AUSTRALIAN ENERGY MARKET COMMISSION

REVIEW

Consultation paper

The pricing review: Electricity pricing for a consumer-driven future

07 November 2024

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About the AEMC

The AEMC reports to the energy ministers. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the energy ministers.

Acknowledgement of Country

The AEMC acknowledges and shows respect for the traditional custodians of the many different lands across Australia on which we all live and work. We pay respect to all Elders past and present and the continuing connection of Aboriginal and Torres Strait Islander peoples to Country. The AEMC office is located on the land traditionally owned by the Gadigal people of the Eora nation.

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Executive Summary

1 On 25 July 2024, the Australian Energy Market Commission (AEMC or Commission) self-initiated this broad, forward-looking review (the review) to consider future electricity products and services (offerings), and the prices that consumers pay for these.[1] The review will consider 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) necessary for the energy transition.

2 In the context of this review, electricity pricing refers to network and retail tariffs, how these interact, and how they can operate together to facilitate the design and offering of electricity products and services for consumers.

3 Electricity network and retail tariffs play an important role in supporting an efficient electricity delivery system, which keeps costs down for customers, by:

- signalling investment in the right things at the right time
- facilitating efficient and effective intergration of CER
- supporting consumers in sharing the benefits of an efficient system.

4 Under the final Terms of Reference published on 7 November 2024 alongside this Consultation Paper, our key areas of focus for this review are:

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

5 This Consultation Paper outlines our proposed approach for delivering this review. We are seeking submissions to the Consultation Paper by **12 December 2024**.

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

6 Millions of Australian households and businesses are embracing CER, from solar panels, to batteries, home and business energy management systems and electric vehicles. Alongside CER, distributed energy resources (DER), such as neighbourhood batteries and Virtual Power Plants (VPPs) are a growing part of the power system.

7 Widespread government commitments to achieve net zero emissions by 2050 are further accelerating changes to the power system, and CER and DER are required to play a critically important and significantly larger role in Australia's energy transformation.[2]

8 Our energy system is being transformed by these developments. But it's not just CER and DER that are driving the change. Broader technological developments are opening up new ways of supplying electricity services, and understanding, valuing, and pricing the different parts of the electricity supply chain.

1 The AEMC initiated the review on 25 July 2024 under section 45 of the NEL and section 232 of NERL

2 AEMO's 2024 Integrated System Plan (ISP) notes that if a level of coordination of CER is not achieved, an additional $4.1 billion in grid-scale investment would be needed, increasing the costs that are reflected in consumer bills

9 For instance, more and better data enables new ways of pricing consumers' use of electricity networks, including rewarding consumers for supporting the grid. Similarly, technological changes are enabling electricity retailers and service providers to offer new types of products and services that help customers better manage their energy use and save money on bills.

10 As with any new technology, there are risks and opportunities. If we can harness these technologies for customers' benefit, we can:

1. reduce overall system costs
2. improve reliability
3. deliver a more secure, low-emission energy supply for all consumers, including those without CER.

11 The research tells us that integrating CER effectively could deliver net benefits of $6.3 billion by 2040.[3]

Getting electricity pricing right will be critical to capitalising on future opportunities and delivering good outcomes for all consumers

12 The current arrangements governing electricity pricing were primarily conceived at a time when electricity flowed in one direction, and consumers' energy use was largely inflexible. This is already being challenged by the scale of CER adoption, which is driving multi-directional flows of energy and enabling increasingly flexible energy use by customers.

13 There are also signs of a disconnect in the way prices are communicated to customers. Under the existing arrangements, network pricing is subject to economic regulation, while retail prices are determined largely by market competition, with more limited regulation in place. Customers' bills comprise both network and retail components, though these components are not necessarily designed with the same objective in mind.

14 With the pace and scale of change occurring, it is not clear that these legacy arrangements will have the right essential features to serve the consumers of the future.

15 It is therefore important that we re-examine these arrangements to ensure that they enable the types of offerings customers may want and need in the future. This also presents the opportunity to more comprehensively consider the interaction between network and retail pricing to better recognise the customer's perspective.

To successfully deliver on the ambition of this review, we must take a future-focused approach

16 We consider that this review should adopt a future-focused approach. A methodology that seeks to optimise the current frameworks at the margin, and to patch existing issues, risks missing the big opportunities that the future presents.

17 Instead, we must continue to challenge our thinking to avoid being constrained by the way things are done now. We invite you to do the same in working with us on this review.

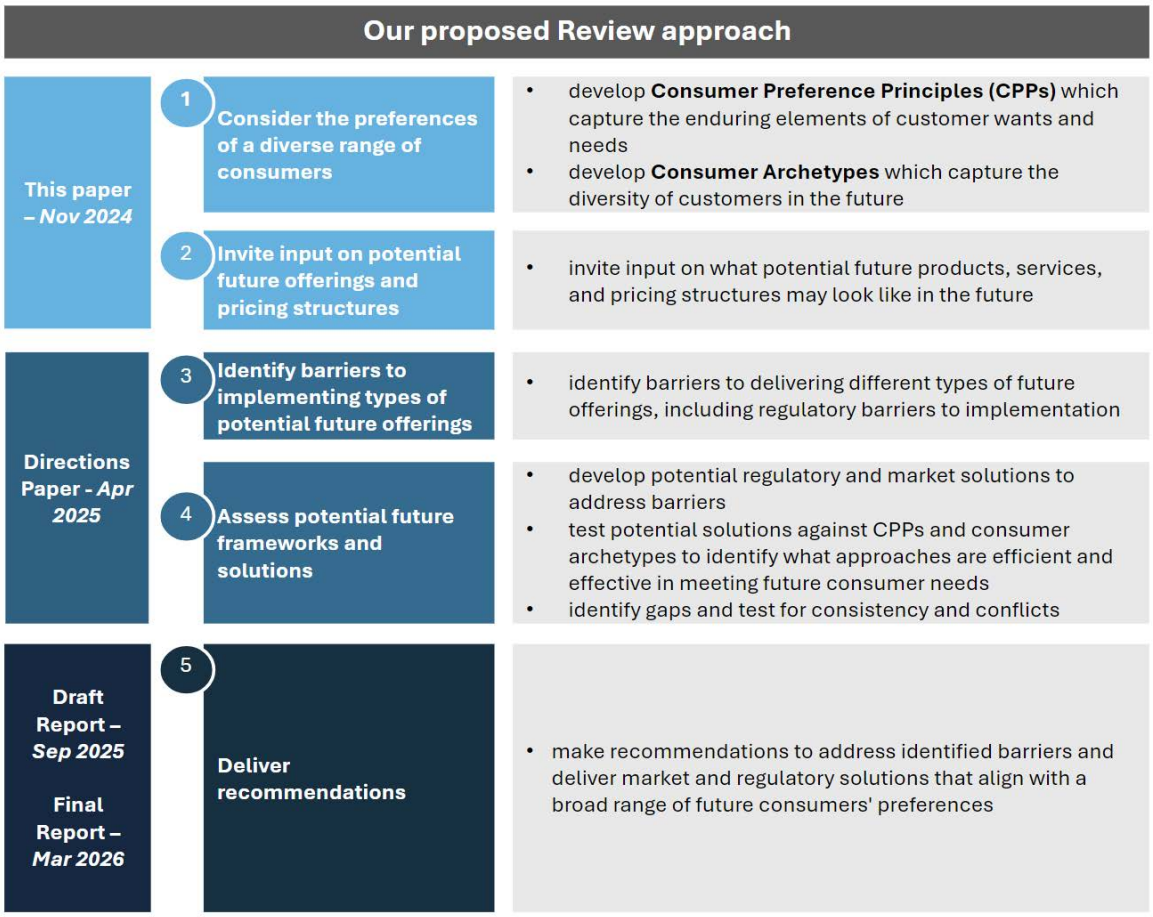
18 The methodology we have proposed in this paper would first contemplate the future consumer experience, and then solve for the market and regulatory arrangements that can deliver it.

19 We will anchor this future-focused work in the consumer experience. This means that our

3 ARENA and NERA Economic Consulting, 2022

recommendations can meet the needs and preferences of a diverse range of consumers, now and in the future.

Figure 1: Our proposed Review approach



Source: AEMC

Stakeholder input will be critical in informing our approach

20 Stakeholder input will be a critical component of delivering on the ambitious intent of this review. The purpose of this Consultation Paper is to seek stakeholder feedback across three key areas:

We are seeking stakeholder feedback on our proposed approach

21 This Consultation Paper outlines and seeks feedback on our proposed approach to considering the future in this review, as detailed in Figure 1 above.

22 It also outlines and seeks feedback on our proposed Consumer Preference Principles (CPPs) and Consumer Archetypes. These will be important tools in assessing whether the solutions we put forward best serve a diverse range of future consumers.

- **Consumer Preference Principles (CPPs)** capture the enduring elements of customer wants and needs:
  - **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
- **Appropriate protections** – customers want to be protected against adverse product and service outcomes

- **Consumer Archetypes** capture the diversity of customers in the future:
  - **'Not to be left behind'** – low resources and interest to engage
  - **'Behind barriers'** – low resources, high interest to engage
  - **'Full of potential'** – high resources, low interest to engage
  - **'Embracers'** – high resources and interest to engage

We are seeking stakeholder input on what services, products, and pricing structures may look like in the future

23 This Consultation Paper outlines how the consumer energy system may look very different in the future relative to today, and we are seeking your input in envisioning what services, products, and pricing structures may look like in the future.

We will continue to engage with stakeholders as we progress to a Directions Paper

24 Following this Consultation Paper, the next step in the process is a Directions Paper, which we are scheduled to publish in April 2025. This Directions Paper will build on feedback to the Consultation Paper by:

- considering different types of potential future offerings
- identifying the barriers to implementing these
- developing and assessing potential solutions to address the barriers and seize the opportunities the future presents.

25 In addition to seeking feedback through submissions to the Consultation Paper, we have established two forums to assist us in driving outcomes and ensure we 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. This will include stakeholders with a commercial interest in the matters this review will consider, stakeholders that represent the lived experience of consumers, stakeholders involved in developing innovative new ideas, and others

Full list of consultation questions

Question 1: Do you consider that we should make any changes to our proposed approach to this review?

Question 2: What are your views on our proposed Consumer Preference Principles?

