

ARENA submission to discussion paper

AEMC's Pricing for a consumer-driven future review
10 July 2025



Australian Government
Australian Renewable
Energy Agency

ARENA

ARENA submission on AEMC's discussion paper on Electricity pricing for a consumer-driven future

ARENA's role and expertise

The Australian Renewable Energy Agency (ARENA) was established in 2012 by the Australian Government. ARENA's function and objectives are set out in the *Australian Renewable Energy Agency Act 2011*. It provides financial assistance to support innovation and the commercialisation of renewable energy and enabling technologies by helping to overcome technical and commercial barriers.

A key part of ARENA's role is to collect, store and disseminate knowledge gained from the projects and activities it supports for use by the wider industry and Australia's energy market institutions. ARENA has built up a solid body of knowledge and lessons learned that are directly relevant to topics in the review's terms of reference.

Summary

ARENA supports the Australian Energy Market Commission (AEMC) review of "Electricity pricing for a consumer-driven future" (the pricing review) and notes its importance to consumers, retailers and distribution network service providers (DNSPs).

In short, our submission makes the following points:

1. **We see and support a bright Consumer Energy Resources (CER) future**, but it is not without challenges
2. **We support a system where prices reflect costs**, which could reduce the cost of Australia's transition
3. **We support reform of network tariffs**, including greater standardisation and suggest immediate adoption of solar soaker tariffs.

The remainder of the submission outlines our thinking supporting these points.

1. ARENA sees and supports a bright CER future

We see the increasing CER in the NEM being a major development

Australian households and businesses have become very important investors and operators of power system assets, already contributing a significant and increasing share of total generation and storage. The Australian Energy Market Operator's (AEMO) Electricity Statement of Opportunities (ESOO) and Integrated System Plan (ISP) modelling suggests rooftop solar PV and other CERs will continue to grow at pace. Australian households and businesses already contribute a significant and increasing share of total generation and storage. That trend is expected to continue for decades; Electric Vehicle (EV) uptake is increasing and ARENA sees Vehicle-to-Grid (V2G) as providing a significant contribution opportunity to transport emission reductions and reliable electricity supply.

In answer to question 2 (Can we rely on competition in the retail market to deliver the mix of products and services customers value?) we:

- support innovation and new opportunities for consumers during this extended period of change
- observe that the nature of retail competition has changed.



We support innovation and new opportunities for consumers during period of change

In a world where electricity provision is undergoing significant change, fostering and maintaining a vibrant and competitive retail market with appropriate consumer protections provides consumers the best prospect of finding a retail contract and service that meets their needs.

A focus on enabling the bookend products (least exposure to price or bill shock at one end and complete exposure to price variations from the wholesale market at the other) should ensure the in-between options are also enabled, innovation can thrive and system costs are minimised (discussion paper, question 1). This is a reasonable assumption because every customer connected to the grid faces wholesale market prices for grid imports and exports but for an agreement to do otherwise with the financially responsible market participant (FRMP) assigned to each connection.

Consumers can make their own choice about how they use their CER to suit their situation – either by ceding a degree of control to a third party or by responding themselves to price signals. Our experience is that there is a range of views and some strong preferences when it comes to these options.

We observe that the nature of retail competition has changed

At the beginning of this century, the consumer was captured by retailers with no real alternative for supply of electricity but the grid. Many in the industry were sceptical that consumers would have a future opportunity or inclination to engage in any form of demand response. The high-water mark for tariff reform was a shift from average cost to long run marginal cost and Time of Use (TOU) pricing.

However, competition in the supply and storage of electricity behind the meter has taken off in the last decade. Consumers now have a viable option to supplement their grid-supply with electricity produced by rooftop solar and battery storage. They are effectively competing with large scale generators and storage providers, with their retailers, and with their network service providers (transmission and distribution).

This is largely good news for adding downward pressure on costs but it creates a potential problem. Now that households and businesses are making large capital investments (individually and collectively) about generation and storage much like large scale investors, they would benefit from the same quality price signals in real time and a credible outlook of future market conditions. Market prices should reflect all available information and that information should be reasonably available to all. This is important because market bodies rely on the premise the market is stable and only one or two suppliers might, from time to time, fall short of a reasonable return on capital.

However, we are moving to a world where an increasing number of small households and businesses are also prone to falling short of a reasonable return from poor information about the present and future power system and market. Rather than shareholders of larger businesses experiencing lower dividends and capital gains from poor investments, households risk bearing the costs when market conditions (including regulation) change and the reality falls short of what they expected or feel they were promised. Governments are involved in shaping the attractiveness of investments by large scale investors but also the investments made by households and small businesses.

This world does not mean that households and small businesses should have to cede control of their CER to retailers or other Virtual Power Plants. However, it does make it even more beneficial for prices to reflect costs and for governments to indicate their future intentions and provide a steady direction of travel. It also suggests ready access to high quality information from reputable sources about prices, revenues, costs, and returns from CER investments would be a valuable tool for the millions of small-scale investors in Australia.

2. We support a system where prices better reflect costs

For the reasons presented in the previous section, we advocate for prices to better reflect costs.

ARENA notes that consumers have more alternatives to grid supply today than at any other time in history. We foresee the costs of these alternatives falling further in the next decade and beyond. Grid supply is competing head on with CER. To minimise the cost of the transition to all Australians, it is crucial that the prices consumers face reflect the cost of electricity.

