AEMC

Australian Energy Market Commission

DISCUSSION PAPER

The pricing review

JUNE 2025

Acknowledgement of Country

The AEMC acknowledges and shows respect for the Traditional Custodians of the many different lands across Australia on which we live and work. The AEMC office is located on the land of the Gadigal people of the Eora Nation. We pay respect to all Elders past and present, and the enduring connection of Aboriginal and Torres Strait Islander peoples to Country.

Executive Summary

1. On 25 July 2024, the Australian Energy Market Commission (AEMC or Commission) self-initiated a forward-looking review (the review) to consider future electricity products and services, and the prices that consumers pay for these. The review considers the important role that electricity pricing, products, and services will play in supporting the diverse needs of customers, including enabling the consumer energy resources (CER) that customers are acquiring (and will continue to acquire) as part of the energy transition.
2. In the context of this review, electricity pricing refers to both:
    - **retailer offerings**: retail products and services, and their pricing
    - **network tariffs**: which feed into retailer offerings
3. We are considering how these elements together support consumers future requirements and lower overall costs.
4. Stakeholders provided valuable insights in response to our consultation paper, published in November 2024. Combining these insights with our analysis, we heard several market and regulatory issues that are:
    - preventing some consumers from accessing the benefits of electricity offerings that suit their needs
    - potentially contributing to unnecessary higher costs and risks.
5. We previously indicated that we would release a directions paper as the next stage in this review. However, given the breadth of views received, we have instead produced this discussion paper.
6. The purpose of this paper is to test and validate with stakeholders what we have heard on the problems identified, why they are occurring, and whether they will persist in the future in the absence of reform. We have also posed a range of questions for stakeholders to respond to. This paper does not offer recommendations, direction or solutions; these will instead form part of our next steps.
7. We welcome stakeholder feedback on these questions. We are seeking submissions by 10 July 2025.

Our energy system is rapidly changing with the uptake of CER and other technologies

8. Millions of Australian households and businesses are embracing CER, from solar panels, to batteries, home and business energy management systems and electric vehicles (EVs). Widespread government commitments to achieve net zero emissions by 2050 are further accelerating changes to the power system, as are broader technological developments to CER and beyond.

9. As with any new technology, there are both opportunities and risks. If we can harness these technologies for consumer's benefit, we can:
    - reduce overall system costs
    - improve reliability
    - deliver a more secure, low-emission energy supply for all consumers, including those *without* CER.

Electricity pricing should support individual and system outcomes

10. This review seeks to address two fundamental objectives:
    - ensuring that the pricing framework supports the availability of the products and services that consumers want in the future, while also
    - delivering a lower-cost system for all consumers.
11. We have heard that the current pricing framework may not sufficiently achieve either of these objectives in a CER-dominated future. A key priority of this review is therefore to improve customer outcomes in relation to *both* objectives.
12. The review also presents the opportunity to:
    - comprehensively consider the interaction between retail and network pricing to better recognise consumers' preferences
    - ensure the arrangements support the integration of CER into the system in an equitable way that benefits both owners of CER, as well as consumers more broadly.
13. Lower costs for all consumers can be achieved by having some CER operated in a coordinated manner. If done well, this could unlock savings for both the owners of the CER and for the system.
14. Importantly, achieving lower costs as described above may not require all consumers with CER to be operated in a coordinated way. Research suggests that if some CER devices can respond to signals *some* of the time, material network and wholesale cost reductions can be achieved for all customers.

Current arrangements are not consistently meeting all consumers' needs

15. While experiences vary, data shows many consumers are satisfied with their current energy services. Some consumers are finding offers that align with their preferences and deliver value. For example, some customers' plans allow them to reduce bills by adjusting their energy use, whether through behavioural changes, utilising CER or through automation.
16. Looking to the future, retailers are already offering many of the products and services that are well-aligned with consumer preferences.

17. Despite these positive signs, many offerings that could meet consumer preferences are not available at scale, or to all customers. Stakeholders suggest this is because the current market and regulatory arrangements limit the kinds of offerings available to some consumers. Our analysis to date supports this finding.

18. Importantly in the context of this review, it is not clear whether these issues will be resolved with more time or if reforms to the arrangements may be required.

19. We want to enable a future where all consumers can choose the offerings that best meet their needs. We cannot know what the future will be, and therefore our ambition is to facilitate a market and regulatory framework that enables a variety of offerings and outcomes.

20. From a consumer's perspective, we can consider that they would want to choose retail products on a spectrum: from the most 'basic' which provides some degree of price predictability and is relatively easy to understand and engage with to the most sophisticated which provides consumers with a greater opportunity for both risk and reward. Enabling both ends of this spectrum – and so enabling the offers in between – should deliver the breadth of products needed to meet diverse consumer preferences and lower overall system costs.

21. We are interested in stakeholder views on this concept.

Three key discussion areas have been identified

22. While issues can be easily observed, it can be more difficult to identify and so address the problems causing them. Electricity comes to customers across a complex supply chain. Different problems can have their origins in one or many links in the chain.

23. The scope of this review covers both retail arrangements and those governing distribution networks. Wholesale market and transmission network arrangements are not in scope, though we may consider linkages with these arrangements where appropriate. We therefore focus on retail and distribution network matters in this paper.

24. To tease out the source of problems contributing to adverse consumer outcomes, we have broken down the discussion paper into three areas; retail, retailer network interface, and network. We are seeking stakeholders' views on our discussion of these three areas, which is summarised in the diagram below.

Figure 1: The three focus areas of the discussion paper

Customers	Retailers	Retail-network interface	Distribution networks
For customers, electricity is essential to their daily lives.	Retailers are commercial organisations that sell electricity to customers in bundled plans.	Network tariffs are often the largest input cost to retailers' plans for customers.	Networks are regulated entities that construct and operate poles and wires to bring electricity to customers.
Customers electricity use is changing as CER adoption proceeds. This creates opportunities for better consumer offerings and cheaper electricity for all.	Retailers can innovate new electricity services to better meet customer needs.	Networks and retailers can collaborate and innovate and lower customer costs.	Network tariff design can support retailers to innovate and ensure that existing network capacity is well utilised.
There are a range of areas where customers' preferences are not being met. This review provides the opportunity to address these issues.	Retail market outcomes for consumers are uneven.	Network tariffs are not designed for retailers and may limit retail offers.	Network tariffs do not share the costs of paying for distribution infrastructure fairly among electricity consumers, and may not be suitable for future consumers.
	Retail regulations may be limiting innovation and adding costs.	The number of different and changing network tariffs presents costs and risks to retailers.	Network tariffs sometimes send price signals to consumers that unnecessarily work against wholesale market signals.
Questions for stakeholders to consider	Can we rely on competition in the retail market to deliver the mix of products and services that consumers value?	How can better outcomes for consumers be enabled through network tariff-setting processes?	What role can network tariffs play in meeting customer preferences while also contributing to lower overall costs?

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

25. Retail competition is the cornerstone of our electricity market arrangements, as the interface between consumers and the electricity system. We rely on competition, with supporting customer protections, to deliver good consumer outcomes in the electricity retail market.

26. We consider that an effective retail market is most likely to deliver on the objectives of this review, and our focus is therefore on how we can improve the effectiveness of competition to deliver these objectives and only regulate where we consider it will fall short. Effective retail market competition should deliver a diverse range of high-quality products and services at competitive prices.

27. In relying on competition, we expect to observe several key market features including: competition around prices offered; consumers switching between plans and providers; healthy entry and exit of retailers; as well as different products being offered and innovation in products occurring over time.

28. The retail market today shows evidence of some of these features.

29. Price competition is occurring, for example, energy retailers compete for new customers with discounts and promotions. However, we are also seeing price discrimination – with retailers seeking to maximise revenue across different customer segments. They do this by offering lower-priced plans to new customers, while at the same time letting loyal customers drift onto higher-priced plans.

30. Product differentiation and innovation are also evident. While most customers are on offers similar to those prevailing in the market for some years, some more innovative product offerings are available, such as retail EV offers.

31. We have heard that:

    - **Retail market outcomes for consumers are uneven.** Competition currently relies on either customers switching plans, or retailers keeping downward pressure on prices for those who don't switch. Many customers find the retail market complex and confusing and have difficulty comparing alternative offers and/or retailers. Consequently, many consumers do not switch and may be paying more than necessary.

    - **Retail regulations may be limiting innovation and adding costs.** Aspects of retail market regulation – in particular, consumer protections - do not deal adequately with newer energy services. Retail market regulation differs across states, leading to a high compliance burden for retailers which flows through to increased costs for consumers.

32. From what we have heard, there are some impediments to retailers and other energy service providers offering the products and services that would meet consumer preferences in the future retail market.

33. There are reviews and workstreams currently underway considering related issues to do with consumer protections:

    - The AEMC is considering a package of consumer protection rule changes.

    - The Commonwealth Department of Climate Change, Energy and the Environment and Water (DCCEEW) is reviewing the consumer protections regime through its Better Energy Customer Experiences workstream.

    - The Australian Energy Regulator (AER) is reviewing the payment difficulty framework and a number of guidelines (including the better bills guideline).

34. We are interested in stakeholders' views on whether this work is sufficient to address the concerns raised, or whether other changes to retail regulation or pricing

arrangements to address competition issues should be investigated through this review.

35. Questions that we would like stakeholders' submissions to address include:

    - How should this review address issues in the retail market to ensure the products and services needed will be available, recognising work already underway?

How can better outcomes for consumers be enabled through network tariff-setting processes?

36. Retailers package electricity costs from across the supply chain into an offering for customers. These costs sit across networks, the wholesale and ancillary services markets, environmental charges, and retailers' own expenses. As a result of this, retailers have two key relationships for the purposes of this review: a relationship with the customer, as well as a business-to-business relationship with network service providers.

37. Retailers have demonstrated through vertical integration and / or financial hedging, strong abilities to interact with and manage wholesale and associated ancillary services markets for consumers. Retailers' abilities to manage network costs, however, appears to be mixed. We see most retail offers resembling network tariff structures, with customers thereby assuming network cost risk.

38. We have heard that:

    - **Network tariffs are not designed for retailers and may limit retail offers.** For example, network tariffs may discourage retailers from offering subscription-style products and other product types that are popular in markets outside energy.
    - **Different and changing network tariffs present a cost and risk to retailers.** Retailers must manage a number of network tariffs for each distribution region of the NEM they operate in and for each type of customer they serve. This is further complicated by regular changes to these tariffs. Managing this complexity imposes costs and risks on retailers that are passed through to customers in the form of higher costs, or complex tariffs that transfer risks to the customer.

39. Questions that we would like stakeholders' submissions to address include:

    - What can be improved at the retail and network interface that would contribute to better outcomes for consumers?
    - How can arrangements governing retailers and networks be improved to support better product and service offerings?
    - Who should receive the network price signal to make it more effective?

- Should network tariffs be designed for retailers or consumers? If retailers, how much weight should networks put on the recommendations and views of retailers?
- Should any or all of the following be key design features of network tariffs: support competition in the retail market, avoid imposing unnecessary additional costs, and deliver lower overall costs over time?

What role can network tariffs play in meeting consumer preferences while also contributing to lower overall costs?

40. Network tariffs are the largest component of customers' bills. These raise the revenues for networks to invest in and service the electricity infrastructure consumers need. Network costs are largely unavoidable, reflecting investments made in the past and paid off over time. Network tariffs ideally encourage equitable contributions to meeting network costs, while at the same time signaling ways to both improve network efficiency and reduce or avoid future investment required to provide services.
41. We have heard that:
    - **Network tariffs do not share the costs of paying for distribution infrastructure fairly among electricity consumers and may not be suitable for future consumers.** For example, under some network tariffs, consumers with CER can more easily shift their consumption to avoid network costs, while consumers without CER cannot and so end up paying a greater share of network costs. Some tariffs may also be leading to consumers foregoing valuable uses of energy even when doing so is unlikely to impact network costs.

      The current approach to network pricing may not lead to efficient network costs because current network tariff structures rarely reflect network cost drivers. The tariff framework was designed when consumer technology and third-party offerings were unable to respond quickly enough where and when needed to avoid future investment. Technological innovation means such responses are now possible and, if harnessed, could contribute to more efficient network costs.
    - **Network tariffs sometimes send price signals to consumers that unnecessarily work against wholesale market signals.** The interaction of network tariffs and wholesale price signals can lead to consumption patterns that do not lead to lower network or wholesale costs.
42. Questions that we would like stakeholders' submissions to address include:
    - What role can network tariffs play in meeting consumer preferences while also efficiently and effectively contributing to lower overall costs?

Pathways to recommendations

43. Stakeholder input is sought on what we have heard on the identified problems in the three discussion areas set out above.

44. Stakeholder responses to this paper will feed into the next stages for this project, where we will move to focus on solutions to problems found. We will consider the best next step following receipt of submissions. We may publish an additional paper prior to finalising our draft recommendations. We would welcome stakeholder comments on the desired next steps.

45. This review will ultimately seek to make recommendations for market and regulatory reform(s) to enable outcomes that meet consumers' preferences and lower overall costs in the electricity system.

46. We consider that market-based solutions that drive competition often, but not always, achieve the best outcomes for consumers. Intervention in markets can be warranted to:

    - address situations where competitive markets are not delivering the desired outcomes for consumers
    - refine the regulatory framework where regulation is inhibiting the delivery of the best outcomes for consumers.

47. The approach for a given issue will depend on market characteristics. For example:

    - Where a competitive market is likely to achieve the outcome, we may focus on reducing transaction costs and barriers to entry.
    - Where there are strong competitive pressures, but participants' incentives do not align with best-serving consumers interests, we may focus on market design to better harness the power of competition to better serve consumers.
    - Where competition cannot be used to drive better outcomes, we may prescribe what businesses must do.
    - Where there are monopoly businesses, we may use incentive mechanisms to create financial incentives for the business to deliver an outcome that better serves customers.
    - Where there are monopoly businesses, we may also use principles and/or prescription to require certain behaviour from the business.

48. We are continuing further empirical analysis of the current state of the retail market, while also having regard to other work occurring in this space. This will help illuminate the current market and customer experience with new and innovative offerings, and identify learnings we can draw for the future, which will help inform our recommendations.

Assessment framework to achieve consumer outcomes

49. The Commission must make recommendations that contribute to the achievement of the NEO and NERO, focused around promoting the long-term interests of consumers.

The Commission will assess recommended options from the review using our Consumer Archetypes and Consumer Preference Principles (CPPs),

50. Our Consultation Paper identified the five CPPs that define the outcomes that energy consumers expect now and in the future from their energy offerings:
    - value for money – customers want affordability and value
    - availability – customers want electricity to be available when they need it
    - meaningful options – customers want options from a range of products that meet their needs
    - simple engagement – customers want accurate and accessible information from interactions with their service providers and
    - appropriate protections – customers want to be protected against adverse product and service outcomes.
51. Stakeholders supported and provided valuable feedback on these CPPs and Consumer Archetypes in response to our consultation paper, which we have incorporated and discussed throughout this paper.
52. Additionally, the AEMC has recently implemented new guidance and updated assessment criteria to ensure issues of equity are consistently and transparently addressed in a structured way across all rule changes and reviews. This review will continue to focus on accounting for the diversity of consumer needs, experiences and preferences; addressing structural barriers to participation; and avoiding creating or exacerbating vulnerability, consistent with our guide on how the national energy objectives shape our decisions.

Submissions and next steps

53. Submissions close on 10 July 2025.
54. In addition to seeking feedback through submissions to the discussion paper, we will be holding a public forum on 5 June. If stakeholders are interested in bilateral engagement, they can also reach out to the team.
55. In addition, we will also continue to engage our two forums to assist us in driving outcomes and ensure we access appropriate expertise and experience:
    - The Advisory Group (AG), to engage, collaborate, and discuss issues with consumer, market, and industry leaders.
    - The Stakeholder Reference Group (SRG), to seek ongoing input and expertise from a broad range of relevant stakeholder groups. This includes stakeholders with a commercial interest in the matters this review is considering, stakeholders that represent the lived experience of consumers, stakeholders involved in developing innovative new ideas, and others.

Stakeholder input is critical for the successful advocacy and implementation of the reforms that ultimately come from this review. We will continue to use our stakeholder groups to enable engagement, feedback, alignment, and support from those responsible for executing potential changes in the laws and regulations, and from those who engage with customers on a day-to-day basis.

We will update stakeholders on next steps in this review – including subsequent papers – following close of receipt of submissions on this discussion paper.

Contents

1. This paper seeks to set out what we've heard

This paper is the next step in our consideration of market and regulatory frameworks to facilitate electricity offerings that benefit all consumers and the system. This chapter outlines:

- why we initiated this review, the scope of the review, and what we have done so far
- what we want to achieve with this paper
- the next steps for the review.

1.1. The AEMC initiated this review into how future pricing arrangements can meet the needs of all consumers and the system

The Australian Energy Market Commission (AEMC or Commission) has self-initiated this broad, forward-looking review (the review) to consider future electricity products and services, and associated prices. Our terms of reference – which were developed with stakeholder input – provide the overall guidance for this piece of work.[1]

The scope of the review is broad

The review's key areas of focus are:

- market arrangements that provide for consumer choice between a range of appropriate pricing structures, products and services that suit their needs and preferences
- the role of distribution networks in enabling the right incentives, products and services for consumers, and the efficient cost and pricing outcomes that result
- the role of retailers and energy service providers in effectively packaging and pricing electricity products and services to match consumer preferences.

The interface and interactions between these areas are key considerations for the review.[2]

We released a consultation paper in November 2024

On 7 November 2024, we released the terms of reference and a consultation paper for this review. We received 49 submissions in response to the consultation paper.[3] In the consultation paper we asked stakeholders to imagine future products, services, and pricing approaches, so we can consider whether existing frameworks can deliver this future, and if not, what needs to change. This feedback has informed what we set out in this paper.

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[1] AEMC, Final Terms of Reference, The pricing review: Electricity pricing for a consumer-drive future, 7 November 2024 .
[2] See our Final Terms of Reference for further details about the scope of our review.
[3] AEMC, The pricing review: Electricity pricing for a consumer-driven future, project page, accessed 26 May 2025.

In addition to seeking feedback through submissions, we have established two forums to assist us in driving outcomes for this review, and ensuring we can access appropriate expertise and experience:

- an Advisory Group (AG), to engage, collaborate, and discuss issues with consumer, market, and industry leaders
- a Stakeholder Reference Group (SRG), to seek ongoing input and expertise from a broad range of relevant stakeholder groups.

1.2. The purpose of this paper is to validate what we heard from stakeholders

We had previously indicated that we would release a directions paper as the next stage in this review. However, given the range of views we have received to date in this review, we consider that a discussion paper, where we can validate what we heard from stakeholders, would be a better way forward. As such, this paper does not offer recommendations, direction or solutions.