- Are you aware of additional existing research that could help us refine the CPPs?
- How might the CPPs help us in assessing whether our decisions will lead to good consumer outcomes?

Question 3: What are your views on our proposed Consumer Archetypes?

For the purposes of this review:

- Do the Consumer Archetypes capture the diversity of future energy consumers?
- Do you agree that engagement is the primary axis of differentiation among electricity customers?

Question 4: We want stakeholders to help us imagine the widest range of possible future products, services, and pricing structures. How might they look in the future? For example, you might consider:

- How have products and services evolved in similar markets that were disrupted by new technologies, for example, in telecommunications and point-to-point transport?
- What new innovations are we starting to see in current offerings?
- What electricity products and services are available internationally that aren't available here?
- Which technological trends may impact the electricity market, beyond those already discussed in this paper?
- What types of pricing structures might align well with the proposed Consumer Preference Principles?

Question 5: How could electricity products, services, and pricing structures be presented to serve future consumers?

Question 6: How could consumer protections be balanced to enable further innovation in a future retail electricity market?

Question 7: What barriers will need to be addressed to deliver future consumers a meaningful and beneficial range of products, services, and pricing structures? How might we consider addressing those barriers?

- Consider the changes that are happening in the system now - what barriers might either endure or emerge post 2035?

Question 8: What should network tariffs look like in the future?

- What are the key choices and trade-offs we should consider when answering this question?

Question 9: How should the role of energy supply businesses evolve to meet customer and energy system needs in the future?

Question 10: What changes might be required in the future to the interfaces between different energy supply businesses?

Question 11: Do you have any feedback on our proposed assessment criteria?

How to make a submission

We encourage you to make a submission

Stakeholders can help shape the recommendations by participating in the review process. Engaging with stakeholders helps us understand the potential impacts of our recommendations and, in so doing, contributes to well-informed, high quality review recommendations.

We have included questions in each chapter to guide feedback, and the full list of questions is above. However, you are welcome to provide feedback on any additional matters that may assist the Commission in making its decision.

How to make a written submission

Due date: Written submissions responding to this consultation paper must be lodged with the Commission by 12 December 2024.

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.[4]

You may, but are not required to, use the stakeholder submission form published with this consultation paper.

Tips for making submissions are available on our website.[5]

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]

4 If you are not able to lodge a submission online, please contact us and we will provide instructions for alternative methods to lodge the submission.

5 See: https://www.aemc.gov.au/our-work/changing-energy-rules-unique-process/making-rule-change-request/our-work-3

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

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1 About This Paper

1.1 We have initiated a review to look at how electricity pricing can better meet future consumer needs

On 25 July 2024, the Australian Energy Market Commission (AEMC or Commission) self-initiated a broad, forward-looking review to consider future electricity pricing. Electricity pricing refers to network and retail tariffs, how these interact, and how they can operate together to facilitate the design and offering of electricity products and services for customers.

This review recognises the important role that electricity pricing will play in enabling offerings that support the diverse needs of customers, including delivering the consumer energy resources (CER) necessary for the energy transition.

The Commission released draft Review Terms of Reference (ToR) for feedback on 25 July 2024. We held a public forum and invited written submissions. This feedback has informed our final ToR for the review, published on 7 November 2024 alongside this paper. We thank stakeholders for their valuable contributions in helping shape this review.

1.2 The review will be broad, ambitious, and future-focused

The review will have three key focus areas:

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

The final ToR has been published along with this Consultation Paper, and is available on the project page of the AEMC website.

1.3 This review is part of a broader set of reforms

Market bodies are driving a series of interrelated reforms that aim to integrate CER and Distributed Energy Resources (DER) and realise their full potential. The Energy Security Board's (ESB) *Consumer Energy Resources and the Transformation of the NEM* report sets out key elements of the work plan.

A CER Taskforce convened by Energy Ministers has developed and published an implementation plan in the form of a *CER Roadmap*[7] that defines and will help to drive the CER integration actions needed. The AEMC is a member of this Taskforce.

1.4 The purpose of this paper is to seek stakeholder feedback on our proposed approach for the review

The purpose of this Consultation Paper is to:

- detail our intended approach for the review
- describe our outlook on what the future energy system could look like

7 *Energy and Climate Change Ministerial Council (2024) National Consumer Energy Resources Roadmap – Powering Decarbonised Homes and Communities: www.energy.gov.au/sites/default/files/2024-07/national-consumer-energy-resources-roadmap.pdf*

- seek stakeholder feedback on what we have detailed and described.

In addition to this Consultation Paper, there will be many opportunities for stakeholder engagement throughout the Review process, including through providing feedback on our Directions Paper (to be published April 2025), and feedback on our Draft Report (to be published September 2025).

We will also continue to engage with stakeholders between project stages, including through two new consultative forums:

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

1.5 We encourage you to make a submission

We welcome feedback on this consultation paper. Submissions are open until Thursday 12 December 2024.

We will hold a public forum on this Consultation Paper. Once the details of the forum have been confirmed, registration details will be available on the AEMC project page. We will also circulate registration information via our newsletter, to which you can subscribe here https://www.aemc.gov.au/contact-us/subscribe.

Feedback received through submissions and the public forum will inform our Directions Paper. The Directions Paper will consider the future products, services, and associated pricing structures that consumers will need, and identify barriers and solutions to delivering these.

2 Work is needed to support the interests of electricity consumers now and into the future

Box 1: Chapter summary

Australia's energy market is at the forefront of global innovation, and rapidly evolving with the growing uptake of CER and broader technological changes. Whilst the research tells us that the potential scale of opportunity is significant, it is important that we have the right regulatory and market settings in place to capitalise on these changes. This review will play an important role in seizing this opportunity, so that consumers benefit both now and into the future.

This chapter outlines:

- how our energy system is evolving due to the rapid uptake of CER and broader technological developments
- the scale of potential benefits to be realised from effectively capitalising on these changes
- the important role that getting future pricing arrangements right will play in seizing this opportunity.

2.1 Consumers adoption of CER is an important, growing and evolving part of the energy system

The way that electricity is produced and delivered is changing. These changes are in part driven by the rapid uptake of CER. Millions of Australian households and businesses are embracing CER, from solar panels, to batteries, home and business energy management systems, and electric vehicles.

Around one in four Australian homes have solar panels, with one in two expected by 2040. Nearly 3.19 million total solar rooftop PV systems have been installed for residential and small business customers in Australia and more than 50,000 small-scale battery systems have been installed in the past seven years.

There is also predicted to be a surge in electric vehicles with Australians expected to take up around 22 million by 2050.

People are also using CER in the form of 'smart devices' such as hot water systems at home or at work and controlling or programming their use to manage energy consumption through behaviours, timers and dedicated apps.

Alongside CER, 'distributed energy resources' (DER), such as neighbourhood batteries and Virtual Power Plants (VPPs), are a growing part of the power system.

2.2 Technology changes are opening up new energy opportunities for consumers

Technological development has made this reality possible, though innovation is of course not confined to CER. Other technologies such as smart meters, Internet of Things (IoT) and AI have increased the volume and granularity of data available on how electricity is produced and delivered to customers, and how customers then use it.

This has broadened the landscape of possibilities in energy, and not just in the home or business. Electricity retailers and service providers are developing new approaches to doing things that rely on these technologies. This includes new product and service offerings to help customers better manage their energy use and save money on bills.

Technology is also opening up new ways of pricing the different parts of the electricity supply chain. More and better data on networks enables new ways of charging consumers for their use of the grid, plus new ways of rewarding consumers for supporting the grid in times of need.

2.3 We know that the benefits of getting it right are significant

As with any new technology, there are risks and opportunities, but if we are able to integrate new CER and DER resources well, the power system will operate more smoothly, and consumers and industry will enjoy the benefits of more cost-efficient and reliable energy.

This is supported by the research, which tells us that integrating CER effectively could deliver net benefits of $6.3 billion by 2040.[8] Conversely, failing to effectively coordinate CER could increase costs, with AEMO's 2024 Integrated System Plan (ISP) noting that if a level of coordination of CER is not achieved, an additional $4.1 billion in grid-scale investment would be needed. If incurred, such costs would ultimately be borne by consumers.

2.4 Getting pricing arrangements right will be crucial in seizing this opportunity

Successfully integrating CER to maximise the benefits starts with serving all energy consumers well. The products and services offered, and their prices, must ensure a diverse set of consumers has the opportunity to save money on bills by:

1. continuing to use their CER assets for their own private benefit
2. having the opportunity and incentive to:
    a. adjust their energy use
    b. make their CER assets available in ways that benefit themselves or other energy consumers
    c. contribute to reducing emissions
3. benefiting from efficient and effective integration of CER, whether they own such assets or not.

Meeting this challenge will require that both consumers who do and do not own CER are provided with clear information, meaningful choices and incentives, and appropriate protections. We must better understand and respond to the reasons consumers may not want to make their assets available, even when the rewards from doing so may benefit them directly, and the broader community.

Ensuring that we have enabling network and retail pricing arrangements in place will form a key part of delivering the right solutions. Under current arrangements, network pricing is subject to economic regulation, while retail prices are determined largely by market competition, with more limited regulation in place. Customers' bills comprise both network and retail components, though these components are not necessarily designed with the same objective in mind. This review presents the opportunity to more comprehensively consider the interaction between network and retail pricing to better recognise the customer's perspective.

8 ARENA and NERA Economic Consulting, 2022

3 We will take a future-focused approach in this review

Box 2: Chapter summary

The pace and scale of change in the sector require a future-oriented approach to this review. A focus on solving discrete problems with the existing regulatory approach will not deliver holistic solutions for future energy consumers. Such an approach risks delivering piecemeal, uncoordinated reforms that could miss the big opportunities that the future presents.

Instead, we need to consider the big picture, and take a 'future first' approach to delivering our work. To deliver a coordinated set of recommendations, we need to contemplate the future consumer experience, and then solve for the market and regulatory arrangements that can deliver it.