We acknowledge that some will prefer an all-in single price that rises or falls on an annual basis and that some will wish to face the prices that change every five minutes. In any case, the price of electricity would, ideally, be as free as possible from consumption-based fixed and LRMC-based costs to create a valid comparison between the cost/value of grid import and Behind-the-Meter (BTM) export and a more even playing field with their large-scale competition. However, both as a matter of principle and in practice, we think retailers should remain free to price electricity in whatever ways they think will attract customers while enabling profit.

When prices reflect costs, everyone connected to the grid benefits to the greatest degree from individuals reducing their consumption or increasing their generation.

In a situation where electricity prices are higher than costs, CER responses lower those customers' bills by more than costs are reduced, which creates a cross subsidy. Then what follows is a closed loop process because networks are guaranteed the revenue required to cover their regulated costs and consumption is the basis on which those costs are recovered.

Appendix D of the discussion paper shows time of use pricing that encourages consumers to time shift their consumption. However, any such time shifts reduce the revenue collected by the network by more than the costs the network saves, which subsequently prompts the network to increase its consumption tariffs to recover the fixed revenue requirement. Note that this loop overly rewards customer response from buying CER or load flexibility and overly penalises customers who are less flexible or financially vulnerable.

In contrast, if the price of an extra unit of electricity matches the cost avoided then:

1. parties that face that price can make the best decisions with respect to generation, storage and consumption of electricity
2. the value of (and price paid to) grid exports will match the price being charged for consumption
3. the benefit or cost to the individual is aligned with the benefit or cost to society
4. the outcome is efficient in and of itself (i.e. any response or non-response to those prices is just the right amount – not too much and not too little).

During this once in a generation energy transition, decisions and trade-offs are being made by households and small businesses as well as large businesses trying to reduce their emissions. Electrification of household, commercial and industrial businesses requires large amounts of capital. Network costs are a significant input into these capital investment decisions and getting them right significantly helps the flow of capital to get to the right people and places and meet the emissions reduction challenge.

3. We support reform of network tariffs

We agree with the statements made in the discussion paper (Chapters 6 and 7, Appendix D) concerning issues with cost-reflectivity of network tariffs, and support the points made by the AEMC under question 4 of the discussion paper.

Based on ARENA's knowledge base, we support considering a more standardised approach to network tariff setting.

The below table sets out cases ARENA has identified where network tariffs are influencing household and business operation (with regard to electricity use and storage) in ways that are unhelpful to society i.e. reduce individual costs well above societal cost savings.

Tariff case example	Issue
Consumption tariffs create a difference between value of electricity exported and imported	This price difference is inefficient (does not reflect cost) and creates an artificial incentive to spend time and money to self-consume i.e. neither import or export electricity
Storage located in distribution networks attracts network tariffs. Storage located in transmission networks does not attract network tariffs. Storage in distribution networks has tariffs waived if the network owns and leases the battery, while others have to apply for a waiver or discount.	Demonstrates heavy bias toward investing in transmission network and not in distribution network
Transmission networks consider Pumped Hydro Electric Storage (PHES) as auxiliary load and exempt from transmission network charges. Non-PHES but storage resources must negotiate (an added cost) with the network to achieve this exemption	Demonstrates bias between similar types of resources (storage) using different technologies
Demand (peak) tariffs are not aligned with network congestion or energy scarcity	Non-cost reflective tariffs discourage potentially network advantageous technology (eg e-Thermal Energy Storage (e-TES), electrolyzers, EV chargers, load flexibility etc)

Table 1: Tariff case studies and impacts – ARENA assessment

Note that it is our experience that network pricing is an issue for all customers, regardless of size and grid connection.

Network tariff reform is required urgently to avoid Australia experiencing a more expensive transition to net zero than is necessary. ARENA suggests the below as valid considerations for assessing tariff reform options, which are derived from our examples in table 1 (above):

- Volumetric network consumption-based tariffs faced by a consumer should reflect long run marginal cost (LRMC) or short run marginal cost (SRMC) but not both at the same time.
- Networks should, as a matter of course, evaluate the viability of reservation of network capacity via appropriately scaled fixed charges and congestion (SRMC) pricing as an alternative to network expansion in areas of its network that is expected to become congested
- Congestion (SRMC) pricing should be available to all connections in a congested area, not just those connections with CER as, for example, low prices during export congestion should be used to encourage more consumption
- Customers should retain agency over choice of tariffs, including network tariffs e.g. choose between higher fixed charges vs SRMC-based network tariffs)
- Network tariffs should not discriminate between different technologies e.g. PHES vs batteries vs e-TES)
- Network tariffs should not discriminate by network – transmission and distribution
- Now consumers can generate and store electricity, network tariffs should not encourage self-consumption as a mode of operation to avoid both import and export.

We acknowledge that a long transition, e.g. 5-10 years, is appropriate to shift to a set of network tariffs that meet these criteria. Like the shift from analogue to digital TV, the timeframe should be well signalled to consumers, given its importance to consumers' CER investment decisions and how significant those

investments are to them and to Australia's transition. Given the imperative and the length of time to complete, we suggest as an initial first step, that DNSPs could start by adopting a solar soak tariff (i.e. zero price during solar hours), where appropriate, to encourage more electricity consumption during daylight hours.

Please contact Greg Williams, Principal Policy Adviser, at greg.williams@arena.gov.au if you would like to discuss any aspect of ARENA's submission.

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