Through this paper we are validating the insights that we have heard from stakeholders over recent months. By re-playing this back to stakeholders we are homing in on the source of barriers that will be the focus of our proposed market and regulatory reforms in the next stages of this review.

Through this paper we want stakeholders to assist us to:

- identify the areas where good customer outcomes, as defined by the consumer preference principles, are not being met
- explore where the barriers to good consumers outcomes lies in each case – that is, the potential causes of these issues.

The paper is divided into three key areas, reflective of the supply chain

As shown in the key focus areas, electricity comes to customers across a complex supply chain. Identifying the barriers to good customer outcomes can be challenging in this context, as different problems can have their origins in one or many links in the chain.

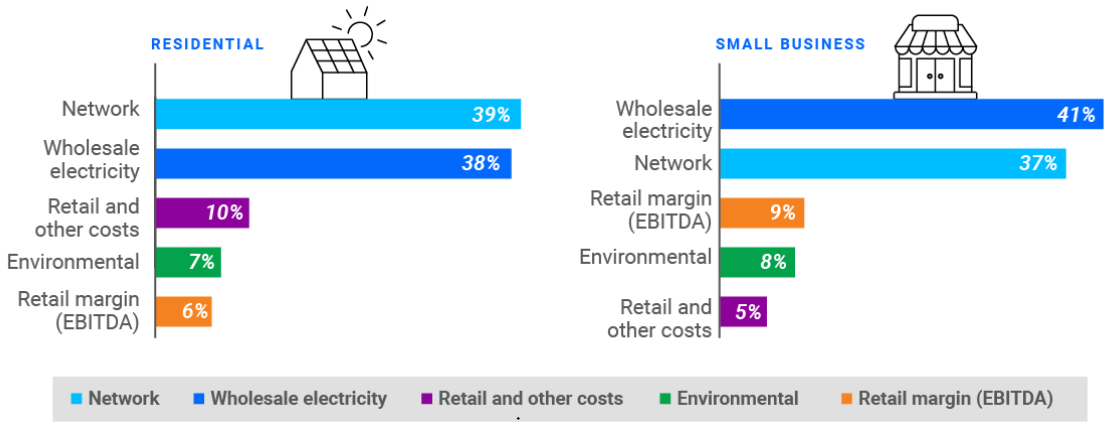
The scope of this review covers retail arrangements and those governing distribution networks. The wholesale market and transmission network arrangements are not in scope. We therefore focus on retail and distribution network matters in this paper.

To identify the root cause of the problems contributing to adverse consumer outcomes, we have broken down the discussion in this paper into three areas corresponding to the elements of the supply chain that are in scope for this review: retail, retailer network interface (how retailers and networks interact and work together), and network.

For small retail customers, the two largest components of their electricity bills are wholesale (also including ancillary services costs) and network costs, jointly accounting for roughly

80 per cent of the bill.[4] shows an estimated cost breakdown for residential and small business customers by the ACCC. Percentages will differ for other customer types.

Figure 2: ACCC cost stack of customer bills



Wholesale generation costs currently comprise roughly 40 per cent of a small customer's bill and are set in a competitive market. Wholesale prices are set in five-minute intervals and so vary across time. The NEM's pricing envelope allows for prices between $-1,000 and $17,500. Generally, however, prices range from -$100/MWh to over $1000/MWh in a single day and can be difficult to predict accurately. Retailers can either own generation assets or buy hedging products to help manage these price risks.

Network costs are similar in magnitude to wholesale costs, currently accounting for about 40% of a small retail customer's bill. AEMC's Residential Electricity Price Trends 2024 report shows that the network cost share of customer bills is likely to grow over the next 10 years due to the scale of investment required.[5] The structure of network tariffs and how they are passed on to the retailer are determined by regulatory, rather than competitive market processes.

Considering how networks and retailers can best work together could potentially lower costs for all consumers, while creating great opportunities for retail innovation and meaningful customer choice.

We encourage you to make a submission

Stakeholders can help shape our work.

We are seeking stakeholders' views on the following questions, which are explored in more detail through the chapters.

[4] ACCC, Inquiry into the National Electricity Market, December 2024 Report, p. 66.
[5] AEMC, Residential electricity price trends 2024, November 2024.

Table 1: Stakeholder consultation questions

Question 1 (see Chapter 3)	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?
Question 2 (see Chapter 5)	Can we rely on competition in the retail market to deliver the mix of products and services that customers value? • How should this review address issues in the retail market to ensure the products and services needed will be available, recognising work already underway?
Question 3 (see Chapter 6)	How can better outcomes for consumers be enabled through network tariff-setting processes? • What can be improved at the retail and network interface that would contribute to better outcomes for consumers? • How can arrangements governing retailers and networks be improved to support better product and service offerings? • Who should receive the network price signal to make it more effective? • Should network tariffs be designed for retailers or consumers? If retailers, how much weight should networks put on the recommendations and views of retailers? • Should any or all of the following be key design features of network tariffs: support competition in the retail market, avoid imposing unnecessary additional costs, and deliver lower overall costs over time?
Question 4 (see Chapter 7)	• What role can network tariffs play in meeting customer preferences while also efficiently and effectively contributing to lower overall costs?

We have included questions throughout the paper, and summarised above, to guide feedback. However, you are welcome to provide feedback on any additional matters that may assist the Commission in considering this review.

- **Due date:** Written submissions responding to the consultation paper must be lodged with the Commission by 10 July 2025.
- **How to make a submission**: Go to the Commission's website, www.aemc.gov.au, find the "lodge a submission" function under the "Contact us" tab, and select the project reference code EPR0097.
- **Publication:** The Commission publishes submissions on its website. However, we will not publish parts of a submission that we agree are confidential, or that we consider inappropriate (for example offensive or defamatory content, or content that is likely to infringe intellectual property rights).[6]

[6] Further information is available here: https://www.aemc.gov.au/contact-us/lodge-submission

1.3. The next steps for the review

On 5 June 2025 we will hold a public forum to discuss the discussion paper. We invite stakeholders to register for the public forum here.[7]

We previously indicated that we would release a directions paper as the next stage in this review. However, given the breadth of views received, we have instead produced this discussion paper as we consider this will allow us the best opportunity to develop our recommendations. This paper does not offer recommendations, direction or solutions; these will instead form part of our next steps. Given this, we will be considering the next steps following receipt of submissions on this paper.

The next step of this review could take the form of a directions paper or a draft report. We will determine the next step depending on the best approach that will ultimately allow us to make the best set of recommendations to promote the long-term interests of consumers. We will update our terms of reference to reflect revised next steps following receipt of submissions.

Stakeholder input is critical in shaping the direction of this review. We also recognise the importance of the Commission advocating for positive change on pricing issues, including raising issues and collaborating on solutions, building collective pressure for change and holding all involved (including ourselves) accountable for better consumer outcomes.

[7] AEMC, The pricing review: Discussion paper public forum registration page.

2. Consumer-centred decision-making is critical to this review

The pace and scale of change in the energy sector has led us to take a future-oriented approach to this review. We do not consider that a focus on solving discrete problems with the existing regulatory approach will deliver holistic solutions for future energy consumers. Such an approach would risk delivering piecemeal, uncoordinated reforms that could miss the big opportunities that the future presents. Instead, we consider we need to take a 'future first' approach to our work and think about the big picture.

Our consultation paper outlined and sought feedback on our approach to this review. Stakeholders provided input on, among other things:

- what good future consumer experiences could look like
- the types of product and service offerings, and pricing structures, that would support those experiences
- the regulatory and market arrangements required to facilitate those offerings and pricing structures.

We have continued to refine and evolve our approach, incorporating feedback received through our direct engagement with stakeholders and in submissions to our consultation paper. Direct engagement and views from stakeholders are critical for us to develop and deliver reforms that can unlock value and lower costs for consumers and the system in the future.

This chapter outlines:

- how this review is guided by the National Electricity Objective (NEO) and National Energy Retail Objective (NERO)
- how our consumer preference principles (CPPs) connect to these objectives and formulate the consumer outcomes the review seeks to achieve, and how we have responded to stakeholder feedback on the CPPs
- how our consumer archetypes guide our work, and how we have responded to stakeholder feedback on these
- the tools available to us in contemplating reform solutions.

2.1. Consumers are at the centre of our decision-making framework

The review is guided by the NEO and NERO.[8] The Commission must make recommendations that contribute to the achievement of these objectives. Appendix A outlines how the AEMC makes decisions consistent with the NEO and the NERO. Our decision-making framework is based on these objectives and applies to all our decisions.[9]

[8] See Appendix A for our assessment framework.
[9] AEMC, How the national energy objectives shape our decisions 27 March 2025.

The NEO and the NERO both require the AEMC to make decisions *in the long term interests of consumers*. We consider it helpful to expand on this element of the objectives in the context of this review by asking two questions:

1. who are the consumers?
2. what are their long-term interests?

Explicit consideration of these questions within the review provides the opportunity to target recommendations that address the breadth of consumers and their diverse interests. No two consumers are the same, nor are their interests identical.

Additionally, the AEMC has recently implemented new guidance and updated assessment criteria to ensure issues of equity are consistently and transparently addressed in a structured way across all rule changes and reviews.[10] This review will continue to focus on accounting for the diversity of consumer needs, experiences, and preferences; addressing structural barriers to participation; and avoiding creating or exacerbating vulnerability, consistent with the updated equity guidance.

To facilitate consideration of the two above questions we have developed two corresponding frameworks, which we sought feedback on in our consultation paper – the consumer archetypes and CPPs. These frameworks form core elements of our approach for this review, guiding our analysis of problems and potential solutions.

2.2. Our Consumer Preference Principles outline the key consumer outcomes we want to achieve

We developed and consulted on a proposed set of CPPs to inform our decision-making in this review. The CPPs have been updated following feedback to the consultation paper to be:

[10] AEMC, How the national energy objectives shape our decisions, 27 March 2025.

Figure 3 Updated CPPs following stakeholder feedback

The CPPs capture consumers' consistent top priorities as demonstrated by publicly available customer research. Our consultation paper provides further detail on the evidence base we used to develop the CPPs.[11]

The CPPs are not intended to be exhaustive. Consumers are diverse, and it is not possible to capture all potential customer preferences in a discrete and manageable framework. Our CPPs therefore capture what research shows are consumers' top priorities, acknowledging that some consumers may have priorities that are not recognised in the framework.

We refined the CPPs in response to feedback

In response to our consultation paper, most stakeholders supported the proposed CPPs and considered them to be a useful framework to help guide our decision-making in this review.[12]

Some stakeholders suggested amendments to the proposed CPPs. We have considered stakeholder feedback in detail. While the five CPPs are unchanged at a headline level, we have made several changes to the descriptions of the principles reflecting stakeholder suggestions and which have been incorporated in the diagram above:

- Under the '*Value for money*' principle, we made changes to reflect stakeholder feedback that 'value' can be captured in many ways in addition to price e.g. that consumers also prioritise the affordability and value of their electricity service.[13]

[11] AEMC, *Consultation paper, The pricing review: Electricity pricing for a consumer-driven future,* 7 November 2024, pp. 29-32.
[12] Submissions to the consultation paper: Australian National University, p 7; ActewAGL, p. 1; AEC, p. 3; Ausgrid, p. 2; Kraken, p. 3; ActewAGL, p. 1; Energy Locals, p. 1, Momentum Energy, p. 3; ECA, p. 5; SAPN, pp. 2-3; Origin, p. 2; Alan Pears, p. 3; Erne Energy, pp. 2-3; UNSW, p. 2, Citipower et al., p 2; CEC, p. 3
[13] Alan Pears, submission to the consultation paper, p. 3

- We have also updated the '*Appropriate protections*' principle to reflect stakeholder feedback that accountability is also expected e.g. that consumers want clear pathways to resolve problems.[14]

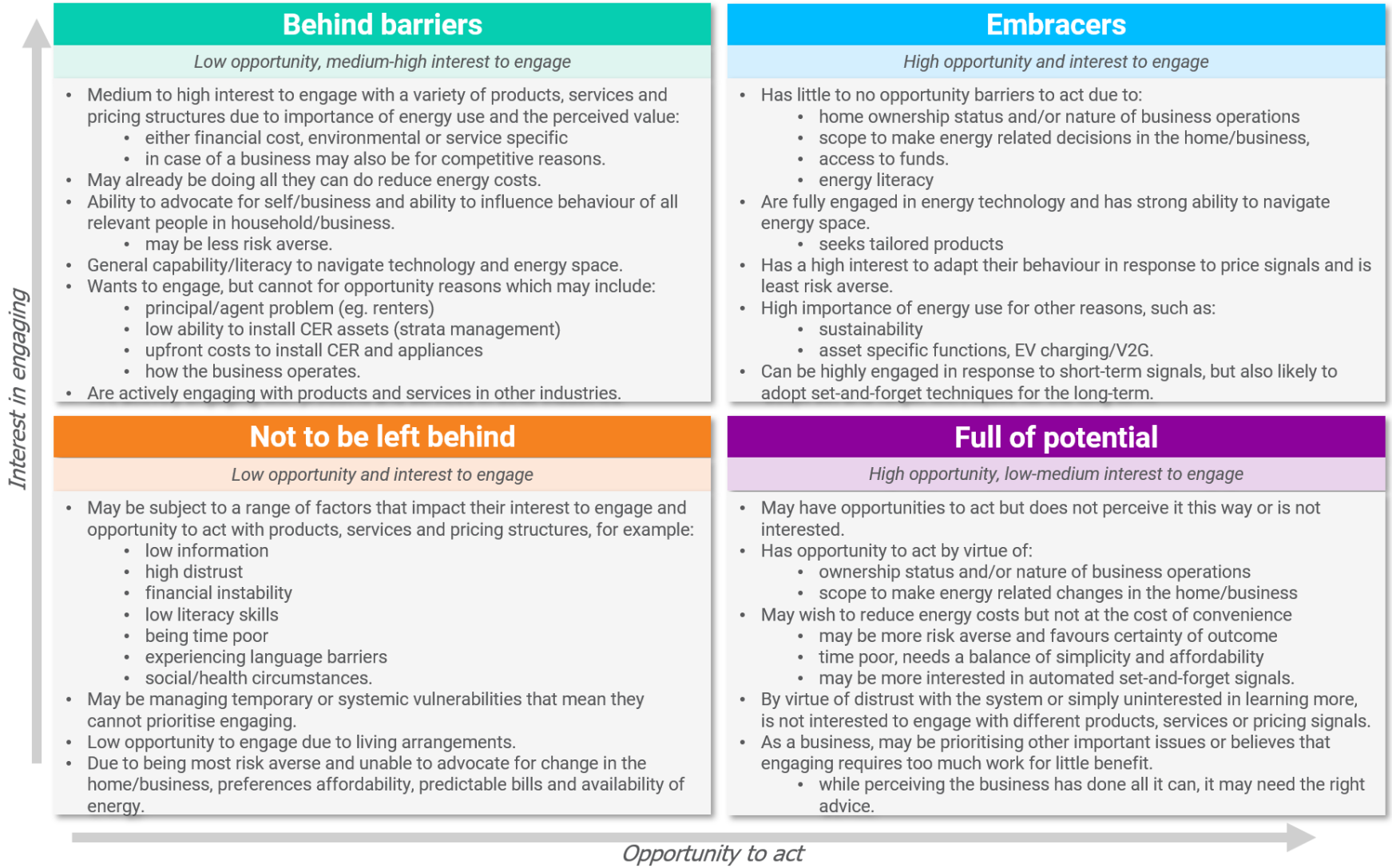
See Appendix B for details on stakeholder feedback and how we have incorporated this in our CPPs.

2.3. We developed Consumer Archetypes to allow us to contemplate equity considerations and reflect the diversity of consumers in our discussion of potential solutions

We developed and consulted on four proposed consumer archetypes to inform our decision-making throughout this review. The archetypes outlined below reflect stakeholder feedback provided in submissions to our consultation paper.

[14] Energy and water ombudsmen, submission to the consultation paper, p. 3.

Figure 4: Updated consumer archetypes following stakeholder feedback



In the context of this review, considering consumer preferences alone is not enough to ensure any proposed reforms would deliver good outcomes for *all* consumers. We know that different consumers elevate some priorities over others and make trade-offs amongst the preferences that are most important to them when choosing an energy offering.

We also want to recognise the importance of equitable outcomes. We recently implemented new guidance and updated assessment criteria at the AEMC to ensure issues of equity are consistently and transparently addressed in a structured way across all rule changes and reviews.[15] We will apply this in this review.

Recognising these factors, the consumer archetypes seek to capture the diversity of future residential and small business customers and reflect the importance of equity.

The archetypes represent a customer's situation at a point in time. They are not fixed identities based on demographic information or technology; rather they are personas that represent the variability of consumers across a range of segments and factors. Customers may shift between archetypes over time depending on their financial, social, and personal circumstances.

We have refined the archetypes in response to stakeholder feedback

Most stakeholders were supportive of the use of archetypes in the review, considering it is necessary to consider and capture the diverse needs of consumer types.[16]

Some stakeholders suggested changes to how the archetypes are differentiated, how they are used within the review, and the language used in the archetype descriptions. We have adopted some of these suggestions, which have been incorporated into our description of the archetypes. Key changes to the consumer archetypes include further details on the range of physical and behavioural factors influencing consumers and further details on how small business is captured.

Stakeholders considered that 'resources to engage', which was previously used as the horizontal axis descriptor, was over simplistic and could underestimate the barriers to participation in the market.[17] In response to this feedback, we have changed this axis to

[15] AEMC, How the national energy objectives shape our decisions 27 March 2025. s4.1.6
[16] Submissions to the consultation paper: ActewAGL, p. 1; AEC, p. 3; AER, p. 9; Alinta, p. 3; Ausgrid, p. 3; Ausnet p. 2; CEC p. 3; Centre for Independent Studies, p. 4; CitiPower, Powercor and United Energy, p. 2; ECA, p. 6; ENA, p. 5; Endeavour Energy, pp. 5-6; Energesis, p. 3; Energy Australia, p. 7; Energy Efficiency Council, p. 2; Engie p. 3; Ergon Energy Energex, pp. 8-9; Essential Energy, p. 8; Energy and Water Ombudsmen, p. 4; Kraken, p. 4; Momentum, p. 4; Origin Energy, p. 2, Powershop, p. 4; SAPN, p. 3; SMA, p. 2; UNSW, p 2; Zero Emissions, p. 2
[17] Submissions to the consultation paper: AGL, p. 4; Energesis, p. 3; Kraken, p. 4; National Seniors Australia, p.p. 4-5, Powershop, p. 4; SMA, p. 2; SAPN, p.3, Ron Ben David, p. 7; Centre for Independent Studies, pp. 3-4; SACOSS, pp. 25-26; Energy & Water Ombudsmen, p. 4.

'opportunity to act'. We consider this better captures the range of physical and behavioural influencing factors that can impact a consumer's engagement in the market.

For further details on stakeholder feedback and our changes to the consumer archetypes in response please see Appendix B.