This chapter outlines and seeks feedback on:

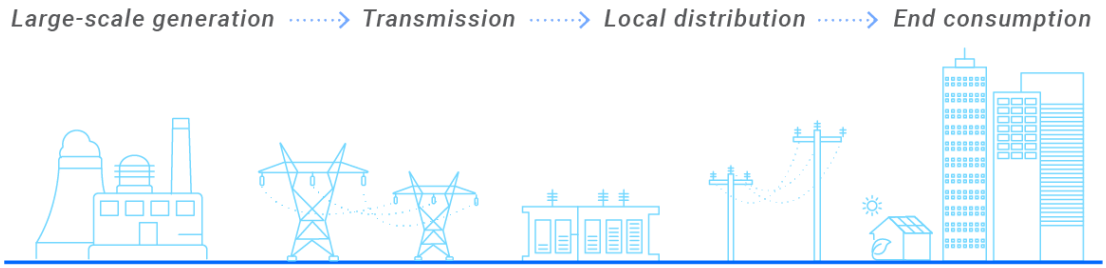
- the current role that network and retail businesses play in meeting consumers' electricity needs
- how the consumer energy experience will look very different in the future compared to today
- our proposed approach to considering the future in this review
- our proposed approach to putting the future consumer at the centre of our work, including:
  - our proposed **Consumer Preference Principles (CPPs)**, which seek to capture the enduring elements of customer wants and needs
  - our proposed **Consumer Archetypes**, which seek to capture the diversity of customers in the future.

3.1 Networks and retailers each play a role in meetings consumers' electricity needs

3.1.1 Current network and retail arrangements were established to support a one-way flow of energy

The current arrangements for electricity network and retail pricing were conceived at a time when energy flowed in one direction, the boundaries between networks, generation, and retail were clearer, and consumers' energy use was inflexible.

Figure 3.1: The legacy electricity system



Source: Race for 2030, Department of Industry, Science and Resources, August 2024
Note: Figure adjusted by AEMC

3.1.2 Under current arrangements distributors are responsible for transporting electricity to consumers

Box 3: What is the role of the distribution network?

Distribution network service providers (DNSPs) build the poles and wires that transport electricity to consumers. They are responsible for designing, investing in, and safely and reliably operating these electricity networks.

Like any business, DNSPs collect revenue, but unlike most businesses, DNSPs' revenue is regulated. It is based on the costs the DNSP faces in providing services, repaying past investment, and performance against incentives.

DNSPs collect revenue from consumers by charging network tariffs to retailers (and in rare cases directly to large consumers). DNSPs also recoup the cost of transmission network and government energy program fees through their tariffs.

Consumers are assigned a tariff by the DNSP. This is typically based on a customer's meter type and premise.

For residential consumers, this tariff will be charged to their retailer who is responsible for packaging it into an overall retail offering, and where the price may or may not reflect the characteristics of the network tariff.

Consumer network tariffs are set by DNSPs in a two-stage regulatory process. The first stage covers a DNSP's network pricing policies and is referred to as the tariff structure statement (TSS). The TSS is developed through significant stakeholder engagement and needs to be approved by the Australian Energy Regulator (AER). The second stage is an annual pricing determination where DNSPs seek approval from the AER for specific price levels.

These regulatory processes overseen by the AER act as important consumer protections. Because electricity networks are natural monopolies that traditionally have faced no competitive pressures, they have opportunities and incentives to charge higher prices than they could charge in a competitive market. This environment poses risks to consumers. To counter these risks, the role of the AER as the economic regulator is to replicate the incentives that network service providers would face in a competitive market (that is, to control costs, invest efficiently and not overcharge consumers), in the long-term interests of consumers.

3.1.3 Under current arrangements retailers are responsible for selling electricity to consumers

Box 4: What is the role of the retailer?

Energy retailers buy electricity in the wholesale market and sell it to customers. They also buy constituent energy components – ancillary services, renewable energy certificates, and network access - on behalf of consumers.

Retailers advertise and compete to win customers by offering various contract options and tariff plans to consumers. This may include competition based on the price and suitability of an offering, and could also include innovative plans, and incentives like bundling of non-electricity services, discounts, or rewards to attract customers.

Retailers are responsible for metering electricity use (noting they typically engage Metering Parties to deliver these obligations) and issuing bills to customers. They manage billing processes, invoicing, and payment collection, and so compete to improve these services and deliver them efficiently. Retailers are also responsible for managing customer accounts, customer services such as addressing inquiries and complaints, and customer credit and hardship matters.

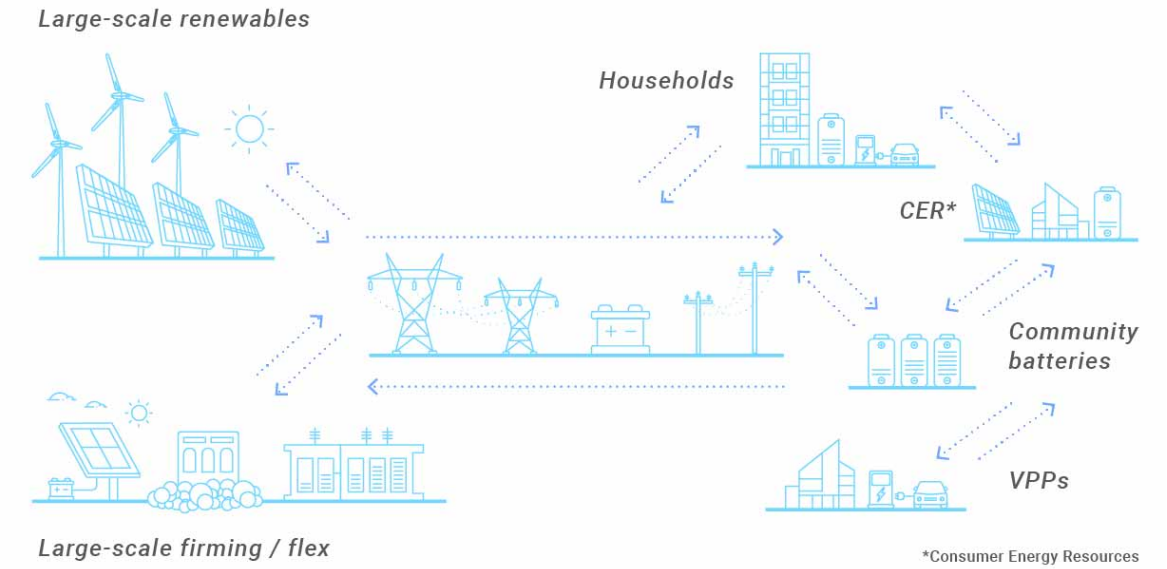
Finally, retailers measure and manage financial risk, including market and credit risks. This typically involves hedging in the wholesale market.

In doing all of this, retailers must comply with a range of regulatory requirements that are designed to protect customers. Protections include the National Energy Customer Framework (NECF), the retailer authorisation process, and the Default Market Offer (DMO). The AER undertakes compliance and enforcement in retail energy markets, to ensure that retailers meet their obligations as set out in the NECF. The AER is also responsible for setting the DMO.

3.2 The future consumer energy experience could be very different to today's

As outlined in chapter 2, the growing uptake of CER and DER as well as broader technological changes mean that the future energy system and consumer experience may look very different in the future.

Figure 3.2: The future energy system



Source: Race for 2030, Department of Industry, Science and Resources, August 2024
Note: Figure adjusted by AEMC

3.2.1 Whilst some elements of the future are unknown, others are more or less certain

In the context of an evolving energy system characterised by multi-directional flows of energy, the current arrangements governing network and retail pricing may not deliver the best future for consumers.

As we navigate this evolving system, there are some certainties and some unknowns. This presents design challenges for market bodies such as the AEMC, and for policy makers in general.

While we will never know exactly what the future may offer, we do know that whilst energy systems are becoming more distributed, the need for a grid – that is, for transmission and distribution networks – will not go away. This means that network costs will continue to form part of the cost of bringing electricity to consumers, and part of our task in this review is therefore to look at what could be more optimal the arrangements governing distribution network cost recovery, to support efficient outcomes for the benefit of all consumers.

We also know that consumers' experience of the energy system, and the ways they use energy, will be different compared to today. Contemplating this future can help us to identify other areas where action may be needed in this review.

We have developed the below vignettes depicting a range of hypothetical future consumer experiences and energy offerings. These are provided to help stakeholders imagine how different the future may look compared to today and to inform consideration of potential offerings and pricing structures that could serve consumers in the future.

Box 5: Possible future consumer energy experience - 1

Joel is a high-income earner in his early 30s. He lives alone in a studio apartment, surrounded by other professionals his age. For Joel, electricity is an invisible service that 'simply needs to work'. All he cares about is that he can turn his lights on and charge his phone. He doesn't want to engage with his electricity bill either, which is why he's set up a 'direct debit' system that automatically charges him at the end of each month.

Thankfully, Joel doesn't have to lift a finger when it comes to managing his energy plan. When he first moved in to his apartment, Joel was given the option and chose to enrol in his building's automatic energy retailer switching program. Once a year, the program checks for the best offer based on retailer performance and switches him to a plan that offers the most savings with minimal hassle. Each time Joel is moved to a new plan, he gets a brief email detailing which appliances or practices might help them save more under the new pricing structure. Only a fraction of program participants in his building engage with the email - the rest only care about continued access to electricity.

If Joel ever wants to opt out of the auto-switching program, he can do so easily by actively selecting an offering himself. But for Joel, life is too busy to engage with energy plans or manage gadgets. The system in place lets him get back to the things he really cares about, without ever having to think twice about electricity offerings.

Note: The businesses and names of consumers are fictional illustrations, and any resemblance to actual persons, living or dead, or businesses is purely coincidental.

Box 6: Possible future consumer energy experience - 2

Sandra has outfitted her home with every CER gadget imaginable - solar panels, a battery and smart inverter, sensors in every room, and an EV are only some examples of her investments. What's more, she's linked up her devices to an AI system that seamlessly orchestrates them all. The AI system responds instantly to wholesale market fluctuations and signals from the Australian Energy Market Operator (AEMO) and the Distribution System Operator (DSO), allowing Sandra to increase the return on her investments as much as possible.

Unlike many who prefer energy to remain an 'invisible' service, Sandra has an ongoing engagement with her own in-home management system to balance her lifestyle with the ability for her CER assets to dynamically respond to signals and reduce her electricity bill. She knows that by taking on the risk of price signal volatility, she can repay her investments in CER assets faster. Every dip in wholesale electricity prices prompts the AI system to assess when to charge her batteries or power her home, while high-price periods encourage it to feed excess energy back to the grid.

