Appendix 4.1: Revised Tariff Structure Explanatory Statement

Revised regulatory proposal for the Evoenergy electricity distribution determination 2024 to 2029

Contents

List of tables

List of figures

1. Executive summary

1.1 Introduction

Evoenergy owns and operates the electricity network in the Australian Capital Territory (ACT). The prices Evoenergy can charge, and the structure of its tariffs, are regulated by the Australian Energy Regulator (AER). Evoenergy has prepared a Tariff Structure Statement (TSS) which outlines how it proposes to structure its tariffs and how customers will be assigned to different tariffs during the period 1 July 2024 to 30 June 2029.

Evoenergy submitted its proposed TSS to the AER in January 2023.[1] Following a period of consultation, the AER published its draft decision on Evoenergy's TSS in September 2023.[2] Subsequently, Evoenergy submitted its revised TSS in November 2023. The revised TSS has been updated in response to the AER's draft decision, stakeholder feedback, and new matters arising since Evoenergy's proposed TSS.

This document is Evoenergy's revised Tariff Structure Explanatory Statement (TSES). It provides the reasoning behind Evoenergy's revised TSS, and how Evoenergy has responded to feedback from the AER and other stakeholders following its initial TSS proposal in January 2023.

1.2 The context for Evoenergy's tariff structure statement

The pace of change in the energy industry over the last decade has been significant, with increased uptake in renewable energy technologies and the electrification of the energy supply. This includes the unprecedented uptake of rooftop solar, home battery storage and electric vehicles (EVs) – commonly referred to as consumer energy resources (CER). In addition, smart meters are continuing to be installed, and there is a legislated commitment to transition away from fossil fuel gas in the ACT by 2045. These changes present both challenges and opportunities for the ACT electricity network. A key instrument to help manage these changes is an electricity network tariff structure that accurately reflects network costs, and provides clear price signals that enable efficient network use and investment decisions. Evoenergy proposes a network tariff structure for the 2024–29 regulatory control period suitable for present and future ACT customers.

Evoenergy has engaged widely and deeply with the ACT community, retailers, aggregators and the ACT Government to understand what is most important as the energy landscape changes. The central theme gathered from stakeholder feedback was the need to ensure the tariff structure supports the energy transition and the uptake of renewable energy technology in the ACT. Evoenergy also heard that this progress must be balanced to ensure network pricing is transparent, equitable, and fair for all Canberrans. Critically, Evoenergy heard that network tariffs must be easy for customers to understand and simple for retailers to pass-through to customers.

The proposed changes to the ACT electricity network tariff structure in 2024−29 aim to strike a balance between supporting the adoption of renewable energy technology, maintaining simple tariffs, and improving equity in the network pricing structure.

1.3 Residential tariff reform

Network tariff reform for residential customers is the focus of Evoenergy's revised 2024–29 TSS (Attachment 4).[3] The proposed changes to the residential tariff structure are designed to send cost-

[1] Evoenergy, *Appendix 7.1: Tariff Structure Explanatory Statement for the ACT electricity distribution network 2024–29*, January 2023.
[2] AER, *Draft Decision Evoenergy Electricity Distribution Determination 2024 to 2029 (1 July 2024 to 30 June 2029) Attachment 19 Tariff structure statement*, September 2023.
[3] Evoenergy, Attachment 4: Revised Tariff Structure Statement, ACT electricity distribution network 2024−29, November 2023.

reflective price signals about the expected future use of the network by residential customers. The forecast uptake of renewable energy technologies and the transition away from fossil fuel gas means future network loads will be considerably different from those observed historically. Hence, the residential tariff reforms are designed to address the times and seasons at which the network (in residential areas) is expected to peak in the future.

Initially, Evoenergy considered introducing a new residential tariff designed for the future customer with rooftop solar, a home battery and a home energy management system. Such a tariff was trialled during the current regulatory period (2019–24). However, in the interest of keeping the network tariff structure simple (as per feedback from stakeholders), this tariff is no longer being proposed. Rather, the experience and lessons learned from the tariff trial have been incorporated into newly proposed versions of the residential demand tariff and the residential time-of-use (TOU) tariff.

1.4 Commercial tariff reform

Since Evoenergy's commercial network tariffs are already highly cost-reflective following reforms during the 2019–24 regulatory period, Evoenergy is proposing relatively minor amendments to the existing commercial tariff structure in the 2024–29 regulatory period.