2.4. Our approach to assessing potential reform solutions is informed by our decision-making framework

This discussion paper invites stakeholder input on what we have heard. The next steps are to consider solutions to address issues. To the extent that stakeholders opine on such matters in their submissions, we encourage stakeholders to focus on solutions that:

- target the issue(s) at the root cause
- are appropriate to the context.

At the AEMC, we generally prefer market-based solutions. As we note in our decision-making guide "Market-based solutions that drive competition are often the most effective and efficient way to achieve these efficiencies and deliver the best outcomes for consumers."[18]

The approach regulators, like the AEMC, Australian Energy Regulator (AER), Australian Competition and Consumer Commission (ACCC) and jurisdictional safety regulators, use to achieve efficiencies and deliver the best outcomes for consumers depend on market characteristics:

- Where a competitive market is likely to achieve the best outcomes for consumers, the focus of regulation is typically focused on facilitating and improving the effectiveness of competition, such as reducing transactions costs and barriers to entry. For example, our integrating energy storage systems into the NEM rule change made it easier for storage and hybrid systems to enter the wholesale market.[19]
- Where there are strong competitive pressures, but participants' incentives do not align with best-serving consumers interests, regulators may focus on market design to better harness the power of competition. For example, the ACCC's Electricity Retail Code requires retailers to compare their retail offers against the default market offer[20] to allow easier comparison of retail offers.[21]
- Where competition cannot be used to drive better outcomes, regulators will typically prescribe what businesses must do, using tools designed to protect customers from

[18] AEMC, *How the national energy objectives shape our decisions*, 28 March 2024, p 6.
[19] AEMC, *National Electricity Amendment (Integrating Energy Storage Systems into the NEM) Rule 2021*, 2 December 2021.
[20] Competition and Consumer (Industry Code—Electricity Retail) Regulations 2019 s12.
[21] ACCC, *Restoring electricity affordability and Australia's competitive advantage*, Retail Electricity Pricing Inquiry – Final Report, June 2018, pp 265-266

poor outcomes and behaviour. For example, the Essential Services Commission (ESC) of Victoria includes obligations on distribution networks interactions with customers through its Electricity Distribution Code of Practice and its licensing function.

- Where there is no competition, such as where there is natural monopoly infrastructure in essential industries (e.g. transmission and distribution networks), regulators may use tools to ensure efficient delivery of services, such as:
    - Incentive mechanisms to create financial incentives for the business to deliver outcomes that better serve consumers. For example, the AER has developed an export service incentive scheme to encourage networks to offer export services that reflect customer preferences.[22,23]
    - Principles and/or prescription to require certain behaviour from the monopoly business. The decision around whether to use principles or prescription will depend on several factors. For example, the AEMC included a principles-based method for distribution network pricing,[24] and a more prescriptive approach to transmission network pricing,[25] reflecting the different characteristics of the distribution and transmission sectors.

[22] AER, *Export service inventive [sic] scheme*, Explanatory Statement, June 2023.
[23] NER 6.6.4 confers the authority on the AER to develop small scale incentive schemes.
[24] NER 6.18.5.
[25] NER 6A.23

3. We want the energy market to provide a range of offerings that meet diverse consumer needs and lower system costs

Meeting preferences for the range of future consumers, including those with and without CER, will require diverse offerings of products, services, and pricing structures.

This chapter outlines the range and benefits of different offerings that we think will both meet consumer preferences and reduce overall system costs.

3.1. Diverse offerings could improve consumer outcomes

Stakeholders suggested meeting preferences of future consumers will likely require a variety of different products and services.[26] They reiterated that these products could and should be simple to understand and engage with from the consumer's perspective, regardless of underlying prices and technologies.[27] A range of pricing structures within energy plans will also likely be required to deliver diverse products and services.[28]

Stakeholders highlighted that future technological advancements, consumer behaviour and preferences, and environmental factors will continue to develop in unforeseeable ways. They reinforced that the Commission should not advance reforms that could limit innovation.[29]

Figure 5: Related Commission workstreams enabling and integrating CER products and services

The Commission has concluded and is considering several rule changes that aim to enable and integrate diverse CER products and. These include:

- Unlocking CER Benefits through flexible trading, which unlocks substantial benefits from CER for consumers and the system as a whole. The final rule enables three key arrangements: large customers will be able to engage multiple service providers at their premises more easily to manage and obtain more value from their CER; energy service providers for small and large customers will be able to separate and manage 'flexible' CER from 'passive' loads in the energy market leading to innovative products and services for consumers; and market participants will be able to use in-built measurement capability in technology such as EV chargers and smart streetlights to enable the delivery of innovative and essential products and services at lower cost.
- Integrating price-responsive resources (IPRR), which seeks to address the growing amount of unscheduled price-responsive resources. The final rule allows aggregated CER, demand response and independent small generators/batteries to be scheduled

[26] Submissions to the consultation paper: Energesis, pp. 4-5; Tesla, p. 6; AER, p.5; SMA, p. 3-4; AGL, p. 5; Kraken, p. 5; Ausgrid, p. 3; ECA, p. 8, EnergyAustralia; p. 3; Engie, p. 5; JEC, p. 11; Alan Pears, p. 10; ENA, p. 5; CEC, p.5.
[27] Submissions to the consultation paper: AER, p. 5; Engie, p. 5; JEC, p. 11.
[28] Submissions to the consultation paper: Alinta, p. 4; Energesis, pp. 4-5; Tesla, p. 6; Kraken, p. 5.
[29] Submissions to the consultation paper: CEC, p. 4; Ergon Energex, p. 8, SMA, p. 4; ARENA, pp. 1-2; AER, p. 8; Alinta, p. 5.

and dispatchable in the NEM, includes a short-term incentive payment to drive participation in dispatch, and introduces a monitoring and reporting function to understand the forecasting challenges and errors from unscheduled price-responsive resources.

- Accelerating smart meter deployment. The final rule will deliver an efficient rollout of smart meters to all customers by 2030
- Real-time data for consumer, which is considering a framework to enable consumer access to real-time data from the meter.

Meeting consumer preferences can be accomplished while lowering overall system costs

As outlined in Chapter 2, consumers generally prioritise value for money and meaningful options when selecting an electricity plan. For many consumers, this corresponds to paying the same price for electricity consumption no matter when that consumption occurs.[30]

At the same time, the costs of providing electricity services are not uniform across time. In the shorter term, wholesale markets experience periods of scarcity and abundance. Networks may also experience localised congestion constraints at certain times. In the longer term, the costs of building extra infrastructure – including generation, storage, and the network - come into play. Both 'how much' and 'when' customers consume electricity contributes to the need for infrastructure. This means that consuming electricity habitually at certain times of day can trigger additional costs for consumers collectively. In contrast, consistently spreading that use to other times of day can mean avoiding those costs.

This variability in the costs of delivering electricity creates the opportunity to achieve lower costs for consumers and the system. Consumers have diverse preferences, lifestyles, appliances, and abilities to manage their electricity usage, either directly, through technology, or through a third party such as their retailer. Some consumers may be prepared to change their consumption habits or have their retailer or another party exercise some control over their devices, to save on their bills. When some customers do so, we are all better off, since we have shifted consumption away from higher-priced periods and into lower-priced periods.

Electricity plans that guide individual customers' investment, consumption and generation decisions can therefore save money for individual customers on those plans, and for everyone else. Many customers have either taken up or been put on these plans, with time-of-use plans being the most common.

[30] ECA, Consumer Sentiment Survey, topline data (challenges ahead for the energy), June 2024; ECA, Consumer pricing preferences, December 2022, pp. 6, 10.

These plans appeal to some customers, but not all. Many customers find that these plans are too complex and would instead prefer something simpler.[31]

Electrification of transport and heating, as well as the increasing digitisation and internet connectivity of appliances, is increasingly creating more opportunities to create simple electricity offerings that extend customers the opportunity to reduce their bills.

Some customers may want simple tariffs and be willing to pay more to maintain complete autonomy. Others may be happy to allow certain devices to be controlled by third parties or accept restrictions on their usage. Others may want to manage this complexity themselves.

The above discussion exposes an important tension facing this review – that between risk and control. Customers who prefer simplicity and predictability may need another party, such as their retailer, to manage risk on their behalf. This can be achieved through one or both of:

- the customer's retailer or another party setting some control or limits over their usage. For example, some energy plans already offer subscriptions where customers yield some control of their solar and batteries in return for a fixed (zero dollar) monthly fee. This is subject to the customer ensuring that their total monthly usage remains within pre-specified bounds.
- the customer paying a risk premium as part of their offering. This is the current status quo where retailers manage wholesale price risk on the customer's behalf in return for a hedging premium. Customers who are willing to take on this risk themselves can sign up for wholesale market cost pass through offers, where they can save on both the premium, plus any additional ability to limit risk, such as curtailing usage or using batteries during high price periods.

Customers who want to maintain control and avoid a premium will need to manage that risk themselves.

Such tensions are common in similar industries such as telecommunications, where customers have various alternatives over how they manage volume and capacity risks. For example, for home internet, customers can choose from a menu of subscription offers, each with a set monthly cap on data. Customers can also choose whether to let the telecommunication service provider limit their internet speed in peak hours, or pay a premium to avoid this.

Customers will ultimately need to choose the level of risk, cost, and control that best suits their preferences.

[31] ECA, Consumer pricing preferences, December 2022, pp. 6, 10; ECA, Consumer energy report card: Consumer knowledge of electricity pricing and responsiveness to price signals, January 2025, p. 5.

Enabling the "bookends" of plan types will create the underlying flexibility needed for a consumer-led future

We want to enable a future where consumers can choose the offerings that best meet their needs. We cannot know what that future will be, and therefore our ambition is to facilitate a market and regulatory framework that enables a variety of offerings and outcomes.

From a consumer's perspective, we can consider that they would want to choose retail products on a spectrum – from the most basic, to the most sophisticated.

At one end of the spectrum, customers could experience a "basic offer" which provides some degree of bill predictability and is considered easy to engage with and understand. Customers will face limited financial risk under these offers. Customers will either pay a premium for management of this risk, or be willing to give up some control of their devices to enable a retailer to better manage risks directly at a lower cost. Importantly, while these products are basic from a customer perspective, the underlying retail and network services need not be.

At the other end of the spectrum, "Sophisticated offers" may have lower price predictability and may be more complex to engage with. Such an offer would expose customers to the financial risk from changing wholesale prices and impacts of network congestion, while providing more opportunity for customers to receive financial rewards by adjusting their consumption in response to these price signals. Customers may engage with agents to help them manage these risks, such as aggregators.

We consider that enabling both bookend energy product types to be present in the NEM's retail market should also enable the range of products and services that exist between the bookends. That is, it should meet the first of the two objectives of the review – delivering offerings compatible with consumer preferences. We tested this logic with our AG and SRG, which considered this to be a valid approach to representing the spread of offerings. We are interested in hearing from stakeholders on whether they support this claim.

The diagram below provides a summary illustration of this concept, with further detail offered in the following section.

Spectrum of potential future offering types

	'Basic'	'Everything in between'	'Sophisticated'
Customer value proposition	Simple, predictable, low engagement, low risk	Some predictability, some flexibility, depending on customer preferences	Cost savings, opportunity to better leverage CER investments and/or customer flexibility
Examples	• Flat rate offers where customers pay the same per unit price, irrespective of when it is consumed • Subscription prices where consumers pay a fixed price in exchange for using up to a predefined fixed consumption amount • Prepaid where costs of electricity are paid ahead of time at a frequency that suits the customer	• EV charging windows, V charging tariffs where customers can get a lower tariff just for their EV by charging during specified time periods, combined with a basic offering for the rest of their electricity consumption • Controlled load where a central party has control over when the device is used. For example, hot water heaters are often a separate controlled load circuit and charge at certain times for a discounted price. • Time-varying rates where prices vary with the time of day. These can be fixed over time such as such as time-of-use, which has pre-set peak and off-peak periods or dynamic, where prices can switch to higher pre-set levels during times of grid congestion. • VPP (participation-based) where customers get a set benefit for participating in a VPP, and the VPP bears the financial risk	• Full cost pass-through where customers are exposed directly to any underlying wholesale or network costs • VPP (performance-based) where customers have the opportunity to participate as a dispatchable aggregated resource in various markets, and get the risk and rewards of doing so.

** Some virtual power plants (VPPs) pay customers to participate, without customers being exposed to any penalties or rewards for performance. Customer participation in such VPPs may be limited to certain conditions, including timing and frequency. Other VPPs present opportunities for customers to participate in markets, with customers (or their software) determining the extent of the engagement. These customers are rewarded for performance.*

Basic offering

Basic offerings would appeal to customers looking for easy engagement, bill predictability, and relatively little financial risk.

AEMC research and stakeholder submissions suggest basic offers could include flat rate offers, subscriptions, and prepaid products.[32]

Flat rate offers that bill customers on a per kWh usage basis are relatively easy to understand and offer price certainty, at least in the shorter term while contract terms are in place. Consumers still face risk in terms of the amount of electricity they use but would have some control over this risk.

Subscriptions offer customers a fixed price for electricity, within some limits, across a given period, such as monthly or fortnightly. This gives customers certainty over their bill, with very little risk.

Customers without CER may be given a menu of options to choose from, each with a different price and usage limits. Customers with CER may be given the option to volunteer some control of some of their devices to their service provider. This would be done in exchange for price reductions or relaxed consumption limits. Subscriptions may also be bundled with certain types of CER, for example, a lease package for an electric vehicle that also includes free charging.

Prepaid offers give customers control over the timing of payments and are relatively easy to understand.

To deliver these offerings, any underlying wholesale or network price risks or opportunities would be completely managed by an intermediary such as the retailer, with the customer experiencing as little cost risk as possible. Costs can be further reduced if retailers manage customer CER to reduce their risks and costs to serve.

"Sophisticated" offering

Some customers may want 'sophisticated' offerings. These would allow customers to benefit from the use of technology and automation of behind-the-meter assets and/or their own flexibility to optimise energy use at the premises and capitalise on more financial opportunities in the energy system.

Stakeholders suggest that these offerings might promote CER uptake where they deliver network or market benefits. Such offerings would include retail pricing structures that facilitate

[32] ECA, Consumer pricing preferences, December 2022, pp. 22, 28; ECA, Consumer energy report card: Consumer knowledge of electricity pricing and responsiveness to price signals, January 2025, p. 5; Submissions to the consultation paper: Ausgrid, p. 3; EnergyAustralia, p. 3; SAPN, p. 6.

the benefits of VPP, solar/battery/EV focused products, and home energy management systems.[33]

Everything in between

In between the two bookends lies a potentially vast array of offerings. These combine features of the offerings at the extremes of the spectrum in a way that may make sense for some or many customers.

This could include for instance products where customers:

- are offered opportunities to reduce bills by manually responding to price signals at certain times of the day, week, month or year, for example, EV charging windows.
- allow some CER assets for grid support some of the time
- agree to use certain assets only in certain time windows.

3.2. Offerings across the spectrum can help reduce overall costs

While we have argued that enabling the bookends of the product spectrum – and so enabling the offers in between - should deliver the breadth of products needed to meet diverse customer preferences, the question remains as to whether this will meet the second objective of lowering overall system costs.

We consider that the above spectrum of offerings is compatible with achieving this second objective. Lower overall system costs can be achieved If some consumers adopt offerings that harness CER flexibility, though reform may be required to fully capitalise on the opportunity.

Currently, consumers typically invest in CER devices or projects to help minimise their bills. Few customers' CER are used to engage in energy arbitrage on the wholesale market or relieve network constraints in a focused or flexible manner.

If CER was instead operated in a more coordinated manner, for example by responding with generation or consumption at times of system need, these technologies could unlock savings for both the owner of the CER and the system. Importantly, this could be done by the consumer under either a:

- sophisticated offering where they take on some of the risk and benefit, or
- by the retailer or aggregator, with the customer receiving a simple offering.

[33] Submissions to the consultation paper: Energesis, pp. 4-5; Tesla, p. 6; AER, p. 5; SMA, pp. 3-4; AGL, p. 5; Kraken, p. 5; Ausgrid, p. 3; EnergyAustralia, p. 3; Engie, p. 5; JEC, p. 11; Alan Pears, p. 10; ENA, p. 5; CEC, p. 5.

This could result in lower costs for all consumers by reducing wholesale prices and avoiding future expenditure on the network.

Importantly, achieving this outcome may not require all customers to use their CER in this way. Research suggests that if some CER devices can respond to signals some of the time, material cost reductions can be achieved for all consumers.[34]

Energeia's recent study on the benefits of CER found that a single 10 kWh battery in NSW could save the electricity system over $800 in wholesale, network, and ancillary service costs in a year.[35] This requires the battery to respond to high wholesale costs, FCAS markets and network congestion.

Energeia's work highlights that the current retail offers and network tariffs limit realisation of these benefits by not aligning with underlying costs. This reinforces the importance of the work occurring through this review in enabling offerings that harness the full benefits of CER technologies.

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?

[34] IES, *Benefit analysis of improved integration of unscheduled price-responsive resources into the NEM,* Final Report, 24 June 2024,
[35] Energeia, *Benefit Analysis of Load-Flexibility from Consumer Energy Resources,* Final Report, 26 March 2025, p 34.

4. We are seeking stakeholder input on the barriers to achieving better customer outcomes, and potential reform solutions

Chapter 3 highlighted that electricity offers for consumers can be represented along a spectrum based on the risk/reward of the offering's price structure. We suggested that solving for market arrangements that enable the bookends of the spectrum to be offered in the market should likewise enable everything in between to be offered.

We set out that this could deliver against the two objectives we are seeking to meet in this review. That is, ensuring that the pricing framework supports the availability of the products and services that consumers want in the future, while also delivering a lower-cost system for all consumers.

The remaining chapters of this paper discuss what we have heard on the barriers to this outcome.

Our approach in this exercise is to:

- identify the areas where good consumer outcomes, as defined by the consumer preference principles, are not being met
- explore where the barrier to good consumers outcomes lies in each case – that is, the potential causes of these issues.

We have broken down the discussion in this paper into three areas corresponding to the elements of the supply chain that are in scope for this review; retail, retailer network interface (how retailers and networks interact and work together), and network.

Figure 6 summarises this approach, while the next three chapters discusses each area in turn.