Sandra's setup isn't for everyone. Even though she's installed an AI system to do most of the leg work, her decision to do so still required a basic understanding of how energy markets work and a willingness to ride the waves of price shifts. But for her, the potential rewards outweigh the risks.

Note: The businesses and names of consumers are fictional illustrations, and any resemblance to actual persons, living or dead, or businesses is purely coincidental.

Box 7: Possible future consumer energy experience - 3

Chris is navigating a difficult time. With an unstable job and unpredictable income, managing expenses can be a challenge. Recently, however, a social worker put Chris in touch with Fos Energy - an energy service provider that specialises in products for customers experiencing vulnerability.

Through government and DSO funding, Fos Energy has provided Chris with the latest in-home energy management kit and semi-permanently affixed solar-battery system at no extra cost. In other words, Chris can enjoy many of the benefits of CER without bearing the upfront costs that usually make such technology inaccessible for many.

Chris now pays for their energy through an upfront monthly subscription, which proves more stable and predictable, and lower than before. On top of this, part of the savings from the greater energy efficiency facilitated by Chris' new in-home kit automatically goes toward paying off the cost of CER assets over time. It's all integrated into one manageable payment per month.

Fos Energy operates under a regulated Virtual Power Plant (VPP) model, which maximises potential revenue streams while ensuring vulnerable customers remain protected. Furthermore, because fewer customers are at risk of falling into arrears, Fos Energy can reduce the costs of unpaid bills to other customers, in turn reducing the bill impact for all. Such offerings help create a more equitable system where customers, no matter their circumstances, can access more affordable and reliable electricity.

Note: The businesses and names of consumers are fictional illustrations, and any resemblance to actual persons, living or dead, or businesses is purely coincidental.

Box 8: Possible future consumer energy experience - 4

Luna Pizza is a small business that has just signed up to SolarFlex's energy subscription service promising a 'simple and personal' experience. Just like a movie streaming platform, the owners were able to choose from various subscription levels that suit different small business needs. They didn't want anything complicated - like many, they want electricity to remain an 'invisible' background service.

At the basic tier, SolarFlex will install solar panels and batteries at Luna Pizza's shop. The owners don't have to worry about maintenance or upgrades - SolarFlex handles everything as part of the monthly subscription fee. For businesses willing to make small adjustments - like lowering the thermostat a few degrees or delaying the dishwasher for an hour when electricity demand is high - SolarFlex provides 'credits' that they can put towards discounting future bills.

Premium tier customers can access more services, and, just around the corner, Flowers Forever is one of them. The floral business owns a small fleet of EVs and can charge its vehicles at thousands of locations on their way to and from deliveries as a premium tier customer. At times, SolarFlex even gives customers the option to discharge and sell excess energy from their EVs back to the grid - all at the click of a button.

Note: The businesses and names of consumers are fictional illustrations, and any resemblance to actual persons, living or dead, or businesses is purely coincidental.

Box 9: Possible future consumer energy experience - 5

Peter has lived in the same house for 30 years and has never given a second thought to electricity - as long as his bills get paid, he's content. Now retired, Peter's focus is elsewhere: between daily meet-ups with friends and concerts at night, he keeps busy. When he's home, it's usually to unwind to tunes from his stereo or to cook his favourite meals.

Every 12 months, the Energy for All Agency - a newly established government entity - automatically

switches Peter to the retailer with the most cost-effective plan available based on his recent electricity consumption patterns. This is in line with national energy policy that ensures consumer interests are upheld, regardless of how actively they engage with the energy system. For Peter, it's perfect: his electricity handles itself as long as he pays the bills on time, leaving him free to enjoy life at full volume.

Note: The businesses and names of consumers are fictional illustrations, and any resemblance to actual persons, living or dead, or businesses is purely coincidental.

3.3 Our proposed approach to considering the future in this review

In the context of these transformative changes, it will be more important than ever to ensure that future regulatory and market arrangements are principled and flexible enough to facilitate innovation. They will also need to remain in the best interest of consumers.

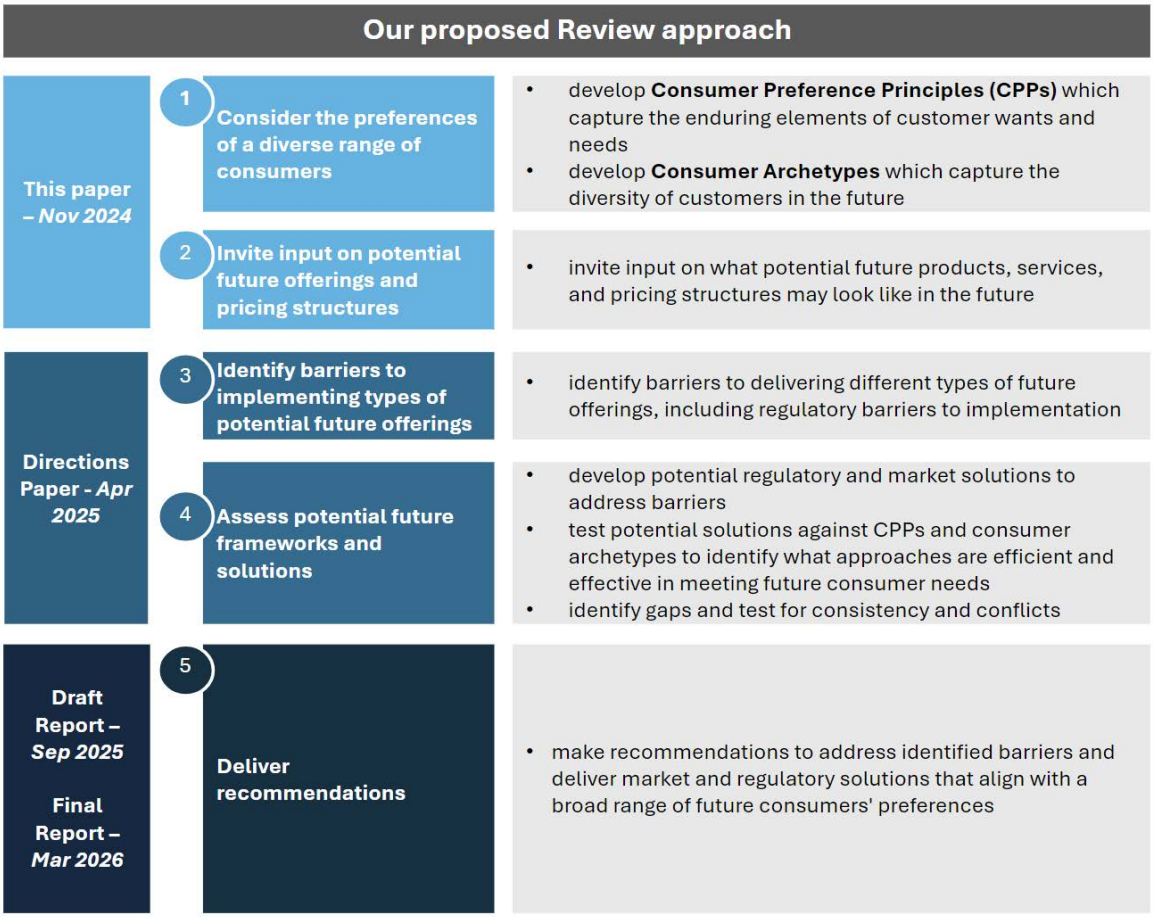
We cannot focus only on addressing disparate current issues and expect that this will deliver a set of outcomes that together form a coordinated whole. It is important that our work develops an overarching plan for the future, from which individual reform programs can be identified and appropriately sequenced.

We have therefore developed an approach to this review to consider:

1. future consumer experiences
2. the types of product and service offerings, and pricing structures, that will support those experiences
3. the regulatory and market arrangements required to facilitate those offerings and pricing structures.

This proposed approach to undertaking this review is outlined in the below.

Figure 3.3: Our proposed review approach



Step 1: Consider a diverse range of consumer types and their wants and needs

Consultation Paper – November 2024

We have developed and are seeking input, through this Consultation Paper, on a set of:

- **Consumer Preference Principles (CPPs)**, which seek to capture the core preferences that evidence shows most consumers prioritise
- **Consumer Archetypes**, which seek to broadly capture the diversity of customers in the future

Further detail on our proposed archetypes and CPPs is provided in section 3.5 below.

Step 2: Invite input on potential future offerings

Consultation Paper – November 2024

This paper invites input from stakeholders to help us identify a broad range of potential future offerings (products and services) that consumers may want in the future.

Step 3: Identify barriers to implementing types of potential future offerings

Directions Paper – April 2025

Once we have determined the types of products, services, and pricing structures that could serve the needs of a diverse range of future consumers, we will identify potential barriers to implementing these.

Step 4: Assess potential future regulatory frameworks and solutions

Directions Paper – April 2025

We will develop potential regulatory and market solutions to address the barriers identified in Step 3.

Solutions will include considering network and retail pricing approaches, the interface between the two and the role of energy supply businesses in the future.

This will also involve considering the role of regulation and competition in delivering outcomes,and understanding what supporting tools such as pricing, incentives, and information will improve the efficiency and effectiveness of our recommendations.

We will test potential regulatory solutions against the CPPs to understand whether they are likely to be compatible with future consumer wants and needs. We will then map them against the Consumer Archetypes, to test whether our proposed approaches would deliver good outcomes for a diverse range of future consumers.

Furthermore, we will analyse whether potential solutions are internally consistent to avoid any conflicts between individual components (and the assumptions on which they're built), and consider supporting measures to ensure they are efficient and effective.

Our Directions Paper may include preliminary recommendations to the extent this is possible. In determining whether recommendations could be made at this stage, we may consider whether certain solutions:

- are feasible, based on available information and stakeholder consultation
- could be contemplated and potentially implemented through a separate process to this review, either by the AEMC or other organisations, or both
- do not have material dependencies on other areas of inquiry in this review, which could present a risk to coordination.

Step 5: Deliver recommendations

Draft Report – September 2025

Final Report – March 2026

Finally, we will make recommendations to address barriers and deliver solutions.

Stakeholder feedback will inform each step of this approach

We will undertake this review in an open and transparent manner, by seeking input from a broad variety of stakeholders to inform our thinking at each stage. We will seek feedback through formal submissions to this Consultation Paper, a Directions Paper, and a Draft Report, as well as through public and other stakeholder forums.

