, total expenditure (totex) regulation and performance incentives for decarbonisation.¹³

¹² IEEFA. [Reforming the economic regulation of Australian electricity distribution networks](#). May 2024.

¹³ Ibid.



Without a fundamental review of the economic regulation of distribution networks, the full potential of DER is unlikely to be realised, as any changes to distribution network tariffs will likely be tweaks around the edges, and not change the fundamental incentives within electricity networks services provision in Australia.

Another key reason to review the economic regulation of electricity networks is that distribution and transmission networks combined have received supernormal profits over 2014-2022 which IEEFA has measured at \$11 billion, on top of allowed profits of \$16 billion.¹⁴ The AER confirmed this figure was broadly correct, finding through its own calculation \$10 billion of “outperformance”.¹⁵ IEEFA believes that this large an extra profit is unreasonable and is an indicator of the regulatory system not performing as hoped.¹⁶ Most recently the supernormal profits have increased substantially, reaching \$15 billion in total over 2014-2023.¹⁷

IEEFA’s recent report¹⁸ found the way households interact with electricity distribution networks could change significantly in future if more homes take up batteries, solar, efficient electric appliances and engage in load shifting. While this carries important implications for considering how network cost recovery should be distributed, it also raises some more fundamental questions regarding how - or if - the regulated network asset base should be recovered from consumers in a future where some of its services are displaced by consumer energy resources. These questions are urgent and require a deeper review into the economic regulation of distribution networks.

- “Network costs comprise a significant portion of consumer energy costs. However, neither gas nor electricity network regulations in Australia were designed with the assumption that consumers would become less dependent on network assets in future.
- “Our modelling indicates that widespread uptake of household energy upgrades could significantly change the way households interact with gas and electricity networks.
- “Efficient electric households with solar and batteries will significantly reduce their day-to-day dependence on electricity networks. However, they may still draw on that network on days with high demand or low solar output. They may also rely on networks to import and export energy to and from their battery at key times.
- “These changes should be viewed as an opportunity. Shifting to efficient electric appliances will negate the need to build and maintain costly gas infrastructure, and CER can provide more cost-effective energy services to consumers than networks at many times of the day, and of the year.
- “Yet, Australia’s inflexible regulatory arrangements for energy networks may block these benefits from being passed through to consumers.
- “By default, consumers may be expected to pay the full cost to depreciate past energy network investments, regardless of whether they still derive value from those assets. Defection from energy networks could also lead to escalating prices being passed on to remaining consumers.
- “For electricity networks, the effect may be somewhat countered by the addition of electrified gas loads and electric vehicles. However, it is clear that household energy

¹⁴ IEEFA. [Power prices can be fairer and more affordable](#). November 2023.

¹⁵ IEEFA. [AER Statement – Institute for Energy Economics and Financial Analysis report on electricity network profits](#). November 2023.

¹⁶ IEEFA. [Response to AER statement on IEEFA report on electricity network profits](#). November 2023.

¹⁷ IEEFA. [Taming electricity price inflation starts with addressing network supernormal profits](#). November 2024.

¹⁸ IEEFA. [A focus on homes, not power plants, could halve energy bills](#). July 2025.



upgrades present an opportunity to use electricity network assets more efficiently, which should be rewarded.”

IEEFA recommends the following questions be central to a review of the economic regulation of distribution networks.

1. “What is the nature of contestability in distribution network services (given the rise of DER, which can provide network services)?
2. Could we make greater use of third parties to provide network services?
3. What outcomes should distribution networks be remunerated to provide?
4. How can and should distribution networks be rewarded for accelerating decarbonisation?
5. How can and should distribution networks be incentivised for innovation (including within and outside economic regulation)?
6. What processes can be used to efficiently determine network revenue, and in what timeframe given the fast-paced nature of the energy transition?
7. How can supernormal profits be avoided?
8. Should performance monitoring of network regulation and the regulator be introduced, and if so, what form should this take?”¹⁹

¹⁹ IEEFA. [Reforming the economic regulation of Australian electricity distribution networks](#). May 2024. Page 53.