Figure 6 The three focus areas of the discussion paper

Customers	Retailers	Retail-network interface	Distribution networks
For customers, electricity is essential to their daily lives.	Retailers are commercial organisations that sell electricity to customers in bundled plans.	Network tariffs are often the largest input cost to retailers' plans for customers.	Networks are regulated entities that construct and operate poles and wires to bring electricity to customers.
Customers electricity use is changing as CER adoption proceeds. This creates opportunities for better consumer offerings and cheaper electricity for all.	Retailers can innovate new electricity services to better meet customer needs.	Networks and retailers can collaborate and innovate and lower customer costs.	Network tariff design can support retailers to innovate and ensure that existing network capacity is well utilised.
There are a range of areas where customers' preferences are not being met. This review provides the opportunity to address these issues.	Retail market outcomes for consumers are uneven.	Network tariffs are not designed for retailers and may limit retail offers.	Network tariffs do not share the costs of paying for distribution infrastructure fairly among electricity consumers, and may not be suitable for future consumers.
	Retail regulations may be limiting innovation and adding costs.	The number of different and changing network tariffs presents costs and risks to retailers.	Network tariffs sometimes send price signals to consumers that unnecessarily work against wholesale market signals.
Questions for stakeholders to consider	Can we rely on competition in the retail market to deliver the mix of products and services that consumers value?	How can better outcomes for consumers be enabled through network tariff-setting processes?	What role can network tariffs play in meeting customer preferences while also contributing to lower overall costs?

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

Retail competition is the cornerstone of electricity market arrangements in the NEM.[36] We rely on competition, with supporting customer protections, to deliver good customer outcomes.[37]

We consider that an effective retail market is most likely to deliver on the objectives of this review. Our focus is therefore on how we can improve the effectiveness of competition to deliver these objectives and only regulate where we consider it will fall short. While the NEM's core principle is for retail competition, some regions – ACT, Tasmania and northern Queensland – where there is still regulation of retail prices. The rest of the NEM has a safety net, a cap on standing offers, and reference price for market offers through either the AER's default market offer (DMO) or the ESC's Victoria default market offer (VDO).

This chapter outlines:

- That in relying on competition, we expect to observe several key market features, including: competition around prices offered, consumers switching between plans and providers, healthy entry and exit of businesses, as well as different products being offered and innovation in products occurring over time.
- We heard that:
    - retail market outcomes for consumers are uneven
    - retail regulations may be limiting innovation and adding costs

There are other workstreams currently underway that are targeted towards ensuring consumer protections contribute to consistently positive customer outcomes. The AEMC is considering a package of consumer protection rule changes, the Commonwealth DCCEEW is reviewing the consumer protections regime through its Better Energy Customer Experiences workstream, and the AER is reviewing the payment difficulty framework and a number of guidelines (including better bills guideline). These are discussed further in Appendix C.

We are interested in understanding whether the work underway on consumer protections is sufficient to address the concerns raised above and elsewhere in this chapter. If stakeholders do not feel the existing processes are sufficient, we encourage submissions to this discussion paper to detail potential changes to retail regulation or pricing arrangements that could provide improved incentives to deliver the mix of products and services that customers value.

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[36] Some areas are less exposed to competition. There is price regulation in Tasmania, the ACT, and in regional Queensland, as well as price regulation of standing offers in the rest of the NEM.
[37] Tasmania, regional Queensland (the area served by Ergon Energy) and to a lesser extent the Australian Capital Territory rely on price regulation of monopoly retail electricity providers to deliver good customer outcomes.

5.1. Effective competition in retail electricity markets is in consumers' long-term interests

Effective competition should deliver a diverse range of high-quality products and services at competitive prices.[38] Competition does this through retailers:

- maintaining downward pressure on costs throughout the supply chain that they can pass on to consumers,[39] and
- innovating to win customers.

In a workably competitive retail electricity market, we would expect to see a range of features:[40]

- Prices that trend to efficient costs over time – where prices trend towards the average cost of providing the electricity services to the customer.
- Quality of service that matches consumers' expectations – where customers get the products and services they sign up for, and retailers that do not deliver what they promise risk losing market share.
- Choice of products and services consistent with consumers' preferences – where retailers offer products that meet the preferences of diverse customers.
- Many retailers participating in the market,[41] with no sustained market power for an individual firm[42] – where retailers compete to maintain market share, and any ability to charge prices above costs would be temporary.
- Sufficiently high rates of consumer switching retailers and offers for retailers to experience competitive pressures[43] – where retailers need to continually compete for customers, including the retention of existing ones, creating downward pressure on prices.

5.2. Retail market outcomes for consumers are uneven

Competition currently relies on either consumers switching plans or retailers keeping downward pressure on prices for those who don't switch. We heard many consumers find the retail market complex and confusing and have difficulty comparing alternative offers and/or retailers. Consequently, many consumers do not switch and may be paying more than necessary.

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[38] ACCC, *Retail Electricity Pricing Inquiry*, Preliminary Report, 22 September 2017, p 120.
[39] ACCC, *Restoring electricity affordability and Australia's competitive advantage*, Retail Electricity Pricing Inquiry – Final Report, June 2018, p 134.
[40] A workably competitive market is a market with effective competition.
[41] ACCC, *Retail Electricity Pricing Inquiry*, Preliminary Report, 22 September 2017, pp 120-121.
[42] Kaysen, C. and Turner, D. F., (1959), Antitrust Policy at p. 75.
[43] ACCC, *Retail Electricity Pricing Inquiry*, Preliminary Report, 22 September 2017, pp 120-121.

Not everyone can access plans that they want

An examination of today's retail electricity market reveals a diverse array of retail offerings. These range from 'basic' tariffs to 'sophisticated' offerings, as well as numerous variations between these extremes.

The ACCC found that in 2024:[44]

- 73 per cent of customers were on a flat-rate retail offer (a 'basic' offer)
- 21 per cent of customers were on a time-of-use retail offer
- 5.6 per cent of customers were on offers with a demand charge (either flat or time-of-use).[45]

There has been substantial growth in the number of customers facing time-of-use and demand charges[46] in their retail offers. Our analysis of the AER's retailer performance reporting suggests that this figure was between one per cent and seven per cent in 2019, while according to the ACCC data above, in 2024 it was approximately one quarter of customers.[47]

While most customers are on offers that are similar to those that have prevailed in the market for some years, more innovative product offerings are available, such as retail EV offers that specifically caters for charging of an EV on a flexible basis as well as EV home chargers.

Stakeholders highlighted several innovative products that have been developed in recent years that could serve future consumers. These included VPPs, solar power purchase agreements, plans targeted at batteries, and personally tailored offers reflecting individual circumstances.[48] AGL suggested that most conceivable variants of products for the future are already being offered today.[49]

Despite this apparent diversity, many customers face constraints in selecting market offers tailored to their specific requirements. These limitations stem from the complexity of understanding offerings from some retailers, as well as the overwhelming challenge of identifying preferred options among numerous available offers.

This situation largely reflects the incentives within current retail market frameworks, and the penetration of smart meters across the NEM. Many offer types are restricted to those

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[44] ACCC, *Inquiry into the National Electricity Market,* December 2024 Report, 3 December 2024, p15
[45] A demand charge is based on the maximum power draw from the grid a customer uses each month, typically measured over 30-minute intervals within a pre-determined peak charging window.
[46] This analysis does not include Victoria.
[47]AER's quarterly performance reports only include tariff structures for customers with smart metering, around 6% of customers had non-smart interval meters in 2019 so may have been on time-of-use retail offers.
[48] Submissions to the consultation paper: AGL, p.5; Energesis, p.5; SMA, p.3-4; ENA, p.5; CEC, p.5; Alinta, p.4
[49] Submissions to the consultation paper: AGL, p.5

customers with CER and smart meters. Victoria has had near full rollout of smart meters since 2013, and the AEMC recently made a rule to deliver an efficient rollout of smart meters to all customers by 2030, which supports customers' access to a greater range of offerings.[50] We are interested in stakeholder views if Victorian consumers have had a different experience with products and services compared with the rest of the NEM.

While research shows that most customers are generally satisfied with their electricity service, fewer are satisfied with the value for money they see in it.[51]

Some customers are unable to access a plan that aligns with their preferences for a basic offering. Retailers have often passed through network tariff structures, rather than innovating beyond them.[52] Retailers note that they lack the tools necessary to manage a mismatch between the network tariff structure assigned to a connection point and the shape of the retail offer.

Additionally, as discussed in section 5.3, regulations that require comparisons between innovative tariff products and standard market offers may impede the creation and uptake of differentiated products. These regulatory and market forces create an environment where retailers may struggle to prioritise innovation, potentially leaving consumers with options that appear distinct but offer limited choice.

Enabling the full spectrum of electricity products and services as discussed in Chapter 4 will help ensure consumer engagement with the retail market is not just superficial. Meaningful engagement encourages the emergence of products that could better align consumer interests with system needs, promoting the integration of CER and demand flexibility that will be crucial for future grid stability.

A reimagined retail market would foster innovation in pricing structures that not only reflect consumer preferences but also encourage behaviors that support an efficient, resilient, and sustainable electricity system.

Many consumers do not switch and may be paying more than necessary

The ACCC found that 81 per cent of customers could be on a better offer,[53] suggesting significant numbers of customers could save on their bills by switching. We are currently considering a rule change to improve switching.[54] Submissions to the process have highlighted that searching for and comparing plans are the most significant costs that consumers incur when switching.

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[50] AEMC, Accelerating smart meter deployment, November 2024.
[51] ECA, Consumer sentiment survey, June 2024, topline data.
[52] AEMC, Accelerating smart meter deployment, November 2024, p.27.
[53] ACCC, Inquiry into the National Electricity Market, December 2024, p. 54.
[54] AEMC, Improving the ability to switch to a better offer 2025.

Offer complexity and limited comparability limit customer switching

Consumers consistently report dissatisfaction with the complexity of electricity market offers.[55] Many consumers find it difficult to compare alternative offers and decide whether to switch offers and/or retailers.[56] Practically, this means that some consumers are missing out on the benefits of retail competition. This is of particular concern in an environment of rising electricity costs.

Whether retail offers are sufficiently clear and comparable has also been raised directly with us.[57]

That all said, there are some very good online tools designed to help customers work through these complexities and find appropriate retail offers. However, this does not guarantee good customer outcomes:

- Energy Made Easy and Victorian Energy Compare do an excellent job of comparing all retail offers by price, including based on customers' historical electricity consumption. However, they do not compare retailers based on quality metrics and cannot compare some types of retail offers (e.g. offers with a wholesale pass-through, or demand charges).[58]
- Third-party comparison websites similarly compare retail offers, though there are commercial incentives in play that may limit the utility of the service. Exclusivity agreements with other service providers may require, for example, suggesting particular retailers or retail offers and not others. Similarly, search engines may profit from promoting particular retailers.[59]

It has been noted these comparison websites struggle with more innovative tariffs, including those with a demand component.[60] It is also hard to compare offers on the basis of customer experience, quality, and the availability of any concessions.

Customers who don't switch may be paying more

Market research finds that retailers maximise revenue across different customer segments by offering lower-priced plans to new customers, while at the same time letting loyal customers drift onto higher-priced plans.[61]

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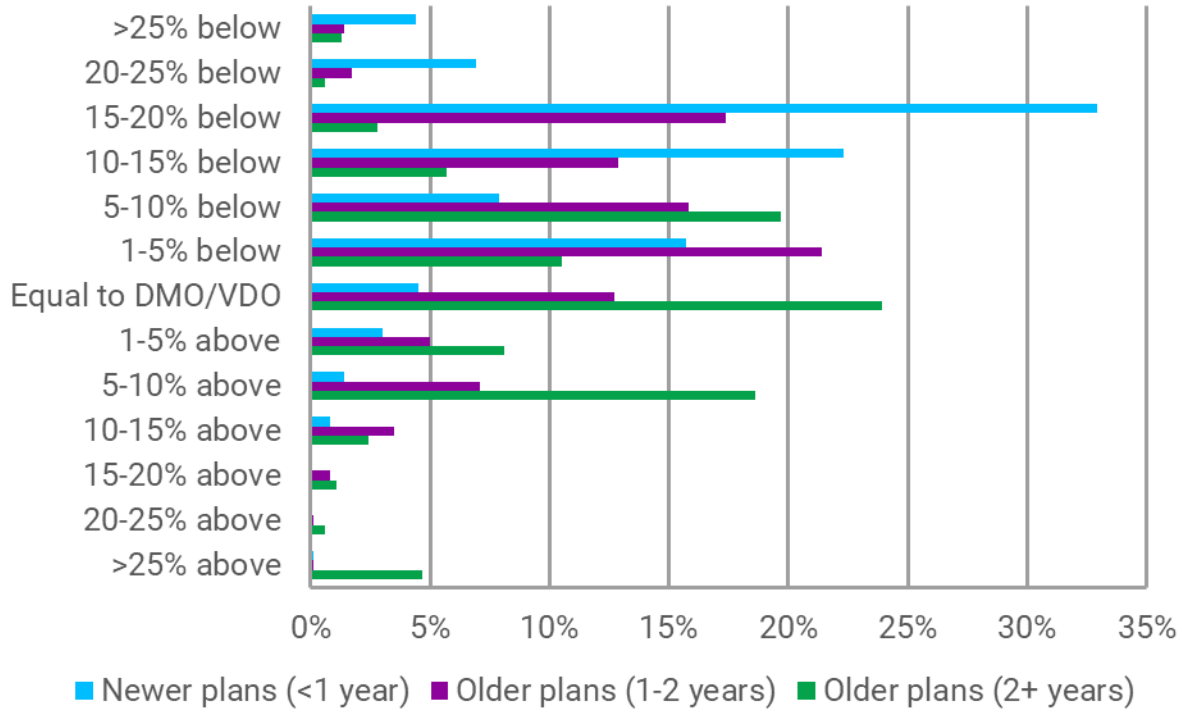
[55] AER, Towards energy equity strategy, October 2022, p. 19
[56] ECA, Consumer Sentiment Survey, June 2024, Topline data, switching behaviour.
[57] Submissions to the consultation paper: Ausgrid, p.4
[58] Submissions to the consultation paper: Energesis, p. 6; EnergyAustralia, p. 7
[59] EWON, Do all energy comparison sites give you the best deal?, available at https://www.ewon.com.au/page/media-center/news/in-the-news/energy-comparison-sites-may-not-give-you-the-best-deal
[60] St Vincent de Paul Society, Observations from the Vinnies' Tariff-Tracking Project, The NEM, Where prices are high and innovation is low, November 2023, p. 27
[61] ACCC, Inquiry into the National Electricity Market report - December 2024, p.46.

Consumers therefore often need to shop around to achieve good pricing outcomes from the retail market, but the benefits of that engagement are not experienced equally across all consumers. As the energy transition progresses opportunities to benefit from engaging in the market increase. Equally, retail products become more complex in response to the needs of new technologies and consumer opportunities.[62] These tensions need to be managed.

The ACCC has found that customers on older offers are generally paying more for electricity, see Figure 7.[63]

Figure 7 The ACCC found customers on older offers are more likely to pay more than the reference price8



Source: ACCC, Inquiry into the National Electricity Market report - December 2024, p. 49

This occurs because the retail electricity sector, like other sectors such as insurance, financial, and telecommunications, is one where customers do not have to repeatedly select their provider. If a customer accepts the offer of a specific electricity retailer, that retailer will continue to serve them until the customer decides to select a new provider. This can lead to poor pricing and service outcomes for consumers over the medium to long term.

[62] Submissions to the consultation paper: SACOSS, p 29; ACCC, Inquiry into the National Electricity Market report - December 2024, p. 45
[63] ACCC, Inquiry into the National Electricity Market report - December 2024, p. 49

5.3. Retail regulations may be limiting innovation and adding costs

We have heard that aspects of retail market regulation - particular consumer protections - do not deal adequately with newer energy services. Retail market regulation differs across states, leading to a high compliance burden for retailers which flows through to increased costs for consumers.

To the extent that they are no longer appropriate, these regulations may be:

- constraining the kinds of products and services offered in the market, limiting customer choice and benefit
- adding to the cost of doing business, which is ultimately borne by consumers.

Safety net pricing and retail price regulation are a particular challenge

Price regulation and safety net pricing (both defined in this section below) can create challenges for retailers seeking to offer a wider range of products to customers. Stakeholders raised that these arrangements could make it difficult for customers with CER to find the best product or service, as regulated prices are typically based on customers without CER.[64] We note that it may similarly impede innovative offers that provide additional services or additional bill certainty for customers without CER.

Safety net pricing

Following the ACCC's landmark Retail Electricity Pricing Inquiry, safety net pricing was introduced to Victoria, South Australia, New South Wales and south east Queensland in 2019 through the Victorian Default Offer (VDO) and the Default Market Offer (DMO).[65] The DMO and VDO serve two purposes:

1. they operate as a maximum price retailers can offer for their standing offer
2. they must be used as a reference point for retailers when advertising market offers.

In 2018, we identified that introducing a default market offer may lead create long-term risks:[66]

- Increased financial risks to retailers – the default offer could introduce uncertainty into the retailer's future performance and could create the risk of price squeezes between costs and regulated prices harming newer and smaller retailers.[67]

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[64] Submissions to the consultation paper: Energy Locals, p3; Energesis, p6; EnergyAustralia, p7
[65] Price regulation was never lifted in Tasmania, the ACT, or regional Queensland.
[66] Australian Energy Market Commission, *Customer and competition impacts of a default offer*, Final Report, 20 December 2018, pp 43-47.
[67] We note that there was a spike in retailer exits following the 2022 market suspension, which may reflect a price squeeze.

- Lower levels of innovation – the default offer could reduce innovation by reducing potential long-term earnings of innovative offers.
- Higher barriers to entry could result because of the higher financial risk and smaller opportunities from innovation.

Price regulation

Some regions of the NEM still have full regulation of retail prices – the Australian Capital Territory, Tasmania and northern Queensland. Price regulation in the Australian Capital Territory, by the Independent Competition and Regulatory Commission, sets price caps on ActewAGL, and like the default market offer, competitors must compare their retail offers to the price cap.[68]

There is more limited competition in the small customer markets in Tasmania and regional Queensland, which both also have regulated retail prices.

Customer protections may not be fit for purpose as technological change proceeds

Traditional consumer safeguards were designed for a linear energy system with clearly defined roles and responsibilities.[69] However, today's increasingly decentralised energy landscape - featuring CER, demand response technologies, and third-party service providers - creates regulatory gaps where consumer interests may be inadequately protected.[70]

This misalignment between technological innovation and consumer protection regulatory frameworks poses concerns for vulnerable consumers, who may face heightened risks from complex energy products and services without sufficient protections in place.[71]

In most of the NEM (aside from Victoria), the primary set of consumer protection regulations are contained in the National Energy Consumer Framework (NECF). The AER has found many of the consumer protections in the NECF were developed for traditional energy products and so may not be appropriate for the future energy market.[72]

As well as this, state and territory laws can modify the application of parts of the National Energy Retail Law (NERL) and the NERR in that state or territory. This has resulted in different

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[68] Independent Competition and Regulatory Commission, *ACT Retail Electricity (Transparency and Comparability) Code*, Accessed 23 April 2025.
[69] AER, Review of consumer protections for future energy services - Final advice report. November 2023, p. 1
[70] AER, Review of consumer protections for future energy services - Final advice report. November 2023, p. 2
[71] AER, Review of consumer protections for future energy services - Final advice report. November 2023, p. 20
[72] AER, Review of consumer protections for future energy services, p. 2; Workstreams addressing these issues are detailed in Appendix C

versions of the NECF applying in each state or territory. Further, the NECF does not apply in Victoria as it has its own framework under the Energy Retail Code.[73]

Stakeholders noted that for retailers operating in multiple jurisdictions, this adds complexity and costs to retailers.[74] We have previously found this variation around jurisdictions can be a barrier to entry for retailers.[75]

Without thoughtful evolution of consumer protections that keep pace with technological change, the benefits of energy innovation may not be equitably shared across all consumer segments.