As outlined in chapter 1, throughout the review process we will also leverage the knowledge of two new groups we have established:

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

We may also engage with stakeholders through other workshops and meetings as required, as different issues and matters arise throughout the review.

Question 1: Do you consider that we should make any changes to our proposed approach to this review?

3.4 Consumers are at the centre of our approach

3.4.1 Using Consumer Preference Principles (CPPs) will help ensure that we consider the wants and needs of consumers now and in the future

Meeting consumers where they are, and serving them well, means understanding and designing for enduring consumer preferences.

We have developed a proposed set of Consumer Preference Principles (CPPs) (in the box below) to inform our decision-making throughout this review, and to analyse whether and how potential future regulatory frameworks meet (or do not meet) the needs of future consumers. We are seeking stakeholder feedback on the proposed CPPs in this consultation paper.

Box 10: Our proposed CPPs for stakeholder feedback

1. **Value for Money** – customers prioritise affordability and value.
2. **Availability** – customers want electricity to be available when they need it
3. **Meaningful options** – customers want options from a suite of products that meet their needs, from differing levels of control, incentives, predictability and sustainability initiatives.
4. **Simple engagement** – customers want accurate and accessible information from interactions with their service providers
5. **Appropriate protections** – customers want to be protected against adverse product and service outcomes

Our proposed CPPs are informed by the findings of existing research

Our proposed CPPs have been developed following analysis of research on consumer values by a range of organisations, including Energy Consumers Australia (ECA), the AER, industry groups, CER trials such as Project Edge, and the academic literature.

The proposed CPPs capture consumers' consistent top priorities as demonstrated by customer research. For example, the research demonstrates that when contemplating energy offerings, 'price' will be the most important preference for almost all consumers.

The CPPs are not principles in the normative sense, which is to say they are not designed to capture a market, system, or regulatory design objective. Rather they are principles that will be applied to test the appropriateness of potential regulatory solutions, from the customer's viewpoint.

The CPPs are not intended to be exhaustive

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 rate sustainability highly when choosing an electricity offer. Our proposed CPPs capture what the research to date shows us are consumers' top preferences when it comes to electricity offerings.

Further detail on the research underpinning our proposed CPPs is provided in Appendix B.

We want stakeholders to help shape our proposed CPPs

Recognising the diversity of consumers and their preferences, we are interested in stakeholders' views on our proposed CPPs. Early stakeholder feedback has, for example, suggested possible additional CPPs, such as *sustainability*, *control*, *performance,* and others. We are interested in stakeholder views on whether a broader range of principles that move beyond what the research indicates are the consistent top consumer preferences should be included, or whether this might complicate the analysis without providing material additional analytical value.

We also seek stakeholder input on any additional research that may help refine the CPPs.

Question 2: What are your views on our proposed Consumer Preference Principles?

- Are you aware of additional existing research that could help us refine the CPPs?
- How might the CPPs help us in assessing whether our decisions will lead to good consumer outcomes?

3.4.2 Using Consumer Archetypes will help ensure that our work delivers for a diverse range of consumers

In the context of this review, considering consumers preferences alone is not enough to ensure any proposed reforms 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. That is, the CPPs we have proposed will not apply in the same way to all electricity customers.

We have therefore proposed a set of Consumer Archetypes. The archetypes seek to capture the diversity of future residential and small business customers. We are seeking stakeholder feedback on the archetypes in this consultation paper.

How the archetypes will be used

We propose to use these Consumer Archetypes throughout this review to ensure that our work and recommendations deliver positive outcomes for the range of consumer types. These archetypes will help us understand who the consumers of the future are, their priorities, and what they need from their energy offerings.

The archetypes represent a customer's situation at a point in time

The Archetypes 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. The archetypes are flexible; customers may shift between archetypes over time depending on their financial, social, and personal circumstances.

The archetypes are informed by existing research

To date, there has been a lot of work looking at electricity consumer segmentation and archetypes; we have drawn on this work to develop our proposed Consumer Archetypes in this paper.

We analysed the literature to understand the characteristics of different consumer segments and levels of vulnerability. We also examined trials and studies conducted on the types of consumers

who adopt different energy products and their motivations. See Appendix B for a full list of research we have utilised.

The archetypes differentiate consumers based on their engagement with the electricity market

Our analysis of the literature highlighted that a key axis of differentiation among electricity consumers is their level of engagement with the energy market. Engagement in this context does not just refer to how engaged a customer is in investing in available offerings (such as CER). Engagement refers more broadly to how actively customers consider the products and services available to them, rather than just passively receiving a service.

Level of engagement is typically considered to be a function of a customer's **resources** and **interest**:

- **Resources** refers to the financial, time, support, and other resources a customer has available to them to meaningfully engage with the electricity market, install or manage CER, consider changes to consumption habits or in-premise devices, or otherwise invest in energy offerings. A customer's resources are a reflection of their circumstances, not their abilities. A customer with lots of resources *can* engage, while a customer with few resources typically *can't*.
- **Interest** refers to the level of attention and thought a customer is willing to dedicate to doing these things, which may be based on their beliefs and preferences but can also be influenced by their current circumstances. Interest defines whether a customer *will* or *won't* choose to engage.

Electricity customers are of course diverse in innumerable other ways. But in our view, customers' level of engagement is the most important axis of differentiation for the purpose of this review.

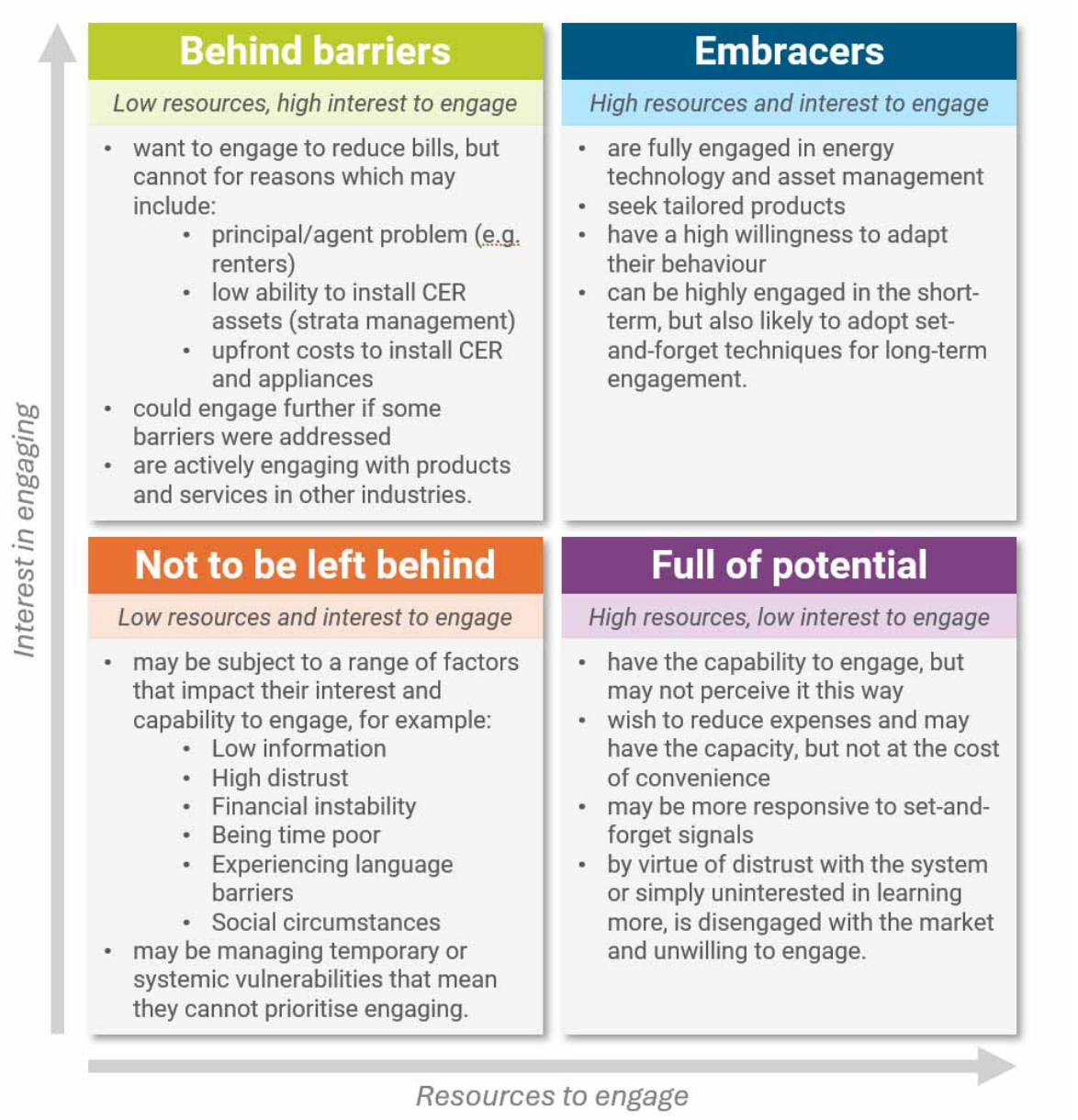
This is because delivering good outcomes for all consumers presents a material design challenge for regulators in the context of diverse levels of engagement. In a market where customers do not get to choose whether they participate, it is imperative that they are not punished financially or otherwise for lacking the resources or interest to engage.

Addressing diverse customer engagement levels requires a corresponding diversity of offerings. Simply put, this means the market should provide offerings that meet the needs of highly engaged customers and at the same time, offerings that serve customers who cannot or do not wish to take any action at all.

We want stakeholders to shape our proposed Consumer Archetypes

We recognise that the proposed Consumer Archetypes may not capture every type of consumer. We also recognise that getting the language around the archetypes right is important to accurately capture the experiences of most consumers, and that it is important not to use wording that may be unintentionally pejorative, or place a value-judgement on different consumer types. We want your feedback on these archetypes so that they accurately and inclusively capture the diversity of future electricity consumers.

Figure 3.4: Our proposed Consumer Archetypes



Question 3: What are your views on our proposed Consumer Archetypes?

For the purposes of this review:

- Do the Consumer Archetypes capture the diversity of future energy consumers?
- Do you agree that engagement is the primary axis of differentiation among electricity customers?

4 We want stakeholder input on what future products, services, and pricing structures may look like

Box 11: Chapter summary

We want stakeholders to challenge us to imagine the widest range of products, services, and pricing structures consumers might choose between in the future. Engaging in these fundamental questions will help mitigate the risk that this review becomes anchored to how things are done today.

This chapter outlines and seeks stakeholder feedback on:

- what products, services, and prices consumers face could look like in the future
- why network tariffs are a fundamental part of the pricing structures consumers face
- what network tariffs could look like in the future
- how the role of DNSPs and retailers may change in the future

4.1 Stakeholder feedback will support us in making recommendations that support consumers

We are seeking stakeholder feedback on how products, services, and pricing structures might look in a consumer-focused future world. By considering the broad range of potential future products, services, and pricing structures that consumers may want, we can identify the right regulatory frameworks to enable these future offerings. Delivering the right regulatory solutions will include addressing the future role of energy supply businesses, and electricity pricing arrangements.

4.1.1 What might products, services, and pricing structures look like in the future?

It is important that all electricity consumers can choose an energy offering that meets their needs. These offerings might be distinct products, services, or pricing structures, but may also come as bundles of these things.

As outlined in the vignettes in chapter 3, different types of consumers may prefer different offerings depending on their individual wants and needs. The illustrative examples outlined in chapter 3 help to imagine the offerings that some consumers may want, but there are certainly many more.

We can already observe the growth of innovative offerings in the market. Examples include subscription models for electricity supply, 'no bill' offerings, retailers rolling out apps on mass for customers to monitor and manage their electricity use, and retailers communicating with customers (for example, by text message) to manage demand responses.

In responding to the below questions, we remind stakeholders that we will not publish any part of a submission we agree is confidential, should stakeholders wish to share information that may be considered commercially sensitive. [9]

9 In responding making a submission, a stakeholder may wish to share information with the AEMC that is commercially sensitive. Stakeholders should identify the parts of the submission the stakeholder considers confidential. Once a stakeholder has made a claim for confidentiality, the AEMC will assess the claim and will not publish any part of a submission the AEMC agrees is confidential information. Further information is available on our website. See s48 NEL and s234 NERL for claims of confidentiality

Question 4: We want stakeholders to help us imagine the widest range of possible future products, services, and pricing structures. How might they look in the future? For example, you might consider:

- How have products and services evolved in similar markets that were disrupted by new technologies, for example, in telecommunications and point-to-point transport?
- What new innovations are we starting to see in current offerings?
- What electricity products and services are available internationally that aren't available here?
- Which technological trends may impact the electricity market, beyond those already discussed in this paper?
- What types of pricing structures might align well with the proposed Consumer Preference Principles?

4.1.2 How should electricity products, services, and pricing structures be presented to consumers?

Consumers need the right information to choose the best energy offerings available to them. Offers that are presented simply, with transparent information, can empower consumers to make these decisions. Improving the ability of customers to choose between different offerings supports effective competition in the retail market, putting downward pressure on retail prices, and encouraging a greater variety of products, services, and pricing structures.

Many reviews and reports have concluded that current user interfaces in the electricity market make it difficult for consumers to compare and understand electricity products, services, and pricing structures. This poor information availability is a key barrier to consumers understanding and taking advantage of optimal electricity offerings and can lead to consumers paying too much or getting an offering that doesn't match their wants and needs.[10] [11]

We also note that there is a segment of consumers who currently do not, and do not wish to, actively engage in their electricity consumption, including choosing or responding to new products and services. Whilst measures that make engagement easier are important, we respect customers' choices and affirm that the electricity market should serve all customers well regardless of whether they are highly engaged with the energy system and/or their energy consumption. It is important that disengaged consumers still experience positive outcomes.

Therefore, a key challenge in this review is to design a framework that facilitates products and services, including default products and services, which support good outcomes for those consumers in a way that does not materially burden other consumers.

Question 5: How could electricity products, services, and pricing structures be presented to serve future consumers?

4.1.3 How should consumer protections be balanced with choice and innovation?

There are a range of consumer protection mechanisms in the national retail electricity market. These include the:

10 ACCC, Retail Electricity Pricing Inquiry, June 2018, p 234

11 AER, Towards energy equity strategy, October 2022, p. 19.

- National Energy Customer Framework (NECF)
- retailer authorisation process
- Default Market Offer (DMO).

The customer protections we see today were all developed for traditional energy products.[12]

Costs associated with retailers' regulatory compliance flow to customers in the form of higher energy prices. Regulation also impacts how retailers behave in the market, including the types of products and services they develop and offer to their customers.

Appropriate consumer protections give consumers the confidence to adopt new energy offerings, including CER. This supports innovation that can provide broader benefits across the economy.[13]

However, current consumer protection frameworks may require refinements or extensions to better match future products and services in the context of new technology developments.[14] This may in turn inhibit innovation.[15]

Question 6: How could consumer protections be balanced to enable further innovation in a future retail electricity market?

4.1.4 What barriers might exist to a consumer-focused future?

Our proposed approach initially focuses on what future products, services, and pricing structures future consumers should be able to choose between. From there, we will identify the barriers that may be hindering these.

However, we welcome any early thinking regarding the barriers we should identify that will emerge or persist post 2035, and how we might address those to enable a future that best suits consumers.

Question 7: What barriers will need to be addressed to deliver future consumers a meaningful and beneficial range of products, services, and pricing structures? How might we consider addressing those barriers?

- Consider the changes that are happening in the system now - what barriers might either endure or emerge post 2035?

12 The AER finalised its review of the NECF with its advice provided to Energy Ministers in November 2023.The CER working group/taskforce are progressing a response to the recommendations as part of the National CER Roadmap. This work will be important in the context of this review. We will work with the CER working group and taskforce as the Review progresses to ensure alignment in this area.

13 AER, Review of consumer protections for future energy services, final advice, November 2023, p. 2.

14 Ibid p. 1.

15 Ibid.

4.2 Network tariffs are a fundamental element of the pricing structures consumers face

4.2.1 Representing a large share of a customer's total bill, tariffs are a fundamental component of the products and services consumers receive

Network tariffs are a key component of current electricity cost structures and associated pricing. Over a third of an average residential household's bill covers the DNSPs tariff component.[16] Network tariffs have a correspondingly large role in keeping bill costs down, and therefore these tariffs will be an important focus area for this review.

Well-designed tariffs can:

- signal investment in the right things at the right time
- facilitate efficient and effective integration of CER
- support consumers to share the benefits of an efficient system.

Networks are natural monopolies. Because of this, tariffs are determined through regulatory processes rather than set through a competitive market. In this process, the AEMC and the AER act on consumers' behalf to make and implement frameworks governing how network tariffs are applied.

4.2.2 The theory suggests that efficient tariffs should reflect the cost of network use and minimise impact on consumer decisions

Tariffs are economically efficient when the price for using the next unit of network capacity equals the cost of providing the next unit of network capacity.[17] However, as there is generally little to no cost to providing access to existing network capacity, setting tariffs in this way would lead to DNSPs raising insufficient revenues to cover the costs they incur in transporting electricity to customers. This shortfall is called the 'residual cost'.

The most efficient way to capture these residual costs in tariffs is either to:

1. design tariffs to have a fixed component (reflecting the residual costs) and a variable component (reflecting the marginal costs)
2. allocate the residual costs to different groups of network users in a way that minimises changes to users' consumption decisions.

4.2.3 Theory can be difficult to implement in the real world

In practice, there are significant challenges in achieving efficient tariffs that appropriately recover residual costs. The two options above involve trade-offs that must be balanced.

On the first option, tariffs with higher fixed cost components will necessarily have a smaller variable cost component. This reduces the consumers' ability to control their bills. It can also reduce the signal for consumers to adjust their consumption in ways that could lower their own bills and at the same time contribute to reducing future network costs more broadly.

The second option can, if not finely tuned, result in outcomes considered inequitable. It would, for example, suggest that those customers with limited ability to respond to price signals should bear a higher share of network costs. This could unfairly burden households experiencing vulnerability, for example, which research has shown often have limited ability to change their energy consumption patterns. Conversely, efficient recovery of residual costs would mean attempting to

16 AEMC (2021) 'Final report: Residential electricity price trends 2021' , p. 4.

17 Also expressed as the marginal cost of consumption equalling the marginal cost of supply

avoid increases charges for households that are most able to respond to changes in network price.

4.2.4 Retailers could play a critical role in making efficient tariffs effective

An additional challenge is the potential trade-off between a tariff's efficiency and how effective it is.[18] Theoretically efficient tariffs may be so complex and unpredictable that retailers are unable to effectively and beneficially bundle them into their customer offerings.

Retailers may contribute to addressing this concern. Retailers are currently responsible for paying the network tariff assigned to a consumer. Retailers then bill the consumer to collect these funds. This reveals the important role a retailer can play in packaging efficient and potentially complex network tariffs into effective products and services for consumers. This interface between networks and retailers demonstrates the importance of considering the roles of these and potentially other parties in delivering good outcomes for future consumers (see section 1.4 below).

4.3 We want stakeholder feedback on what network tariffs should look like in the future

In this section, we consider what network tariffs currently look like and seek stakeholder feedback regarding what network tariffs should look like in the future. We also seek feedback on what considerations are central to answering this question:

4.3.1 Most consumers are currently assigned to a limited set of network tariffs

Today, retailers are responsible for paying the network tariff assigned to a consumer. Retailers bill the consumer to collect these funds. The network tariff assigned to a consumer generally falls into four main types:

- **Flat tariffs** - consumers are charged the same rate for electricity regardless of when it is used[19]
- **Time-of-use tariffs** - the rates consumers pay depend on their usage in different periods throughout the day, and may vary across the time of the year
- **Demand tariffs** - consumers are charged on the basis of their maximum electricity use during a specific period
- **Controlled load tariff** - the network component of a consumer's bill is substantially reduced where they provide another party (either the network or the retailer) the ability to control a specific appliance, usually a hot water system.