Work is underway to address concerns with current consumer protections

To address these consumer protection concerns several regulators are currently progressing workstreams including:

- the AEMC's consumer rule change package where we are considering changes to the rules in this space.
- the Commonwealth DCCEEW's Better Energy Customer Experiences (BECE) review, which will consider the NECF and other protection frameworks.
- AER's Better Bills Guideline (review commencing 2026), which sets out obligations for retailers in relation to preparing and issuing bills that make it easy for small customers to understand billing information.
- AER's review of payment difficulty protections in the National Energy Customer Framework (NECF).

In the short to medium term these reforms are seeking to increase the certainty and transparency of the prices consumers pay and improve confidence in the retail energy market. In the long term the reforms are looking to create holistic solutions that reflect the evolving market and changing consumer needs and preferences. See Appendix C for further information of these reforms.

We are interested in hearing from stakeholders whether these reviews are sufficient to address the identified concerns or whether there is a need for additional reforms to electricity pricing arrangements to ensure that consumers are appropriately and sufficiently protected as the market evolves.

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[73] AEMC, 2020 Retail energy competition review - Final report, 2020, p. 36
[74] Submissions to the consultation paper: Energy Locals, p. 3, EnergyAustralia, p. 9, Energesis, p. 7
[75] AEMC, 2020 Retail energy competition review - Final report, 2020, p. 38

5.4. We are progressing further empirical analysis to better understand the state of play of the retail market

We are conducting further empirical analysis into several areas to inform our thinking. We are sharing the areas of analysis in this paper to invite stakeholder input, through submissions, that may support our analysis. We intend to explore:

- retail competition trends, including the range of retail offers available, experiences of customers on these products, and trends in international markets
- the impact of CER, including the experiences of customers with CER, likely patterns of CER growth and the potential impact of flexible CER operation on system costs
- the changes to network and retail sectors since our Power of Choice reforms, including the impact of default offers and reference pricing, the cumulative effect of customer protection measures on competition, and emerging challenges to network cost recovery.

5.5. We want to hear from stakeholders on what we can do to solve the identified problems inhibiting retail offers that meet consumer preferences

The retail market is founded on the principle of competition, where multiple retailers compete for customers. This allows for the use of competition-based solutions. In price-regulated jurisdictions, natural monopoly solutions may be more appropriate if market characteristics are unlikely to support competition if deregulated.

Question 2:

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

- How should this review address issues in the retail market to ensure the products and services needed will be available, recognising work already underway?

6. How can better outcomes for consumers be enabled through network tariff-setting processes?

Retailers package electricity costs from across the supply chain into products and services for consumers. These costs sit across networks, the wholesale and ancillary services markets, environmental requirements, and retailers' own expenses. As a result of this, retailers have two key relationships: a relationship with the customer, as well as a business-to-business relationship with network businesses.

Network costs are regulated, with AER processes determining networks' total revenue levels and setting tariff structures and levels. Retailers' abilities to manage network costs for consumers appear to be mixed: we see most retail offers resembling network tariff structures, with customers thereby assuming network cost risk. It is not clear to what extent retailers can affordably manage network costs on customers' behalf.

This chapter sets out what we have heard 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.

6.1. Network tariffs are not designed for retailers and may limit retail offers

In many industries, suppliers design their pricing to suit their customers, and buyers actively lobby their suppliers for lower prices and better pricing structures. The current NER were not designed to facilitate this dynamic.

Distribution networks have a complicated relationship that defines who their customer is:

- Distribution networks day-to-day interactions on network tariffs are predominantly with retailers. Distribution networks bill retailers for network usage, not retail customers.[76] Retailers request changes to network tariff assignments for each customer to distribution networks. Retail customers may never see their network tariffs, receiving a bundled retail offer from their retailer.
- Distribution networks have a standard 'deemed' contract with retail customers. This defines the rights and obligations of both parties and can define elements of the quality of network services available to the retail customer.

[76] Electricity consumers may be billed directly by the distribution network under NER 6.20.1(c). We understand this is rarely used.

In the five yearly tariff structure statement process that distribution businesses follow, the NER requires distribution networks to obtain retail customer feedback on network tariff design.[77]

This section discusses how this occurs.

The rules emphasise that networks should design for consumers

On several occasions we have updated the Rules governing networks' design of tariffs, most notably:

- In 2014 we introduced the network pricing objective and distribution pricing principles, which required that distribution networks must design network tariffs that are reasonably capable of being understood by retail customers. [78,79]
- In 2021 we allowed distribution networks the discretion to design tariff structures that could either be understood by retail customers or to design tariffs retailers could incorporate into retail offers.[80, 81]

Despite there now being a choice in who distributors can design the network tariffs for, the distributors must assess the impact of the tariff on customers. [82] This typically leads to networks testing the impact of tariff changes assuming the retailer will directly pass through the change.

Without analysing how a retailer may package network tariff changes, this process generally results in distribution networks focusing on designing for customers seeing, understanding and responding to the tariffs. However, these network tariffs are sent to and seen by the retailer, not the retail customer.

6.2. We are yet to see major changes to retailer involvement in the tariff design process

We have not seen any major changes to distribution network tariff setting processes since our 2021 rule change allowing a greater focus on retailers. We do not yet see retailers playing a particularly active role, for example:

[77] NER 6.8.2(c1)(2)(i).
[78] NER 6.18.5(i), version 169.
[79] AEMC, National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014, 27 November 2014
[80] AEMC, National Electricity Amendment (Access, Pricing And Incentive Arrangements for Distributed Energy Resources) Rule 2021, 12 August 2021
[81] NER 6.18.5(i).
[82] NER 6.18.5(h).

- four retailers made submissions in the recently completed South Australian and Queensland revenue determinations and tariff structure statements[83] in markets with over 35 active retailers[84]
- every distribution business has created consultative bodies to help advise them in developing their tariff structure proposals, but many of these bodies have either limited representation from retailers, or at the extreme, no retailers.[85][86]

Consulting with retailers can be more difficult and costly than consulting with customers. Competition laws, including the Competition and Consumer Act 2010, create legal barriers to competitors discussing, reaching or giving effect to any agreement or understanding related to pricing. This means that networks will often need to consult with retailers individually rather than in group settings, which could be more time-consuming and costly.

Retailers likewise face costs in participating in the tariff design process. A national retailer would need to participate in 14 network resets every five years – a significant time and financial commitment for a retailer. Furthermore, the benefit of the retailer's efforts, due to the regulated nature of networks, would be shared with competitors which could potentially create a free-rider problem impeding motivation to participate in network processes.

Stakeholders seek tariff designs that can be incorporated into retail offers

Energy Consumers Australia's submission to our consultation paper stated that network tariffs should be designed for retailers, not consumers.[87] By designing network tariffs for electricity customers, rather than the retailers who need to manage the costs and risks of the total retail offer, networks may be foreclosing on opportunities to create differentiated and cost-saving products for retail customers.

At present, most retail offers follow the same price structure as the network tariffs offered in that location. For example, we analysed all retail offers available in the Energex area of

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[83] AER, SA Power Networks – Determination 2025-30; AER, Ergon Energy – Determination 2025-30; AER, Energex – Determination 2025-30.
[84] AER, Retail; energy market performance update for Quarter 2, 2024-25
[85] For example, Ausgrid's Customer Consultative Committee and Pricing Working Group have no retailers, AusNet's Tariff & Pricing panel members has a single retailer member, CitiPower, Powercor and United Energy's Customer Advisory Panel has no retailers, Energy Queensland's Network Pricing Working Group has two retailers (noting one is Ergon Retail), Endeavour Energy's 2021 Regulatory Reference Group and Peak customer and stakeholder committee have no retailers, Essential Energy's Customer Advocacy Group has no retailers, Jemena's Energy Reference Group has no retailers operating in Australia, SA Power Networks' Community Advisory Forum and Reset Advisory Group have no retailers and the Tariff Advisory Group has a single retailer member, and TasNetwork's Reset Advisory Committee has no retailer members and their Policy and Regulatory Working Group has a single retailer member.
[86] We recognise that some businesses have engagement with retailers in developing their TSS. For example, SAPN formally engaged with retailers via workshops in 2022 and 2023. See here.
[87] Submission to the consultation paper Energy Consumers Australia, p 12.

operations and found all time-varying retail offers followed the timing and structure of Energex's three time-of-use and demand network tariffs.

In submissions, multiple retailers shared strong views of how they would like to see network tariffs develop over time.[88]

- AGL stated "network tariffs should be simple, actionable and fair." AGL endorsed time-of-use network tariffs with short peak windows and dynamic network pricing.[89]
- Red Energy noted that tariff reform has proceeded in a manner that has inadequately accounted for retailer needs.[90]
- Alinta raised that a menu of network tariffs could provide greater flexibility for retailers unable to manage network pricing risks.[91]
- EnergyLocals, Energy Australia, and Engie identified opportunities for greater standardisation in network tariff setting.[92]

The Australian Energy Council, Energy Australia, and Red Energy all argued that retailers should play a more substantial role in the network tariff-setting processes.[93]

Different and changing network tariffs present a cost and risk to retailers

There are 13 distribution networks in the NEM.[94] Each distribution network has multiple tariffs available for residential and small business customers. Retailers may need to build systems capable of managing many different tariffs for similar customers. We understand many retailers have difficulty arranging for a change to the network tariff that applies to a customer, even when the tariff structure statement allows retailers a choice of network tariffs. This can result in retailers managing a wider range of network tariffs than preferred.

Some of these network tariffs share the same name but are defined differently.[95] Every year networks change the price levels of their tariffs and every five years networks change their tariff structures. These changes can be abrupt.

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[88]Submissions to the consultation paper: AGL, Red Energy, Alinta, Energy Locals, Powershop, Engie, and EnergyAustralia
[89]Submission to the consultation paper AGL, pp 2-3.
[90] Submission to the consultation paper Red Energy p 3.
[91] Submission to the consultation paper Alinta pp 5-6.
[92] Submissions to the consultation paper: EnergyLocals, p 2; Engie, p 6; and Energy Australia, p5.
[93] Submissions to the consultation paper: Australian Energy Council, Energy Australia, and Red Energy.
[94] The NER distribution pricing principles apply to 14 distribution networks. Chapter 6 of the NER applies to Power and Water Corporation in the Northern Territory.
[95] For example, demand tariffs have included a single demand charge or multiple demand charges, have included no usage charge, flat usage charges or time-of-use usage charges.

Submissions from retailers noted a desire for greater consistency and standardisation in network tariff design. We understand this to mean a goal of using the same parameters and structures, with differences in price levels and potentially in the timing of signals.[96]

We have found there is increasing consistency within the NEM for the most common network tariffs:

- From 1 July 2025, the default residential and small business network tariff for customers with smart metering is a time of use tariff in all but two network areas.[97]
- In every jurisdiction other than New South Wales, the default residential and small business network tariffs have common peak and off-peak timings. These peak and off-peak timings, including the duration of the peak timings, vary between each jurisdiction.

We have also found that networks:

- Changed their default network tariffs up to three times over the last three tariff structure statements. For example, Endeavour Energy's default tariff for residential and small business customers with smart metering was a flat tariff between 2017 and 2019, a demand tariff between 2019 and 2024, and is currently a time of use tariff for the 2024-29 revenue period.[98]
- Are trialing more tariffs, though there it is uncertain whether trial tariffs will be converted to permanent ones. This means retailers cannot confidently tailor products to match these trial tariffs.[99]

The more customers that retailers can develop a product or service for, the more likely the product or service is to be profitable. We heard retailers need to develop processes, systems, invest in research, development, and advertising to offer new products and services to consumers.

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[96] EnergyLocals submission appears to go further calling for uniform price levels.
[97] Ausgrid and EvoEnergy both have default demand tariffs.
[98] Additionally, for customers receiving a replacement smart meter during, Endeavour Energy included a one-year transition to the default tariff between 2019 to 2024 period and has had two-year transition to the default tariff since July 2024. Endeavour Energy, *Tariff Structure Statement*, (as approved) February 2017, p 8; Endeavour Energy, *Tariff Structure Statement 1 July 2019 – 30 June 2024*, (as approved) April 2019, pp 13-14; Endeavour Energy, *Tariff Structure Statement 2024-29 Regulatory Control Period*, (as approved) April 2024, pp 31-33.
[99] See, e.g. ECA 'Industry perspectives on electricity tariffs and retail pricing' (2022), https://energyconsumersaustralia.com.au/sites/default/files/wp-documents/Industry-Perspectives-on-Electricity-Tariffs-and-Retail-Pricing-Final-Report.pdf p. 23.

Inconsistency in network tariff structures[100] across reset periods and distribution areas may result in higher than necessary costs for consumers. Where these differences do not reflect underlying cost differences or retailer preferences,[101] consumers could end up paying more for electricity and may miss out on new products and services that better meet their preferences.

6.3. We want to hear from stakeholders on how retailers and networks can work together to improve the range of available offerings

We want to hear from stakeholders on the key questions set out below.

Question 3:

How can better outcomes for consumers be enabled through network tariff-setting processes?

- What can be improved at the retail and network interface that would contribute to better outcomes for consumers?
- How can arrangements governing retailers and networks be improved to support better product and service offerings?
- Who should receive the network price signal to make it more effective?
- Should network tariffs be designed for retailers or consumers? If retailers, how much weight should networks put on the recommendations and views of retailers?
- Should any or all of the following be key design features of network tariffs: support competition in the retail market, avoid imposing unnecessary additional costs, and deliver lower overall costs over time?

[100] As we discuss in Chapter 7, network tariffs and tariff structures will need to reflect the local network costs.[101] For example, Endeavour Energy over three reset periods Endeavour Energy's default tariff for customers with smart meters has been a flat tariff, a demand tariff and now a Time-of-use tariff, and currently in the NSW/ACT NEM region the half of the distribution networks have default demand tariffs while the other half have default Time-of-use tariffs.

[101] For example, Endeavour Energy over three reset periods Endeavour Energy's default tariff for customers with smart meters has been a flat tariff, a demand tariff and now a Time-of-use tariff, and currently in the NSW/ACT NEM region the half of the distribution networks have default demand tariffs while the other half have default Time-of-use tariffs.

7. What role can network tariffs play in meeting customer preferences while also contributing to lower overall costs?

Network tariffs are the largest component of consumers' bills as discussed earlier. These costs are typically 'sunk' (i.e. unavoidable) and reflect investments made in the network. A discussion of the current regulatory arrangements for how these are set is in Appendix E.

Network tariffs ideally encourage equitable contributions to meeting the costs of the network, while at the same time signaling ways to improve network efficiency and reduce or avoid future investment required to provide services.

This chapter sets out what we heard that:

- Network tariffs do not share the costs of paying for distribution infrastructure fairly among electricity consumers and may not be suitable for future consumers.
- Network tariffs sometimes send price signals to consumers that unnecessarily work against wholesale market signals.

7.1. Current network tariffs do not share costs fairly among electricity consumers and may be unfit for the future

Nearly all retail customers are assigned to a volumetric network tariff – that is, one that charges the customer based on how much electricity they use. Currently:

- 62 per cent of customers are on flat tariffs, with the same price applied to consumption for all periods of the day
- 21 per cent are on time-of-use tariffs where the volumetric rate changes over the day.
- The remaining 17 per cent are receiving tariffs with a demand charges, typically paired either with flat volumetric or time-of-use volumetric charges.[102]

As discussed in the previous chapter, retail products generally pass through the network tariff directly. Table 2 shows the types of network tariffs currently offered to residential and small businesses users in the NEM.

Table 2: Typical network tariffs, all of which generally contain a per day fixed 'service charge'

Flat	Flat charges are where customers pay the same amount for energy, at all times, and for all energy. Flat charges are an 'anytime' charge, that is charge for energy does not vary with time and can be applied by an accumulation meter.

[102] AEMC analysis of distribution network service providers' 2023-24 annual reporting regulatory information notices to the AER. The remaining tariffs are demand tariffs. For low voltage business customers, 49 per cent are on flat volumetric tariffs, with 27 per cent on time of use tariffs.

Time of use	Time of use charges, which are packaged up by retailers, charge different rates depending on when they are consuming the energy. Time of use charges typically vary by time of day with defined peak, off-peak and sometimes, shoulder charging windows. Some time of use charges have different charges and different charging windows in different months and seasons. Time of use charges are slightly more cost reflective than anytime charges.
Demand charges	Demand or capacity charges are based on the maximum power used within a specified period. This is the rate at which the customer is consuming energy. Demand is measured in watts (whereas volume-based tariffs are measured in watt-hours). In practice, most demand charges are based on the energy measurements over 30-minute intervals, converted to an average power.
Controlled load	Controlled load charges are applied to customer energy resources, including hot water and battery systems, that are completely controlled by a retailer or network. Customers typically pay less for controlled load usage or demand, because it is managed to avoid incurring costs to the retailer or network.

Volumetric network tariffs signal to consumers that there is an additional system cost for each additional unit of electricity consumed. This is generally true of the electricity itself, which comes from the wholesale market, but not of using the network.[103] Retailers embed these network tariffs into a consumer's retail product, and our view that retailers generally pass through the network tariff to consumers aligns with around 20 per cent of customers receiving a time-of-use retail product.[104]

Three key takeaways are that current network tariffs:

- allow consumers, particularly those with CER, to pay less for network services without necessarily contributing to reducing future network costs. This shifts costs onto other consumers, including the most vulnerable
- can reduce valuable uses of electricity by retail customers with little or no network benefit by incorrectly signaling current and future network scarcity
- may be designed around dated assumptions of consumers, and difficult to implement in practice.

[103] Network costs generally arise when peak demand grows close enough to the capacity of relevant network assets that it threatens the ongoing reliability of the network. Networks then need to invest to expand that capacity.
[104] ACCC (2024) *Inquiry into the NEM, December 2024*, p. 15.

Network tariffs are encouraging the transfer of network costs between consumers rather than reducing costs

Networks are guaranteed the annual revenue that the AER sets every five years, irrespective of how consumers might then respond to the underlying tariff structures.[105] These revenues are predominantly used to pay for capital costs that have already been incurred and to maintain the existing approximate 750,000km of distribution network poles and wires in the NEM. In other words, most current and future network costs are generally fixed and unavoidable.

Where future capital upgrade costs are avoidable, these tend to be only in select parts of the network or at certain points in time. We heard that current tariff structures may not be encouraging behaviours and investment that proportionally improve network efficiency and reduce or avoid future capital upgrade needs. This is explored in more detail in Appendix D.