There are also offerings more specific to commercial and industrial customers such as locational critical peak prices where usage is nearly free except for in the rare case that a network nears capacity.[20]

Many residential customers are now on time-of-use tariffs that charge them more during peak demand periods [21] or on demand tariffs that charge customers based on their greatest 30 minutes

18 In this review's Terms of reference, we defined the terms 'efficient' and 'effective' to differentiate between outcomes which are: a) based on economic principles of efficiency ('efficient') and b) designed with the end user and ability to implement in mind, to have the most effective impact ('effective').

19 Offered by every distribution network to customers with Type 6 metering.

20 Such as Ausgrid's sub-transmission storage tariff.

21 Time of use tariffs are the standard tariff for customers with new smart meters in the AusNet Services, CitiPower, PowerCor, United Energy, Endeavour Energy, Essential Energy, Evoenergy, Power and Water Corporation, SA Power Networks and TasNetworks distribution areas.

of usage during the peak window in a month.[22] In general, small businesses are assigned to a similar set of tariffs as residential customers while large businesses mostly pay demand tariffs.

For newer network user types, like utility-scale battery storage, the structure of network tariff they receive depends on the distribution network they connect to.

4.3.2 What should network cost recovery look like in the future, and what should be considered when answering this question?

Network tariffs could look quite different in the future. We have outlined above the theoretical approach to designing efficient tariffs. In determining what tariffs should look like in the future, there are several choices and trade-offs to consider, including:

How should tariff design balance simplicity and precision?

Simple tariffs may be easy for customers to understand and respond to, but such tariffs are often less accurate in signalling network costs to customers and therefore in helping to drive down network costs across time.

Tariffs that more precisely reflect network costs could, however, be much more complex. This can make these tariffs more difficult for consumers to understand and respond to, and also more difficult for energy supply businesses to incorporate in their customer offerings.

This trade-off is also evident in whether network tariffs are based on longer- or shorter-run network costs.

- Using long-run costs generates simpler tariffs that are more appropriate for consumers who are less able to respond to signals.
- Conversely, tariffs based on short-run costs can better reflect the immediate drivers of network costs, meaning they should send more efficient signals and eventually drive down network costs for customers. These tariffs are more likely to change frequently and this can make it difficult for retailers and energy service providers to invest in developing consumer offerings that meaningfully incorporate these tariffs.

As the transition rapidly changes the way consumers engage with the system, we will need network tariffs designed to balance consumer protections, commercial realities, the need for innovation, and overall efficiencies.

Should network tariffs be prescriptive or adaptable?

The rules currently take a principles-based approach to setting tariffs. Networks are required to design tariffs in line with the pricing principles.[23] Broadly, these principles require tariffs to:

- be set on long-run costs
- minimise impacts on consumers' use of the network
- avoid undue impacts on, and economic cross-subsidies between, consumers.

Principles-based approaches are intended to support networks in innovating and adapting tariffs as the needs of consumers evolve. More prescriptive approaches may lack adaptability, but can allow regulators a greater ability to influence tariff outcomes in the long-term interests of consumers.

22 Demand tariffs are the standard tariff for residential customers with a new smart meter in the Ausgrid, Energex, Ergon Energy and Evoenergy distribution areas.

23 NER 6.18.5

Can focusing on efficient tariffs lead to outcomes where not all consumers receive the benefit of an efficient system?

Tariffs designed to efficiently reflect the costs of consumer decisions should result in more efficient network use, and therefore, more efficient investment in and operation of the network. This has the potential to lead to lower overall network bills for consumers. However, these tariffs may impose higher costs on those households and businesses least able to respond to these tariffs.

Network tariffs could also be designed to incentivise greater connection of users and technologies which reduce future network costs. For example, a technology whose use of the network leads to reductions in future investment requirements could be incentivised to connect with an offer of negative or zero-cost tariffs. In these cases, such technologies may not contribute to the immediate recovery of network costs, meaning higher short-term tariffs for other consumers.

Which entities should contribute to and be responsible for network tariff design?

DNSPs are currently responsible for designing and proposing network tariffs for AER approval. Privately owned DNSPs are required to design their tariffs under the principles set out in the rules. The rules do not, however, dictate how much effort a DNSP needs to invest in improving and innovating these designs. If DNSPs were to be incentivised to invest such effort, any incentive paid would be raised from increases in consumer bills.

Retailers are best placed to understand consumer preferences, and the AER is guided by the long-term interests of consumers. These entities are however unlikely to be best placed to understand network costs and how these are impacted by consumers' consumption decisions. Given this, there are questions surrounding what contribution should retailers, the AER, or others, should have in the design of network tariffs.

In the future, there may be Distribution System Operators (DSOs) who could potentially take the role of designing tariffs.[24] But the potential existence of DSOs and their possible roles and responsibilities are not yet certain.

Question 8: What should network tariffs look like in the future?

- What are the key choices and trade-offs we should consider when answering this question?

4.4 We want stakeholder feedback on how DNSPs and retailers may need to change to deliver better outcomes for future consumers

DNSPs, retailers, and other energy service providers all play important roles in the current energy system. However, both the roles that these businesses play and the interface between these businesses may need to adapt to reflect broader changes in the future energy system, and to enable the products and services consumers may want in the future.

24 DSOs have previously been defined as an "entity responsible for the planning, operation and optimisation of a distribution system with high levels of Distributed Energy Resource or Consumer Energy Resources (DER/CER), electric vehicles (EV) and other flexible resources. Depending on the DSO model implemented, this may include functions such as implementing advanced, scenario-based modelling of DER/CER and EV uptake and operation, bidirectional power flows and Distribution System operation": Department of Climate Change, Energy, the Environment and Water (2024) 'National Consumer Energy Resources Roadmap', p. 28.

4.4.1 What role should DNSPs and retailers play in the future?

DNSPs and retailers play important roles in the energy system, as outlined in chapter 3.

The role that these businesses play in our energy system may not look the same in the future. Potential future changes could be driven by technology, evolving consumer preferences, or even regulatory change (for example, through establishing DSOs).

Question 9: How should the role of energy supply businesses evolve to meet customer and energy system needs in the future?

4.4.2 How might the interface between energy supply businesses look different in the future?

The interface between energy supply businesses (for example, the interface between DNSPs and retailers) could look very different in the future. This could require new regulatory and market arrangements, including arrangements incorporating third-party financing or technology providers.

For example, in the future some consumers may prefer to purchase energy through a flat subscription model. Under such a model, retailers could be required to take on network pricing risk. To manage such risks, retailers might need access to new products or markets from DNSPs, or to partner with firms providing financing products to consumers. Alternatively, DNSPs might offer a subscription model to retailers, and have to take other actions (or establish other platforms) to address peak demand strains on their networks. Such a future would imply some significant changes to the roles of DNSPs and retailers (as well as third-party service providers), and require new frameworks to manage the interface between these energy supply parties.

Question 10: What changes might be required in the future to the interfaces between different energy supply businesses?

5 Assessment framework

This Chapter sets out the Commission's proposed assessment framework for this review. It outlines the overarching energy objectives that guide all the Commission's work and the criteria that we propose to use in testing our future recommendations, including how they interact with the consumer preference principles.

Below is an overview of our assessment framework:

5.1 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 objective(s) are the National Electricity Objective (NEO) and the National Energy Retail Objective (NERO).[25]

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 objectives 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 objectives 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—
>
> (i) for reducing Australia's greenhouse gas emissions; or
>
> (ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

The targets statement, available on the AEMC website, lists the emissions reduction targets to be considered, as a minimum, in having regard to the NEO and NERO.[26]

25 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.

26 See section 32A(5) of the National Electricity Law & section 224A(5) of the National Energy Retail Law.

5.2 We propose to assess this review using five criteria as well as our consumer preference principles

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

1. **Outcomes for consumers:** We will consider whether our decisions improve price signals, incentives, and opportunities for consumers. The Consumer Preference Principles we develop 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.
2. **Principles of market efficiency:** We will consider whether our recommendations promote efficient network utilisation and investments. We will consider how our decisions reduce barriers to competition and ensure risks are borne by parties who are best placed to manage them. 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. Our 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. To ensure this review is successful as a market-wide solution, we will take into account 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.

Question 11: Do you have any feedback on our proposed assessment criteria?

Abbreviations and defined terms

Table 1: Abbreviations

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CER	Consumer Energy Resources
Commission	See AEMC
CPP	Consumer Preference Principles
DER	Distributed Energy Resources
DMO	Default Market Offer
DNSP	Distribution Network Service Provider
DSO	Distribution System Operator
ECA	Energy Consumers Australia
NECF	National Energy Customer Framework
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NERL	National Energy Retail Law
NERO	National Energy Retail Objective
NERR	National Energy Retail Rules
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
VPP	Virtual Power Plant

A Review timelines and engagement approach

A.1 Timeline for the review

Table A.1: Timeline for the Review key deliverables

Date	Deliverable
July 2024	Publish draft Terms of reference for comment
November 2024	Publish Consultation Paper and final Terms of reference
December 2024	Close of Consultation Paper submissions
April 2025	Publish Directions Paper
May 2025	Close of Directions Paper submissions
September 2025	Publish Draft Report
October 2025	Close of Draft Report submissions
March 2026	Publish Final Report

A.2 How we will work with stakeholders

The Commission is committed to undertaking the review in an open, collaborative, and transparent manner. In addition to our early engagement and consultation processes, this will involve making use of existing AEMC forums plus conducting focused engagement with industry innovators and consumer groups. Additionally, the AEMC will establish both a Stakeholder Reference Group (SRG) and an Advisory Group (AG) to ensure industry expertise shapes the review and its potential recommendations.

The AG serves as a forum to engage, collaborate and discuss issues with executive-level consumer, market and industry leaders. The Advisory Group first met in October 2024 and will meet approximately quarterly for the duration of the review.

The SRG comprises members from market bodies, governments, DNSPs, retailers, and other industry innovators. The SRG will meet approximately quarterly and will assist the AEMC in considering key issues and providing feedback on project content throughout the duration of the review.

B Consumer Preference Principles and Consumer Archetypes - Supporting research

B.1 Consumer preference principles - Supporting research and approach

B.1.1 We drew upon a broad range of existing research to inform our proposed CPPs

There is an extensive body of existing research on consumer sentiments and behaviours in the NEM. In developing our proposed CPPs, we have drawn on research from:

- market bodies
- industry
- academics
- trials

We wanted to understand from the consumer's perspective what are the consistent top preferences. We specifically looked for the incentives consumers respond to, the weighting of what consumers value when choosing energy offerings and what they value in the energy market as a whole. We distilled our findings into the consistent five top priorities we found. As this review progresses we will continue to research consumer attitudes and behaviours.