Thus, actions that reduce a customer's network charge under current network tariffs are not well linked to potential changes in current or future network costs. Instead, the reduction of one customer's contribution to those revenues could result in others paying more to make up the shortfall.

For example, tariffs that encourage investments in assets such as solar panels or batteries may help consumers reduce their contribution to network bills.[106] However, this may result in transferring their share of fixed network costs onto other consumers, without necessarily creating shared benefits for everyone by contributing to deferring network augmentation. Consumers will have increasing access to new CER technologies which will likely accelerate this risk of transfer, indicating the urgency and importance of addressing this issue.

Network tariffs may be leading to consumers unnecessarily rationing their electricity use

Volumetric network tariffs may encourage consumers to ration their use of network services. This can be helpful for individual customers in lowering their bills, and for all customers in helping reduce overall system costs across time. However, these benefits can only occur where the volumetric network tariff accurately reflects the marginal costs of using the network. If the tariff does not accurately reflect costs, it can encourage inefficient consumption and export decisions that may contribute to:

- higher network costs over time, and therefore higher costs for individual customers on their bills

[105] Over time, consumer responses which reduce the need to augment the network will reduce the amount of revenue networks will need in subsequent five-year periods.
[106] Best et al (2019) 'Understanding the determinants of rooftop solar installation: evidence from household surveys in Australia', *Aust J Agric Resour Econ, 63*, p. 935; Vespermann et al (2018) 'The Impact of Network Tariffs on PV Investment Decisions by Consumers' *2018 15th International Conference on the European Energy Market (EEM)*, Lodz, Poland: 10.1109/EEM.2018.8469944.

- customers rationing their energy use when there is no corresponding benefit in terms of lowering network costs.

Current network tariff approaches may not accurately reflect marginal costs

The current network tariff framework was designed when consumers, their agents, and CER technology were much less able to respond to dynamic short-run signals. The long-run marginal cost basis for setting tariff's produces consistent and predictable signals being broadcast to network customers. Customers face these signals and corresponding costs regardless of the likelihood that their individual or collective responses, in a particular place and time, could contribute to network cost reductions.

In practice, the current network tariff framework may not accurately reflect marginal costs given today's context. This is a question we have identified for exploration, with these issues discussed in more detail in Appendix D.

The costs to customers of unnecessarily rationing their electricity use are potentially significant

Network tariffs that do not send the correct signals may lead to consumers foregoing valuable uses of energy for benefits that are either uncertain or eventually non-existent. Time of use pricing, with higher prices in 'peak' periods, can exacerbate this issue.

For example, some South Australian consumers assigned and exposed to time-of-use network tariffs will be strongly encouraged to reduce their electricity consumption across the entire peak period, much of which occurs well after the period in which demand might drive network costs.[107] This can lead to someone forgoing the use of electricity when doing so offers no network cost reductions, for example:

- households in networks that experience peak demand in summer not heating their homes in winter
- households in networks whose peak demand is driven by hot summer days not using their clothes drier on cold damp days
- businesses in recently upgraded parts of the network making opening hour decisions around peak pricing.

Consumers who are less likely to respond to prices may experience peak demand pricing as unnecessarily punishing the use of electricity when it is most needed.[108] This could include customers characterised as falling within the *Not to be left behind* archetype.

Conversely, prices that *do* inspire responses can place a greater cognitive burden on already vulnerable consumers, including those described by the *Not to be left behind* archetype, as they are least likely to be able to afford automated responsive technologies.[109] This dynamic will be

[107] Submission to the consultation paper: SACOSS, p 10.
[108] Submission to the consultation paper: SACOSS, p 10-11.
[109] Submission to the consultation paper: ECA, p. 12-13.

accelerated by the electrification of sectors and services, and households will increasingly rely on electricity for heating, cooking, and transport.

This makes retail customers worse off when their usage does not contribute to peak demand or future costs. See Appendix D for further detail on these issues.

7.2. Network tariffs may unnecessarily work against wholesale market signals

Network tariffs should provide signals that improve the use of networks, but they should not unnecessarily undermine how consumers engage with the rest of the system.

We have heard that:

- CER's biggest benefit is expected to arise from reducing wholesale market costs
- network tariffs can get in the way of CER participating in the wholesale market.

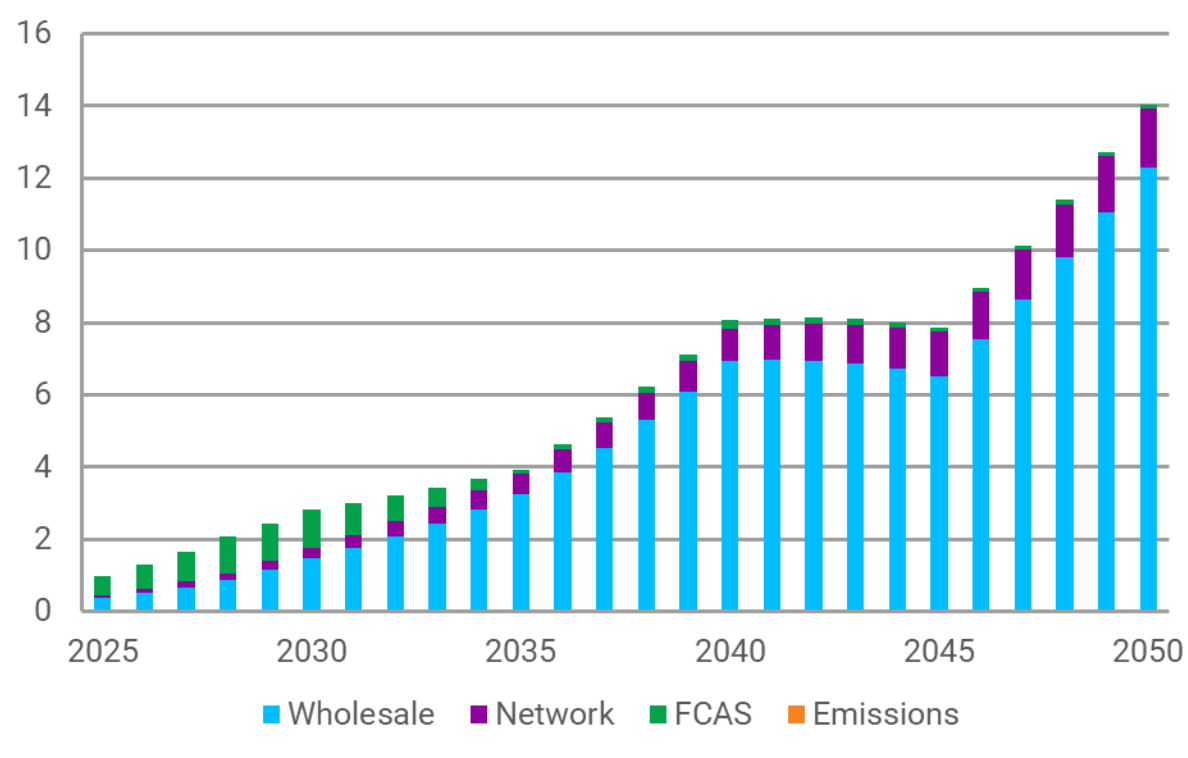
The biggest benefit of CER will be to reduce wholesale market costs for consumers

Network and wholesale market costs currently share a similar proportion of a consumer's bill.[110] As discussed above, most network costs are either sunk or unavoidable, whilst wholesale market costs are fully variable in that generators are only compensated when dispatched. As such, consumers collectively are likely to receive the greatest value from CER assets responding to the wholesale market.

We recently commissioned modelling to explore the total system benefits that could arise from operating CER flexibly. This analysis found that most of the benefit to consumers from more flexible CER came from wholesale cost reduction (88 per cent), with network cost savings and Frequency Control Ancillary Services (FCAS) providing 11 and one per cent of the benefit respectively.[111]

[110] ACCC (2024) Inquiry into the National Electricity Market, p. 66.
[111] Energeia (2025) Benefit Analysis of Load-Flexibility from Consumer Energy Resources: Final Report.

Figure 8 System benefits due to CER orchestration by value stream (Billions $2023)



Consumers in the future will be increasingly empowered by technology to engage with the electricity system. Consumers will be able to capture the greatest benefits by interacting – or having their agents interact – with the wholesale market.

Current network tariffs can conflict with the wholesale market signal. Where the network signal is accurate and effective, this is not necessarily problematic and consumers who choose to engage can respond to the more valuable signal. Consumers may currently, however, be receiving network signals that get in the way of wholesale market engagement without necessarily reducing network costs.

Highly responsive network users, such as battery energy storage systems, may experience tariffs as an impediment to both wholesale market engagement and to their potential contributions to reducing network costs.[112]

Network tariffs can undermine wholesale market signals

Network and wholesale market costs have different drivers, which are not always aligned. Incremental distribution network costs, beyond paying off and maintaining the current network, are largely related to relieving local network congestion and managing local voltage constraints.

[112] Submissions to the consultation paper: SMA Australia, p. 5; Zero Emissions Noosa, p. 3; Elgin Energy, p. 1.

Wholesale costs are driven by scarcity of supply relative to demand and transmission constraints in the short run, and changes in the supply-demand balance in the longer run.[113]

These signals being unaligned is not problematic if both accurately and effectively communicate the impact of demand on the underlying costs. It is problematic, however, if network signals conflict with the wholesale market *and* they are not designed to accurately reflect drivers of network costs. In such a case the network tariff signal may act as a barrier to cost-reducing wholesale market participation, while achieving no network cost savings. See Appendix D for further detail on these issues.

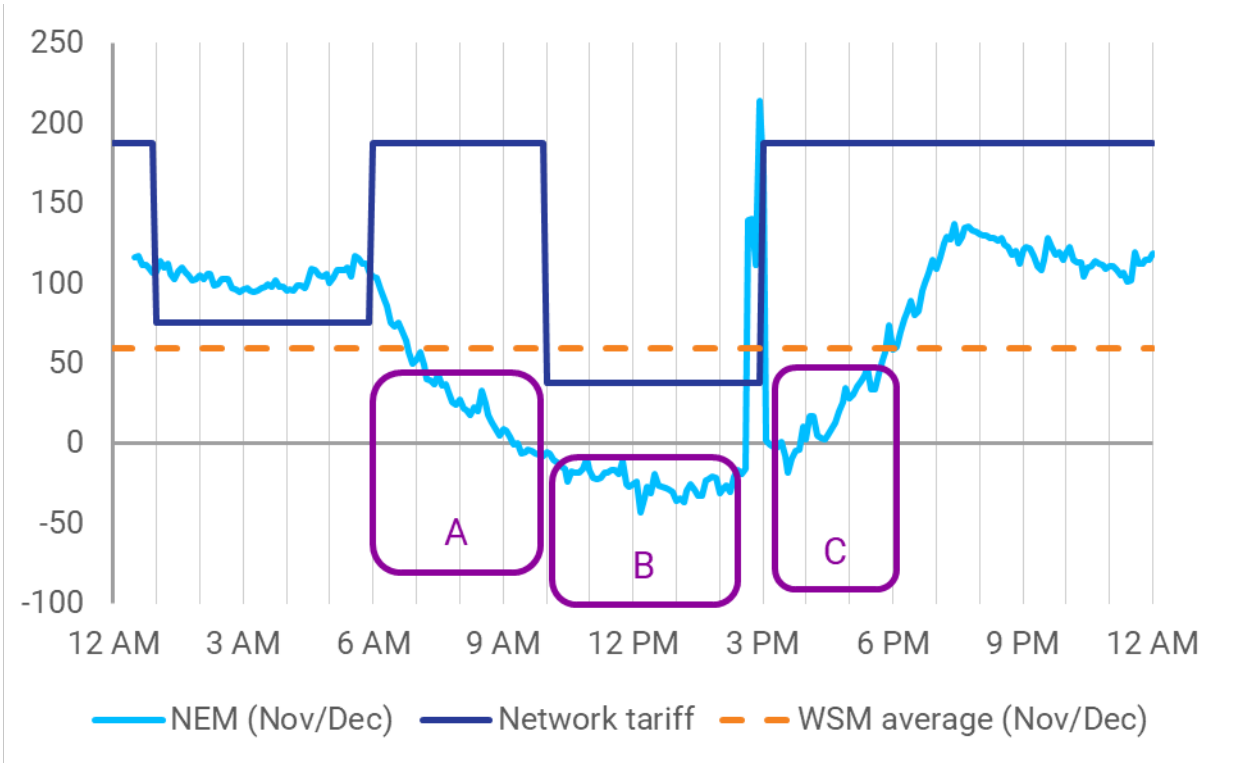
One outcome of the current tariff-setting framework is time of use volumetric tariffs which, as discussed in the preceding sections:

- may not be well linked to local network congestion and constraints
- are broadcast to all network users and
- may be poorly aligned with wholesale market signals.

Figure 9 compares the South Australian time of use signal and the average wholesale market signal in the 2024 summer months of November and December. Our analysis of this period provides three illustrative examples of where the potential conflict between network and wholesale market signals can occur.

[113] See AEMC (2024) Residential electricity price trends 2024 for further discussion.

Figure 9 Comparison of South Australian time of use network signals with the average wholesale market price over November to December 2024 ($/MWh)



(A) In the morning, solar generation starts bringing down wholesale market prices. Soon after 9am the wholesale market is settled at negative prices, indicating an excess of generation to the extent that the market is *paying consumers to use energy*. At this point, and until 10am, the network tariff is signaling peak prices for every kWh consumed. In circumstances like these, conflicting signals are potentially being sent to consumers resulting in perverse or inefficient outcomes.[114] This conflict arises due to the opposition of the short-run wholesale market signal and the long-run network signal.

(B) During the day there continues to be an excess of generation, leading to consistently negative wholesale market prices. Despite the network tariff being at its lowest in this 'solar soak' period, it is still a positive volumetric charge signaling to consumers that there is still a cost to consuming.

(C) PV generation scales back in the afternoon, and network pricing returns to a peak period while wholesale market prices are still below their daily average until around 18:00. Perhaps most concerning is that in the period soon after 16:00, when the wholesale market price is negative – encouraging consumers to import from the grid – the commencement of the peak network tariff could be encouraging people to consume electricity from their batteries, which were likely charging all day.

[114] Submission to the consultation paper: ARENA, p. 2-3.

7.3. How can network tariffs meet customer preferences while also contributing to lower overall costs?

We want to hear from stakeholders on the key questions below.

Question 4:

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

8. Abbreviations / Glossary

Table 3: Abbreviations

ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AG	Advisory Group
BECE	Better Energy Customer Experiences
CER	Consumer Energy Resources
Commission	See AEMC
CPP	Consumer Preference Principles
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
DMO	Default Market Offer
DNSP	Distribution Network Service Provider
ECA	Energy Consumers Australia
ESC	Victorian Essential Service Commission
EV	Electric Vehicle
FCAS	Frequency Control Ancillary Services
IPRR	Integrating Price Responsive Resources
kWh	Kilowatt-hour
LRMC	Long-run marginal cost
NECF	National Energy Customer Framework
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NERL	National Energy Retail Law
NERO	National Energy Retail Objective
PV	Photo Voltaic
SRG	Stakeholder reference group
TOU	Time-of-use
TSS	Tariff Structure Statements
VDO	Victorian Default Offer
VPP	Virtual Power Plant

A. Our assessment framework

Our recommendations must contribute to the achievement of the NEO and NERO

In conducting reviews, the Commission must have regard to the relevant energy objectives, outlined in section 32 of the NEL and Section 224 of the NERL. For this review, the relevant energy objectives are the National Electricity Objective (NEO) and the National Energy Retail Objective (NERO).[115]

The AEMC has recently implemented new guidance and updated assessment criteria to ensure issues of equity are consistently and transparently addressed in a structured way across all rule changes and reviews.[116] This review will continue to focus on accounting for the diversity of consumer needs, experiences and preferences; addressing structural barriers to participation; and avoiding creating or exacerbating vulnerability, consistent with the updated equity guidance. The assessment criteria identified below includes equity considerations.

The Commission can only recommend changes to the regulatory framework if it is satisfied change will, or is likely to, contribute to achieving the relevant energy objectives. The relevant objective in the NEO is:

to promote efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity with respect to—

(a) price, quality, safety, reliability and security of supply of electricity; and

(b) the reliability, safety and security of the national electricity system; and

(c) the achievement of targets set by a participating jurisdiction—

(i) for reducing Australia's greenhouse gas emissions; or

(ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

The relevant objective in the NERO is:

to promote efficient investment in, and efficient operation and use of, energy services for the long term interests of consumers of energy with respect to—

(a) price, safety, reliability and security of supply of energy; and

(b) the achievement of targets set by a participating jurisdiction —

[115] The NEO is contained in section 7 of the National Electricity Law and the NERO is contained in section 13 of the National Energy Retail Law.
[116] AEMC, How the national energy objectives shape our decisions, 27 March 2025

(i) for reducing Australia's greenhouse gas emissions; or

(ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

We are assessing our decisions using five criteria as well as our CPPs and archetypes

To determine whether any policy recommendations identified in this review promote the NEO and NERO, the Commission will use the following assessment criteria:

1. **Outcomes for consumers:** We will consider whether any recommendations improve price signals, incentives, and opportunities for consumers. The CPPs we developed with stakeholder input will be important in helping us ensure that our decision-making aligns with the wants and needs of consumers now and into the future. The consumer archetypes will be important in helping ensure that our decision-making serves a broad and diverse range of energy consumers. These tools will assist the Commission in delivering equitable outcomes for all consumers by accounting for the diversity of consumer needs, experiences and preferences.
2. **Principles of market efficiency:** We will consider whether any recommendations promote efficient network utilisation and investments. We will consider barriers to competition and ensure risks are borne by parties who are best placed to manage them. We will assess whether there are structural barriers that are preventing all consumers from equitable access to better retail offers. We will assess how we are increasing information transparency between stakeholders and incentivising price setting that promotes competitive prices.
3. **Innovation and flexibility:** We will consider how to support innovation in a future electricity market and deliver the benefits of innovation to consumers. Any recommendations need to be flexible enough to accommodate market, technological, policy, and other changes.
4. **Implementation considerations:** We will consider the practicality of developing and implementing proposed recommendations, including how they may interact with other reforms. We will assess if the impacts of our recommendations are manageable for all stakeholders. We will ensure that solutions promote the consumer trust necessary for delivering an equitable, reliable and least-cost energy transition. To ensure this review is successful as a market-wide solution, we will consider jurisdictional arrangements.
5. **Principles of good regulatory practice:** We will consider if our recommendations promote predictability and stability in the regulatory framework. We will also consider the broader direction of our proposals with other reforms underway.