B.1.2 The research tells us that there are five key preferences for consumers

What can influence consumer preferences is their context.[27]Australian consumers are diverse and their preferences can depend on:

- levels of income
- vulnerability to cost-of-living pressures,
- behavioural biases,
- degrees of urbanisation,
- whether they are with/without CER
- climate zones.[28]

It is critical to understand these differences, particularly how they apply to households, small businesses, or commercial and industrial customers.[29]

We have examined the research into consumer preferences and distilled five key preferences.

Consumers want affordability and value for money in products and services

Research tells us most consumers want their products and services to be affordable. The ECA found that 54% of households and 48% of small businesses think having affordable energy prices is the top issue.[30] The ECA found that affordability was one of the highest rated values for consumers when considering what is important to them about the future of energy.[31] Similarly, most consumers are actively looking for ways to reduce costs.[32] When consumers consider switching, the ECA found that 78% of households and 65% of businesses consider what plan has

27 Oxera, Behavioural insights into Australian retail energy markets, Report, March 2016, p. 7.

28 Energy Consumers Australia, Power Shift Final Report, Feburary 2020, p. 9; Oxera, Behavioural insights into Australian retail energy markets, Report, March 2016, p. 7.

29 ACIL Allen, Barriers and enablers for rewarding consumers for access to flexible DER and energy use (barriers and enablers), June 2022, p. 5.

30 ECA, PowerUp: Consumer voices in the energy transition, July 2024, pp. 24-25; ECA, Consumer Sentiment Survey, topline data (challenges ahead for the energy), June 2024.

31 ECA, PowerUp: Consumer voices in the energy transition, July 2024, p. 24.

32 AEMO, Project Edge Final Report, October 2023, p 81; ECA, Talking to consumers about energy bill reduction, March 2024, p. 11; ECA, Household energy consumer information research, November 2023, pp. 17-19; ECA, SME energy consumer information research, November 2023, pp. 17-18.

the lowest price.[33] Therefore, households are particularly sensitive to financial incentives and the bundling of quality products and services.[34] More engaged consumers may want more dynamic prices and services to unlock greater value from their assets.[35] Findings from Project Edge show that consumers are more likely to join a VPP if the financial benefits are clear and guaranteed.[36]

Consumers need a reliable supply of electricity

A key concern for consumers is the reliability of the energy system and making sure energy is available when they need it.[37] The ECA found reliability one of the highest-rated values for consumers when considering what is important to them about the future of energy.[38]Research shows that people will prioritise reliable access to electricity over other expenses.[39] The ECA found that some consumers may sacrifice availability of electricity provided they are guaranteed financial benefits, for example shutting off their power for one hour and receiving financial rewards.[40]

Most households and businesses want to choose from a variety of simple and meaningful products

Consumers also find value in products and services beyond price. Consumers prefer product offerings that are simple, easily comparable and provide bill stability, similar to products in other industries.[41] Consumers are also looking for products and services that deliver benefits to the environment.[42] Sustainability concerns can motivate some consumers to take up CER, use it in different ways or simply take up an energy plan.[43] The ECA found that environmental concerns are the third highest value for consumers when considering what is important to them about the future of energy.[44] However, the ECA found that only 12% of households and 20% of small businesses factor in green energy when considering whether to switch to a different provider/offer.[45] Similarly, 27% of households and 29% of small businesses factor for better customer service and 13% of households and 17% of small businesses factor for bundled energy deals.[46] This research highlights that what is meaningful to consumers can be contextual. Therefore, all consumers need a variety of meaningful products and services that meet their needs at particular points in time.

Consumers need confidence and support to engage with the market and make the right decisions

33 ECA, Consumer Sentiment Survey, topline data (reasons for switching), June 2024.

34 ACIL Allen, Barriers and enablers for rewarding consumers for access to flexible DER and energy use (barriers and enablers), June 2022, p. 51; ECA, PowerUp: Consumer voices in the energy transition, July 2024, p. 19; RACE for 2030, Incentivising within-day shifting of household electricity use, Final Report, p. 6.

35 AEMO, Project Edge Final Report, October 2023, pp. 81-82; ECA, Consumer pricing preferences, December 2022, pp. 24, 26.

36 AEMO, Project Edge Final Report, October 2023, p. 86.

37 ECA, Consumer Sentiment Survey, topline data (challenges ahead for energy), June 2024; ECA, PowerUp: Consumer voices in the energy transition, July 2024, pp. 24-25.

38 ECA, PowerUp: Consumer voices in the energy transition, July 2024, p. 24.

39 AER, Game Changer Report, November 2023, p. 8; ECA, Consumer Sentiment Survey, topline results, June 2024, p. 9.

40 ECA, PowerUp: Consumer voices in the energy transition, July 2024, pp. 15-18.

41 AEMC, Retail competition review, July 2017, pp. 72, 81; ECA, Consumer pricing preferences, December 2022, pp. 6, 10.

42 Accenture, New Energy Consumer, February 2022, pp. 10-11; AER, Game Changer Report, November 2023, p. 8.

43 AEMO, Project Edge Final Report, October 2023, p. 80; ACIL Allen, Barriers and enablers for rewarding consumers for access to flexible DER and energy use (barriers and enablers), June 2022, p. 51.

44 ECA, PowerUp: Consumer voices in the energy transition, July 2024, p. 24.

45 ECA, Consumer Sentiment Survey, Topline data (switching behaviour), June 2024.

46 ECA, Consumer Sentiment Survey, Topline data (switching behaviour), June 2024.

Most consumers need simple, transparent and high value information and tools to engage and reduce energy bills.[47] Similarly, consumers need tailored information that is clear about the risks and benefits when using their CER assets.[48] The ECA found that 43% of consumers did not find it easy to get helpful information for reducing their bills and for many the information they could find was neither relevant nor easy to understand.[49] When consumers do engage with their retailer, consumers want it streamlined, using simple digital tools and touch points.[50] Consumers expect these simple, user-friendly digital touchpoints as standard, offering the seamless experience they have become accustomed to in other industries.[51]

Consumers need access to appropriate safeguards

Electricity is an essential service and it is crucial that there are appropriate safeguards to meet the needs of all consumers, especially those who are experiencing vulnerability.[52] Appropriate safeguards provide consumers with confidence and trust, which is a crucial motivator for consumers.[53] Consumers need to know that when signing up to energy offerings, or making their assets available to aggregators that they will have consistent protections and resolutions to problems.[54]

B.2 Consumer Archetypes - Supporting research and approach

There is extensive existing research on energy consumer segmentation and archetypes. This work has been important in informing the proposed Consumer Archetypes in chapter 3 of this paper.

This works includes:

- research by the ECA on different household and business segments based on the characteristics they possess.[55]
- The ECA's PowerUp report found several consumer archetypes based on sentiments, needs and values towards energy, CER, and the wider energy transition.[56]
- The AER provides an understanding on how consumers experience vulnerability.[57]
- The AER's review into the NECF developed a suite of archetypes to determine risks to different customers across the NEM.[58]
- ACIL Allen developed a set of archetypes to illustrate how difference consumers can participate in a two sided market,[59]including a literature review of other frameworks.[60]

47 ECA, Household energy consumer information research, November 2023, p. 6; ECA, PowerUp: Consumer voices in the energy transition, July 2024, pp. 6, 11-14.

48 AEMO, Project Edge Final Report, October 2023, p. 85; ECA, Household energy consumer information research, November 2023, p. 6; ECA, PowerUp: Consumer voices in the energy transition, July 2024, pp. 6, 11-14, 32.

49 ECA, Household energy consumer information research, November 2023, p. 4.

50 Accenture, New Energy Consumer, February 2022, pp. 13-17; AEMC, Retail competition review, July 2017, p. 72.

51 Accenture, New Energy Consumer, February 2022, p. 16; AEMC, Retail competition review, July 2017, p. 72.

52 AER, Game Changer Report, November 2023, p. 1; AER, Review of consumer protections for future energy services, final advice, November 2023, pp. 22-23; ECA, PowerUp: Consumer voices in the energy transition, July 2024, p. 24.

53 ACIL Allen, Barriers and enablers for rewarding consumers for access to flexible DER and energy use (barriers and enablers), June 2022, p. 69; AER, Review of consumer protections for future energy services, final advice, November 2023, p. 22.

54 ACIL Allen, Barriers and enablers for rewarding consumers for access to flexible DER and energy use (barriers and enablers), June 2022, p. 69; AER, Review of consumer protections for future energy services, final advice, November 2023, p. 22.

55 ECA, Household energy consumer information research, November 2023, p. 32; ECA, SME energy consumer information research, November 2023, p. 30.

56 ECA, PowerUp: Consumer voices in the energy transition, July 2024, pp. 24-25.

57 AER, Game Changer - Consumer vulnerability: a case for change, stakeholder workshop, 24 March 2022; AER, Towards energy equity strategy, October 2022, p. 4; Bastion Insights, Vulnerability in energy study, report, July 2022, pp. 24-30.

58 AER, Review of consumer protections for future energy services, final advice, November 2023, p. 43.

59 ACIL Allen, Consumer archetypes for a two-sided market, final report, April 2021, pp. 34-45.

60 ACIL Allen, Barriers and enablers for rewarding consumers for access to flexible DER and energy use (barriers and enablers), June 2022, pp. 14-21.

- The ESB were involved in developing archetypes about EV charging customers.[61]
- Trials and studies have been conducted on the types of consumers who adopt CER products and their motivations.[62]

We have built on this important research to develop our Consumer Archetypes for the review. The research shows that the key point of differentiation across the archetypes was their engagement with their energy offerings, specifically whether customers have the resources and interest to engage. What influenced these factors was research on the underlying research on attitudes, behaviours and segmentations. We then developed four archetypes that sought to capture this underlying research and differing levels of engagement.

61 ESB, Customer Insights Collaboration, release 3, June 2023, pp. 23-24.

62 Deakin University, General community perceptions of distributed energy resources, October 2022, p. 14; C4NET, Consumer perceptions of policies targeting CER: Third-party control and managing imports/exports, July 2024, pp. 9-11.