B. Stakeholder feedback on CPPs and archetypes

Summary of stakeholder feedback to each of the CPPs and our response to this feedback

CPP	Stakeholder feedback	How we have responded
Value for money	• One stakeholder considered that the concept of 'value' for consumers could be captured in many ways in addition to price, including convenience and service quality.[117] • SACOSS suggested this principle should be 'Price and affordability'.[118]	We have refined the description of the 'Value for money' principle to incorporate this feedback.
Simple engagement	• Several stakeholders made clarifying points such as amending this CPP to "clear engagement" and extending it to include their ability to easily respond to strong price signals.119	We consider these points are already captured by the existing principle.
	• Energy and water ombudsmen suggest the principle reflect the need for clear, accessible and relevant information for consumers, and to incorporate provider accountability for their products or services.120	We consider this should be captured under the 'appropriate protections' principle, which we have updated to reflect this.
	• JEC considered the principle does not adequately express the enduring preference of consumers for decoupling good outcomes from particular forms of engagement with retail energy.121	We consider that this CPP captures the interactions of consumers regardless of the degree they engage and does not assume a necessary level of engagement to achieve good outcomes.
Appropriate protections	• JEC noted that appropriate protections suggest that the prospect of adverse outcomes would persist in a future system,	This principle does not suggest that adverse outcomes would persist in a future system, simply that consumers want appropriate

[117] Alan Pears, submission to the consultation paper, p. 3
[118] SACOSS, submission to the consultation paper, pp. 22-23
[119] Submissions to the consultation paper: Ausgrid, pp. 2-3; UNSW, p. 2.
[120] Energy and water ombudsmen, submission to the consultation paper, p. 3.
[121] JEC, submission to the consultation paper,p.10

CPP	Stakeholder feedback	How we have responded
	a situation we should seek to avoid through market design.122	protections in their energy offerings.
Availability	• Stakeholders suggested options we consider are captured under the principle, including that the 'availability' principle: • should extend to include customers' ability to export to the network.123 • does not adequately reflect the essential nature of energy.124	The Commission considers the description of this principle captures this, specifically the use of the word 'need'.
Other feedback	• Some stakeholders suggested adding "reliability" and "resilience" into the CPPs.125	We consider 'reliability' and 'resilience' are captured under the 'availability' principle.
	• Many stakeholders considered that 'fairness' or 'equity' should also be considered as CPPs.126	The Commission has recently incorporated equity into our assessment framework, this will ensure equity is considered in all relevant decisions, and did not consider these additions were necessary to the CPPs.127

Stakeholder feedback on the approach of using CPPs

Several stakeholders noted the importance of the CPPs, but suggested some of them are basic requirements, rather than preferences.[128]

Some stakeholders queried the intent of the CPPs in the review, considering they are too focused on economics, appear to give the AEMC the role of a future product designer, are not

[122] JEC, submission to the consultation paper, p.10
[123] UNSW, submission to the consultation paper, p. 2
[124] JEC, submission to the consultation paper, p.10
[125] South Australian Business Chamber, submission to the consultation paper, p.3.
[126] Submissions to the consultation paper: ENA, p. 4; UNSW, p. 2; SACOSS, pp. 23-24; Ausnet, pp. 2-3; SAPN, pp. 2-3, AER, pp.8-9; Essential energy, p. 2; SACOSS, pp. 23-24; Energy and water ombudsmen, p.3; Citipower et al., p.2
[127] See our decision making guidance here.
[128] Submissions to the consultation paper, Momentum energy, p.3; Energy and water ombudsmen, p.2.

focused on consumer behaviours or need to explicitly serve as a guide for regulatory arrangements.[129]

We recognise that consumer preferences are diverse

As highlighted in the consultation paper, consumers are diverse, and it is therefore not possible to capture all potential customer preferences in a discrete and manageable framework. For example, some consumers prefer sustainable electricity offerings, while others do not. One stakeholder also noted that consumers will make tradeoffs between their preferences to find a product that suits them.[130]

Our proposed CPPs capture what the research to date shows us are consumers' consistent top preferences when it comes to electricity offerings.

Summary of key issues stakeholders raised about the consumer archetypes and our response to this feedback

Area	Stakeholder feedback	How we have responded
Resources to engage	Several stakeholders suggested we use alternate axis to separate consumers rather than 'resources', including 'agency', 'ability', 'cost to serve', 'external conditions', 'trust', 'risk appetite' and 'proficiency'.[131]	Based on stakeholder feedback, we have changed the 'resources to engage' axis to 'opportunity to act'. We consider this better captures the range of physical and behavioural influencing factors that impact consumer's opportunity to act.
Engagement as an axis of differentiation	Some stakeholders considered our proposed archetypes were broadly appropriate, and that engagement is a useful way to think about consumers in the context of this review.[132] However, many stakeholders queried whether 'engagement' is too simplistic, overemphasises consumer's desire to engage, and may miss	Noting these concerns, the Commission considers 'engagement' remains the most appropriate way to distinguish between archetypes, this differentiation is based on previous work by the ESB.[134] Furthermore, a customer's level of opportunity and interest in engaging in a product or service are relevant considerations that can help determine whether their needs are being met.

[129] Submissions to the consultation paper, Citipower et al., p 2; Powershop, p. 4; South Australian Business Chamber, p.3; SACOSS, p. 22.
[130] Erne energy, submission to the consultation paper, pp. 2-3
[131] Submissions to the consultation paper: Energesis, p. 3; National Seniors Australia, p.p. 4-5, Powershop, p. 4; SMA, p. 2; SAPN, p.3, Ron Ben David, p. 7
[132] Submissions to the consultation paper: ActewAGL, p. 1; AER p. 9; Ausgrid, p. 3; Ausnet, p. 2; ENA, p. 5; Endeavour energy, pp. 5-6; Energesis, p. 3; Energy Australia, p. 7; Energy Efficiency Council, p. 2; Essential Energy, p. 8; Momentum, p. 4; Origin Energy, p. 2; CEC, p. 3-4; SMA, p. 2
[134] ACIL Allen, Barriers and enablers for rewarding consumers for access to flexible DER and energy use, June 2022, pp. 14-29; ESB, Customer insights collaboration.

Area	Stakeholder feedback	How we have responded
	other key aspects of the customer journey.[133]	
Segmentation analysis	Stakeholders considered it may be important to quantify the number of consumers in each archetype, or how these numbers may vary through time.[135]	The archetypes are not fixed identities based on specific demographic information or technology; rather they are personas that represent the variability of consumers across a range of segments and factors. The archetypes are flexible; customers may shift between archetypes over time depending on their financial, social, and personal circumstances. As such at this stage we do not intend to do any segmentation analysis.
Capturing the diversity of consumers	Several stakeholders raised that the archetypes do not adequately capture the diversity of future consumers,[136] including small businesses.[137]	We consider the archetypes adequately capture the range of future consumers. The archetypes sit on a spectrum, from those not interested in engaging with the market to those who are, and those with and without the opportunity to do so. We consider this spectrum will persist into the future as consumers' circumstances and technology changes. This also includes consideration of small business consumers, who we believe can be included using the same approach. The Commission has clarified the language of the archetypes to better reflect how small businesses are captured.

[133] Submissions to the consultation paper: Changing weather, p. 22; Energesis, p. 3; Ergon Energy Energex, pp. 8-9; Energy and Water Ombudsmen, p. 4; Kraken, p. 4; Momentum, p. 4; SAPN, p. 3; ANU, p. 10; ECA, p.6
[135] Submissions to the consultation paper: Ausgrid, p3; Ausnet p. 2; Essential Energy, p. 8
[136] Submissions to the consultation paper: Australian National University, p10; Alan Pears, p5/6; Alinta, p3; Ausgrid, p3; ENA, p.5; Energy Australia, p.7; Engie p. 3; Essential Energy, p. 8; Kraken, p.4; UNSW, p 2; Zero Emissions, p. 2
[137] Submissions to the consultation paper: Changing weather, p.22; Ausgrid, p3; Energy Efficiency Council, p2; AER, p.9

C. Other customer protection reviews and changes

The AER, AEMC and Commonwealth government are currently progressing several reviews and reforms with may address some of the persistent issues identified in retail markets. Alongside conducting our own rule changes, we will monitor these processes and input as necessary.

Consumer rule change package – AEMC

The AEMC is currently progressing a package of rule change requests that together seek to improve consumer protections for small customers on retail energy contracts, increase the certainty and transparency of the prices they will pay and improve confidence in the retail energy market.[138] They may address aspects of retail offers by:

- protecting customers on contracts with benefits that change or expire from paying more than the standing offer once the benefits end.
- restricting retailers from increasing prices in market retail contracts more than once in 12 months.
- prohibiting fees and charges, except for network charges, for vulnerable customers, and limiting fees and charges to reasonable costs for all other consumers.
- increasing support and improve outcomes for hardship customers so that they are no worse off, if they do not take up their retailer's deemed better offer. This includes not incurring more debt or expenses than is necessary.
- removing unreasonable conditional penalties related to payment method and timing.
- increasing the number of customers switching to better offers.
- increasing how many eligible customers receive concessions or rebates.

Note that the Essential Services Commission (ESC) is also considering these same rule changes for Victoria.

Better Energy Customer Experiences (BECE) review – Commonwealth DCCEEW

DCCEEW is progressing the BECE review.[139] This process aims to ensure that the frameworks that support customers to engage with the energy market are suitable and effective, both now and into the future. The BECE website is available here.

The BECE process will take a holistic approach to reviewing the consumer protections regime that underpins the relationship between consumers and the energy market to assess whether reforms are needed to support consumers through the energy transition and beyond. The aim will be to identify existing, emerging and potential future challenges in consumer protection settings and develop reforms where required to ensure a smooth energy transition that

[138] AEMC, Assisting hardship customers; Improving consumer confidence in retail energy plans; improving application of concessions to bills; improving the ability to switch to a better offer
[139] DCCEEW, BECE

supports consumers and the realisation of the benefits of the transition. Reforms could include legislative changes, revisions to the rules and guidelines, as well as policy responses.

BECE's main focus will be the National Energy Customer Framework (NECF), given it is the primary national regulatory framework providing energy-specific protections to consumers. However, consideration will also be given to other related legislation, frameworks and policy settings including the Australian Consumer Law, state and territory-based legislation, and the New Energy Tech Consumer Code. The process aims to return an implementation plan in early 2027. DCCEEW is also scheduled to commence a review of the Competition and Consumer (Industry Code – Electricity Retail) regulations, which may consider whether the current settings for the DMO are correctly calibrated.[140]

The process will consider a range of issues related to consumers' access to energy, including but not limited to:

- new energy services
- addressing varying levels of protections for customers in different market settings
- assessing and improving, where required, various key protection measures to support consumers to navigate increased complexity and barriers to accessing the energy market.
- issues identified through previous review processes for further consideration and reform
- other issues identified through consultation.

The process will consider opportunities to create holistic solutions that reflect the evolving market and changing consumer needs and preferences. Consideration will also be given to the newly implemented National Energy Equity Framework to ensure reforms support equitable consumer outcomes.

Victoria is also reviewing its Energy Retail Code of Practice to address key actual or potential harms to Victorian consumers in a proportionate manner, clarify or update obligations identified as unclear or inconsistent, and further support consumers experiencing vulnerability.[141] This will be conducted in two stages.

Better Bills Guideline - AER

The Better Bills Guideline regulates how energy retailers must prepare and issue bills that will tell their customers whether they could be on a better offer, and how to switch. Noting that clear and simple energy bills can build consumer trust in their retailer and help them make more confident decisions in the energy market.

[140] Department of Industry, Science, Energy, and Resources, Review Outcomes: Post-implementation review of Competition and Consumer (Industry Code – Electricity Retail) Regulations 2019, Direction 5, p.8
[141] ESC, Energy Retail Code of Practice.

The AER is reviewing the Better Bills Guideline in early 2026, and will publish the final instrument in the fourth quarter 2026.

Review of payment difficulty protections in the National Energy Customer Framework (NECF) - AER

The AER is currently undertaking a review of the payment difficulty protections in the NECF and the review forms part of the AER's broader Towards energy equity — a strategy for an inclusive energy market.[142]

The review is considering the effectiveness of the current protections and seeks to identify opportunities to strengthen protections and improve outcomes for consumers experiencing payment difficulty. The AER is also considering whether changes to the NECF are required to ensure that consumers in hardship are proactively identified, engaged early and supported based on their individual circumstances.[143]

[142] AER, Towards energy equity strategy for an inclusive energy market, 20 October 2022.
[143] AER, Review of payment difficulty protections in the National Energy Customer Framework, 14 May 2024.

D. The current network tariff framework could potentially be improved

The current approach to designing network tariffs may have long-run benefits, but at a cost to consumers. Broadcasting long-run cost signals through network tariffs was a sensible decision when made in 2014, anchored as it was within the technological landscape at the time. But the sector, and its technology, have developed since then. The current network tariff framework may therefore not be optimally positioned for the future, as consumers continue to adopt new technologies that enhance opportunities to reduce network costs.

The world is changing, and the tariff design framework may not be fit for the future

Networks are currently required under the NER to set their tariffs based on the long-run marginal cost of providing the network service to customers, having regard to a set of factors that include location, additional costs at peak times, and the costs and benefits associated with calculating and applying the proposed method of cost estimation; see Appendix E.[144] Network tariffs are intended to be higher where increased demand is likely to lead to network congestion, and consequently more network expenditure at some point in the future.

These requirements for how tariffs are set, and the subsequent signals that they provide, are expected to reduce the need to build additional network assets over the long run. This is because these signals would encourage consumers to modify their behaviour such that demand in peak periods does not increase, or at least increases less quickly, over time. This was intended to lower overall network costs for consumers.[145] Alternatively, consumers continuing to use energy in those higher priced period sends a signal to networks that they value network capacity at those times, and this may justify augmenting the network.

At the time these tariff arrangements were established in 2014, it was thought that consumers would only meaningfully respond to network price signals through two mechanisms:

1. Longer-term investments. For example, consumers could install more efficient air-conditioning units, and doing so could lower peak demand and network expenditure in the long run
2. Manual behavioural changes re passive load. For example, running the air conditioning unit at a slighter higher temperature on hot days, or using the clothes drier at off-peak times.[146]

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[144] NER 6.18.5 (f).
[145] AER, State of the Energy Market 2014, p. 12.
[146] AEMC (2014) Rule Determination: National Electricity Amendment (Distribution Network Pricing Arrangements) Rule, p. 41.

This focus on the long-run costs arose from the context at the time, when there was very little – if any:

- dynamic consumer energy resources installed
- innovative retail products and services to encourage greater responsiveness
- ability for consumers to respond to price signals in real-time.

Additionally at that time, there was no substantial export of CER energy into the distribution networks. These two-way flows have since meant that peak demand is no longer the only significant cost driver for network investment, with increasing exports driving other costs such as voltage maintenance.

In today's world, consumers and their representatives have access to different technologies that provide the opportunity to respond to signals in ways that were previously not possible. The two mechanisms available to consumers to meaningfully respond to network price signals have expanded and evolved:

- Longer-term investments. Consumers can now not only install more efficient equipment, but they have access to a broad range of CER ranging from rooftop solar PV, batteries, EVs as well as smart energy home systems that can help to manage electricity consumption.
- Behavioral change: Behavioral changes can now be automated or respond to more sophisticated signals. The use of batteries can also result in changing behavioral patterns in relation to dynamic load.

Indeed, both mechanisms can be used in combination. For instance, consumers can respond to signals through how and when they charge and discharge batteries, when they consume energy from rooftop solar versus the grid, and through decisions on how other devices and appliances in the premise are used.

The current approach may be creating costs for consumers without necessarily delivering benefits

We discuss in Chapter 7 that there is a trade-off between:

- the future network cost savings that result from sending long-run pricing signals, and
- the costs these impose on customers, by discouraging cost-saving participation in the wholesale market and encouraging customers to forego electricity use at times when they would value it.

Therefore, we consider that there is reason to explore whether network tariffs should continue to be based on long-run marginal costs.

This approach:

- provides the same signal of long-run marginal cost to the whole network, even when those costs are different in different parts of the network

- by design, does not reflect that congestion to the network happens in real-time
- is difficult to estimate accurately, leading to signals that may be inaccurate and that therefore fail to encourage appropriate responses from retailers and customers.

Because the future is unknowable, long-run marginal cost price signals can also create a disconnect between people responding to them and the reduction of network costs. For example, imagine a set of consumers who have been responding to long-run pricing signals to reduce their peak demand in the expectation that this will defer a network investment in their part of the network in a decade's time. However, before that point, a new housing development emerges nearby, leading to a large augmentation of that part of the network. In this case, those consumers will have been reducing their peak demand in response to the pricing signal, but in reality, this will have no material impact on network costs due to the new development increasing demand and triggering network investment sooner than expected.

It is difficult for networks to implement the current network tariff framework in practice

There are criticisms about how the current tariff framework is working in practice. The current framework can deliver network tariffs that:

- may not accurately reflect long-run network costs
- are broadcast to users across the entirety of a network, even if the current and future usage constraints of that network's assets vary widely across locations and time.

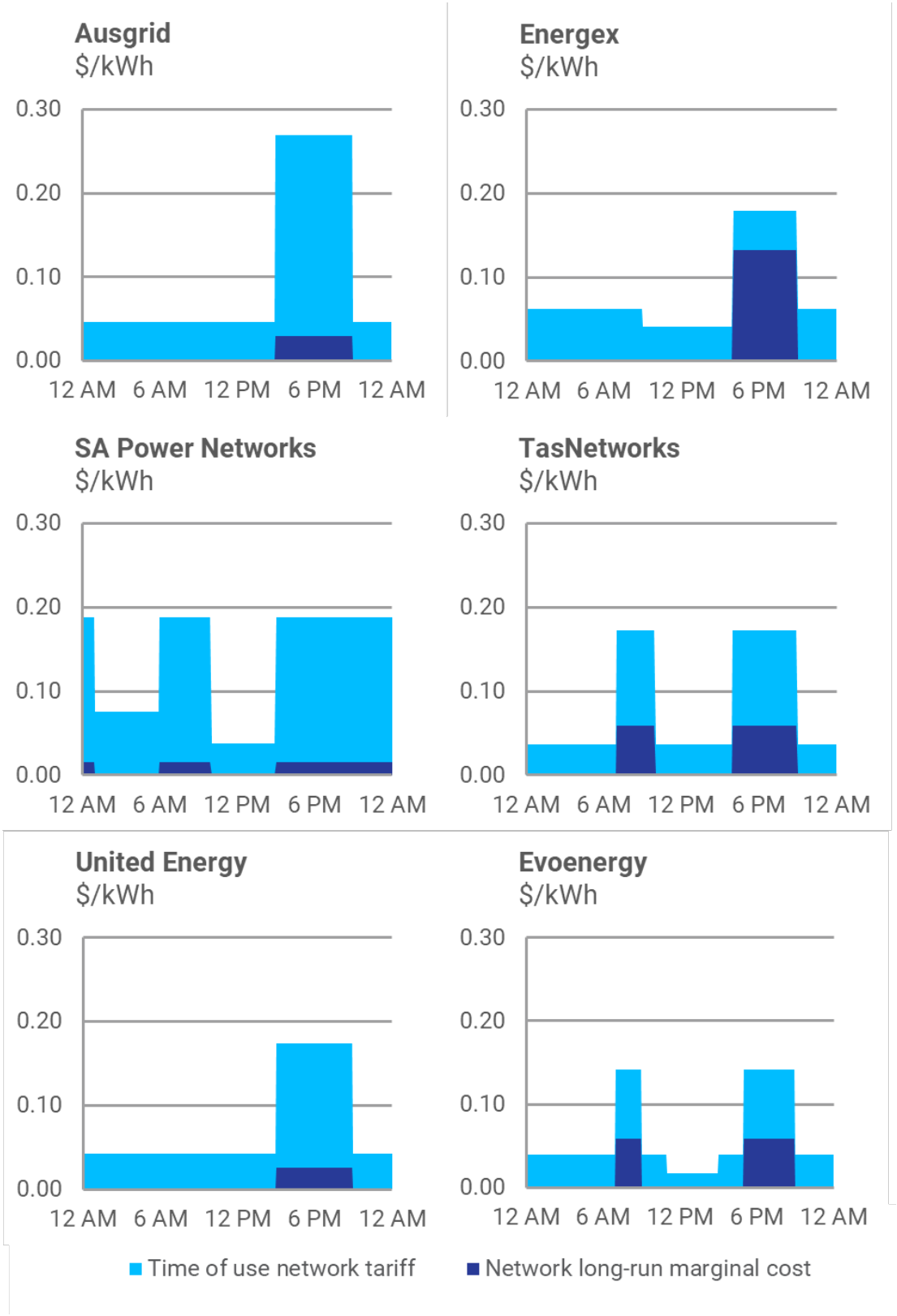
Network signals may not accurately reflect the long-run cost of using the network

Consumers on time-of-use and demand tariffs are receiving variable pricing signals that exceed the estimated long-run cost of incremental demand – that is the cost of supplying the next unit of consumption – in both the peak and off-peak periods. Our analysis of networks from across the NEM reveals that the residential time-of-use tariff does not match the networks' own estimates of the long-run cost of incremental demand.

The issue that arises when the network tariff price signal does not reflect costs is that consumers will respond by either using the network too little or too much. Ideally, the price consumers receive to use the network matches the cost of providing that service. In theory, this allows consumers to decide whether using the network at that time is worth the cost.

Figure 10 below applies the networks' estimates of long-run marginal cost and divides it across the hours of their peak demand periods. It shows that peak demand tariff signals are often significantly higher than the long-run marginal cost signal. This may be leading to consumers forgoing valuable uses of energy at those times.

Figure 10 Comparison of time of use peak pricing and long-run marginal cost estimates ($/kWh)



The setting of tariffs above the long-run marginal cost is purposeful. Appendix E explains how networks would not recover their required revenue if all tariffs only reflected future long-run costs. This is because networks need to recover for investments made in the past, and not just for those yet to be made in the future. The difference between what a network would recover if only charging for future costs and the total revenue they need to recover is called the 'residual cost'.

Some networks are explicit in their rationale to recover these residual costs from their peak charges.[147] This suggests that the variable prices, which are intended to reflect the incremental costs of using the network, are being distorted for other purposes, such as cost recovery. While some distortions will be necessary to recover residual costs, these are costly to consumers in terms of foregone consumption and lost opportunities. A key tariff design question is therefore how to minimise them.

We understand that the consumer impact principles restrict the rate at which networks increase fixed fees to ensure cost recovery.[148] This requires them to recuperate more revenue during peak periods.[149] This is because DNSPs must consider the impact of changing tariffs from one period to the next on retail consumers.[150]

We also observe that recovering residual costs by increasing the peak period pricing is not necessarily inconsistent with the current rules, so long as those tariffs are designed to minimize distortions to the efficient use of electricity.[151] As noted before, this may have been fit for purpose in the past but may become increasingly less so – as batteries and other CER can easily shift consumption in operational timeframes.

Long-run cost signals are broadcast to all network consumers, but only some parts of the network are close to experiencing a constraint. This comes at a cost.

Networks are moving towards allocating consumers in the same tariff classes[152] onto the same time-of-use tariffs, and occasionally the same demand tariffs.[153] These time-of-use tariffs will

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[147] For example, see Ausgrid (2019) Tariff Structure Statement, pp 68-69; and HoustonKemp (2017) How do electricity customers respond to price signals?, p. 20, available here: https://www.aer.gov.au/documents/ausgrid-1001-1014-pricing-structures-policies-april-2018.
[148] NER 6.18.5 (h) requires networks to consider the impact on consumers of tariff changes from one year to the next, including the extent to which consumers can mitigate the impact of that change through their own actions.
[149] NER 6.18.5 (h).
[150] NER 6.18.5 (g)(2)-(3).
[151] NER 6.18.5 (g).
[152] Tariff classes could, for example, include 'low voltage' (covering residential and small business consumers) and 'large high voltage' (covering larger commercial and industrial consumers).
[153] For example, see Endeavour Energy's approach to making a seasonal Time-of-use tariff the 'default assignment' for new and eventually existing residential and small business consumers: Endeavour Energy (2024) Pricing Proposal Summary, p. 7

'broadcast' the same peak periods and charges to all consumers across the network, even though not all parts of a network experience peaks at the same time or are equally close to requiring augmentation.

Our analysis shows that most parts of distribution networks are however not close to experiencing constraints.

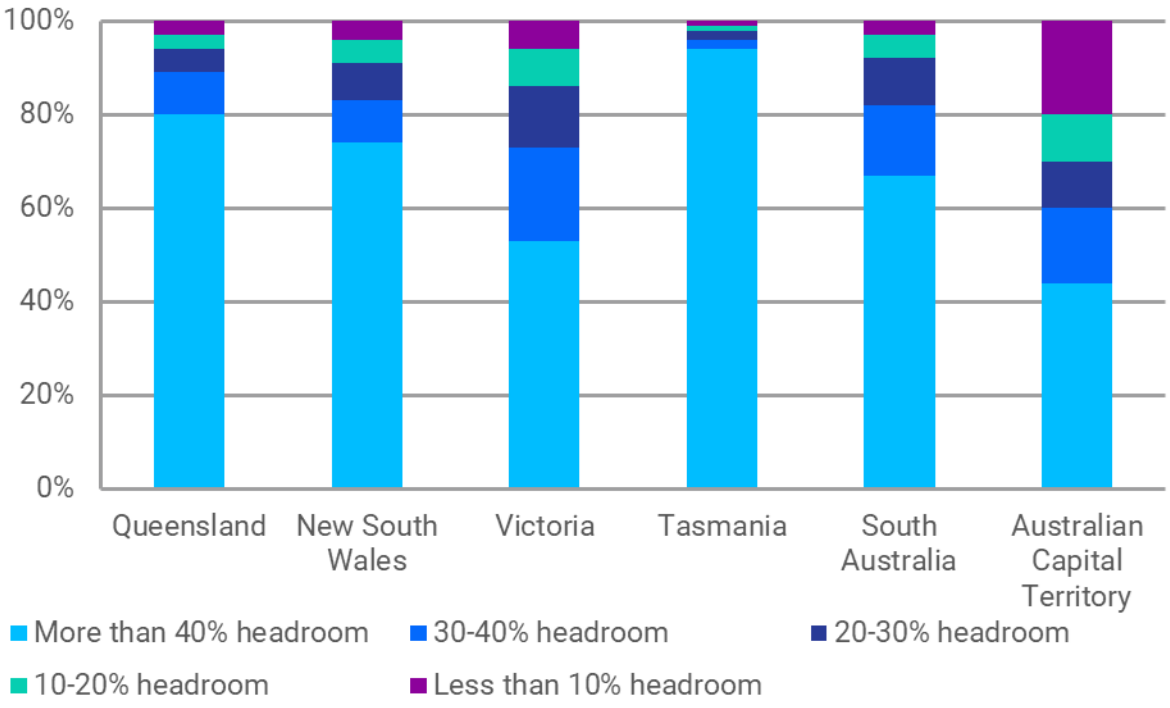
Figure 11 shows the average proportion of each region's distribution network zone substations whose maximum peak demand from 2013-2024 is within a certain percentage of the associated zone substation's rated capacity.[154] This indicates how much of a network still has 'headroom' capacity above that peak.

Network for whom a greater proportion of their assets have a greater level of headroom are less likely to need to augment in response to peak demand growth. This could be, for example, assets with at least 40 per cent headroom. Conversely, networks with a larger share of the network with lower levels of headroom – for example, 10 per cent or less – are more likely to need to augment in response to peak demand growth. Notably, peak demand is measured as the highest few hours of usage per year, so for much of the rest of the time, headroom will be higher than indicated in these charts.

Using Queensland as an example, the figure shows that over 75 per cent of Queensland distribution zone substations have at least 40 per cent more capacity than the peak demand for those assets. From this we can conclude that most of the network – and by inference most consumers – are not at risk of experiencing network congestion in the short-run. Consumers in areas with lots of headroom still face the cost of responding to signals broadcast to the whole network even though their actions may only produce benefits in the distant future.

[154] In regions with multiple networks, we have taken the non-weighted average.

Figure 11 Network zone substations in NEM regions with various levels of headroom (spare capacity)[155]



[155] Data derived from networks' annual reporting regulatory information notices to the AER. The data for 2013-14 for the Queensland networks was not available.

E. The regulatory framework sets out how network tariffs operate

The AER determines the revenue of each network business for a five-year period, every five years. For a given network, the AER determines the revenue based on the efficient costs of operating and investing in the network infrastructure required to provide network services to consumers. Where a network over- or under-recovers in one year, the revenue requirement varies in the next to ensure they recover only the determined revenue.

Like almost all businesses, networks generate most of this revenue by charging prices to their customers. Network prices are called tariffs.

The Rules create a two-phase network tariff determination process

In the 2014 *Distribution Network Pricing Arrangements* rule change, we introduced a two-phase network tariff determination process:[156]

Phase 1. The tariff structure statement process. This was introduced as part of the five-year determination process. In this step, networks propose, and the AER approves, network tariff designs and customers will be able to choose those tariffs.

Phase 2. The annual pricing determination process. This was retained as part of the 2014 rule change. Networks propose and the AER approves network tariff price levels.

This two-step process is designed to facilitate stakeholder consultation. The tariff structure statement was introduced as part of our 2014 distribution network pricing arrangements rule change, with the first tariff structure statements determined in 2017. Before our 2014 rule change, distribution businesses proposed tariffs on 1 May for AER approval by 1 June, typically with no stakeholder consultation. The NER pricing objective and principles apply to both Phase 1 and Phase 2.

The Rules allow networks to recover most revenue with network tariffs

Network tariffs exist to allow network businesses to recover the bulk of the AER-determined revenue requirement. The NER pricing principles create a four-step process for designing network tariffs, grounded in economic theory.

This approach was introduced by our 2014 Distribution Network Pricing Arrangements rule change.

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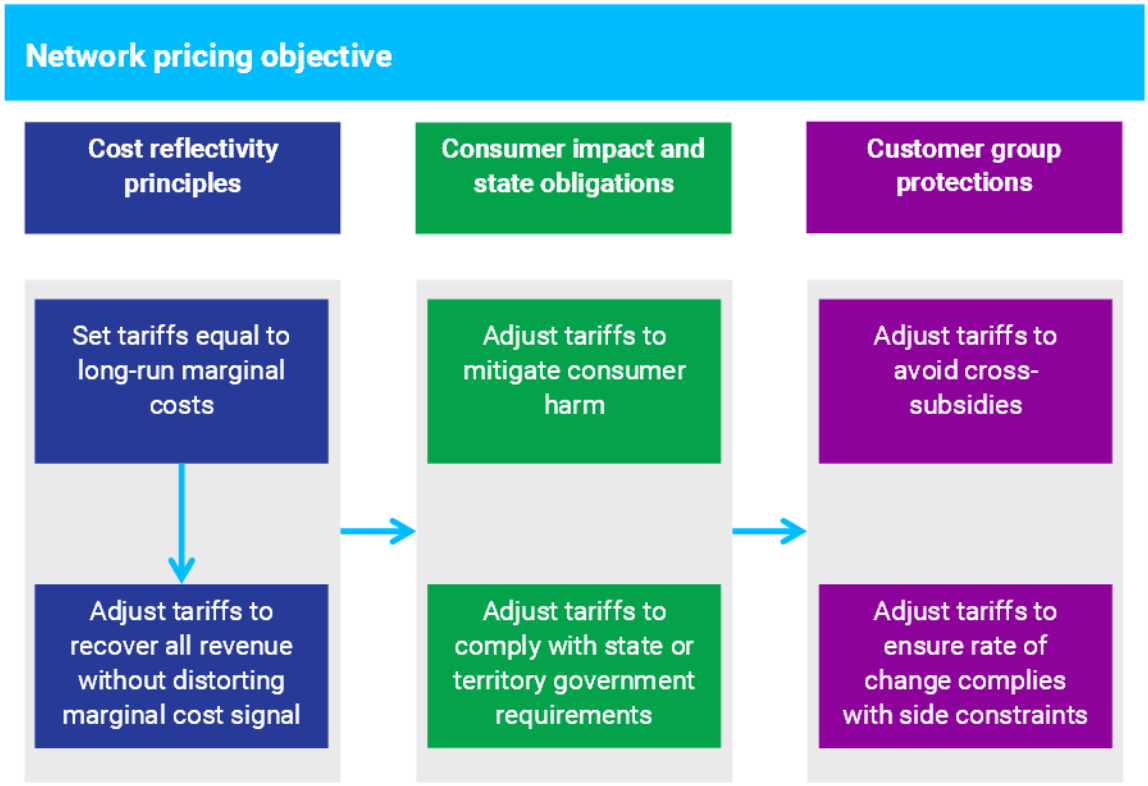
[156] AEMC (2014) Distribution Network Pricing Arrangements, Rule Determination.

Figure 12 Operation of the pricing objective and pricing principles[157]



Step one: Pricing must be based on marginal cost

A marginal cost is the incremental cost of an additional unit of supply,[158] in electricity networks the costs of transporting an additional kilowatt-hour to (or from) a customer. The NER current requires that prices are set based on the long-run marginal cost, varied by time and location where appropriate.[159] In many locations, and most of the time, the marginal cost of transporting an additional kilowatt-hour to or from a customer is zero.

Marginal cost pricing facilitates communication between networks and customers. Good network tariffs share, through the retailer, the cost of transporting more electricity. This helps inform customers when and where the costs of transporting more electricity are high and low. Customer and retailer responses help inform the network when and where customers want

[157] Adapted from AEMC (2014) Distribution Network Pricing Arrangements, Rule Determination, p 25.
[158] Harold Hotelling, *The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates,* Econometrica July 1938, Vol. 6, No. 3, pp 255-256.
[159] NER 6.18.5(f).

more or less network.[160] Economic theory states that marginal cost pricing is the best way to create an efficient allocation, and size, of network.[161]

Step two: Recover any residual costs while maintaining marginal cost responses

Electricity networks are natural monopolies with strong economies of scale. This means that the marginal cost is normally less than the average cost. A network's total revenue is determined by the price of its service multiplied by the quantity of that service it sells. If an electricity network only charges its marginal cost, it will not recover enough revenue to continue to operate and invest in the network.[162]

This creates residual costs – the shortfall of revenue remaining after a business has charged marginal costs to customers. The NER requires that network tariffs recover this revenue in a way that keeps customer and retailer decisions, behaviour, and responses as close as possible to only charging the marginal cost.[163] This allows the recovery of all revenue while maintaining efficient allocation of network use.[164]

Step three: Adjust tariffs for customer impact and jurisdictional requirements

The third step allows networks to adjust their maximally efficient tariffs for three reasons:

1. The impact of the changes to the tariff on retail customers would be too sudden, without the ability for retailers or customers to avoid or mitigate the impacts of the tariff.[165]
2. Consumers are unable to understand, or retailers and aggregators are unable to package the tariff into a retail offer customers can understand.[166]
3. The state or territory government requires specific factors in network tariff design.[167]

Before 2021, the NER required networks to design tariffs that consumers could understand. Since our access, pricing, and incentive arrangements for distributed energy resources rule

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[160] Where the marginal cost signal is spread across the wider customer base, and not exclusively where there are marginal costs at the time, the signals are often insufficient for those facing congestion to make efficient decisions impacted and inefficient impact decisions of customers not facing congestion.
[161] This is known in economics as economic efficiency or allocative efficiency.
[162] Economics source on regulatory contract
[163] NER 6.18.5(g)(3).
[164] Ronald Coase, *The Marginal Cost Controversy,* Economica August 1946, New Series, Vol. 13, No. 51, pp 169-182; William Baumol and David Bradford, *Optimal Departures From Marginal Cost Pricing,* The American Economic Review, June 1970, Vol. 60, No. 3, pp 265-283; Frank Ramsey, *A Contribution to the Theory of Taxation*, The Economic Journal, March 1927, Vol. 37, No. 145, pp 47-61; Marcel Boiteux, *Le 'revenue distribuable' et les pertes économiques,* Econometrica, April 1951, Vol 19, No. 2, pp 112-133.
[165] NER 6.18.5(h)
[166] NER 6.18.5(i)
[167] NER 6.18.5(j)

change, networks have been allowed to design tariffs for retailers and/or aggregators to incorporate into a retail offer.[168]

Step four: Adjust to remove cross-subsidies and comply with side constraints

The final step in the network tariff design process is to ensure that the resulting tariffs from the first three steps generate revenues for tariff classes (groups of relatively similar customers, for example low voltage customers) that:

- do not create cross-subsidies between different types of customers.[169, 170]
- complies with the side-constraints. Side-constraints are a limitation on the rate of redistribution of cost recovery between different types of customers.[171]

[168] AEMC (2021) Access, pricing and incentive arrangements for distributed energy resources, Rule Determination.
[169] Gerald Faulhaber, *Cross-Subsidization: Pricing in Public Enterprises,* American Economic Review, December, 1975, Vol. 65, No. 5, pp 967-969.
[170] NER 6.18.5(e)
[171] NER 6.18.6

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About the AEMC

The Australian Energy Market Commission (AEMC) is an independent statutory body that works for Australia's future productivity and living standards by contributing to a decarbonising, affordable and reliable energy system for consumers.

We listen, make practical rule changes and provide expert advice in a rapidly changing world. We lead, collaborate, adapt and influence in making and amending rules for the National Electricity Market, elements of the natural gas market and related retail markets; and providing strategic and operational advice on energy issues to the Energy and Climate Change Ministerial Council.

The National Electricity, Gas and Retail Rules made by the AEMC have the force of law and under the National Energy Laws, all of the AEMC's work is guided by the legislated national energy objectives.

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