A key feature of the commercial tariff reforms is the proposed introduction of a new tariff designed for large-scale batteries (and other large-scale storage technologies) that connect to the ACT distribution network. This reflects the anticipated development of stand-alone, grid-scale batteries connecting to the ACT distribution network, including community batteries. Evoenergy has been trialling this tariff structure during the 2019–24 regulatory period and has used this experience to propose a well-developed tariff structure designed to recognise the uniqueness of large-scale battery operations.

Evoenergy is also proposing new, individually calculated tariff options for very large customers connecting directly to Evoenergy's sub-transmission network, at 66kV and above. This responds to growing interest from customers, including large-scale battery operators, to explore new connection arrangements that are not currently covered by Evoenergy's existing HV tariffs.

In addition, Evoenergy is considering a tariff trial designed for EV public charging stations in the 2024–29 regulatory period. The trial tariff structure will be finalised following further analysis, with more details to be provided closer to the trial's commencement.

1.5 Changes since the initial TSS proposal

Since the initial TSS proposal in January 2023, Evoenergy has made a number of changes in its revised TSS to incorporate:

- the AER's draft decision on Evoenergy's initial TSS proposal;[4]
- additional feedback Evoenergy has heard from the ACT community and retailers about its proposed tariffs, including the need for simpler residential network tariffs;
- the latest available data on residential network loads and peak demand windows; and
- new individually calculated tariffs for very large new customers seeking to connect to Evoenergy's sub-transmission network during 2024−29.

These changes are described below.

[4] AER, *Draft Decision – Evoenergy Electricity Distribution Determination 2024 to 2029, Attachment 19 Tariff Structure Statement*, September 2023.

Responding to the AER's Draft Decision

The following table summarises how Evoenergy has responded to the requirements in the AER's draft decision on Evoenergy's proposed TSS.

Table 1 Evoenergy's response to the AER's draft decision

AER Draft Decision	Evoenergy's response
Require Evoenergy to investigate a controlled load tariff targeting EV charging and other flexible loads	Evoenergy has undertaken customer research and engagement on network tariff options to support EV charging and will continue its investigations of future-focussed flexible load tariffs that could be used to dynamically manage EV loads on the network. During the 2024−29 regulatory period, Evoenergy will offer its two existing controlled load tariffs to EV owners on an opt-in basis to encourage charging outside of the morning and evening peak periods. The controlled load tariffs provide a lower price for energy used between 9am–5pm and/or 10pm–7am AEST. More detail on Evoenergy's consideration of tariff options for EV charging is provided in section 10.
Require more clearly defined trigger events for the proposed contingent tariff adjustments	Evoenergy has removed the contingent tariff adjustment mechanism from its revised TSS. The removal will improve the simplicity of Evoenergy's tariff proposal and provide customers and retailers with greater certainty over the tariff structure during the 2024−29 regulatory period. Evoenergy's new residential TOU and Demand tariffs have been revised based on the latest load-profile analysis, and now incorporate some of the tariff features that were originally contemplated as part of the contingent tariff adjustment mechanism. This includes an extended evening peak period of 5pm−9pm AEST. More detail is provided in section 13.
Require the removal of the contingent tariff adjustment to mandatorily assign EV owners to residential demand tariffs	This requirement is addressed through the removal of the contingent tariff adjustments, as noted above.
Require including a basic export level for Evoenergy's large-scale battery tariffs	Evoenergy has incorporated a basic export level into its new large-scale battery tariffs for commercial customers (in residential areas). Evoenergy proposes a basic export level (BEL) of 2 kVAh which will apply for each critical peak event called by Evoenergy. More detail is provided in section 9.

Evoenergy's revised TSS also incorporates several enhancements recommended by the AER to improve the communication of network tariffs to customers and retailers. These are outlined in Table 2.

Table 2 Evoenergy's response to the AER's draft decision recommendations

AER Recommendation	Evoenergy's response
Include within the TSS a table that summarises the complete list of proposed and (continuing) existing tariffs and charging parameters for 2024−29	A table has been included in section 5.3 of the revised TSS, which is replicated in section 11.3 of the TSES.
Presenting a more detailed description of the policies and procedures governing tariff assignment and reassignment	A table has been included in section 6.7 of the revised TSS, which is replicated in section 12.4 of the TSES.
Including fact sheets and worked examples of how the proposed export rewards and charges will apply in practice	Evoenergy no longer proposes to introduce a residential export tariff in the 2024−29 regulatory period (see section 9). Evoenergy will continue to engage with customers and retailers on opportunities to provide education about Evoenergy's network tariffs and how customers can respond (assuming network tariffs are passed through to customers by retailers).
Including information explaining how relevant customers will be informed of the proposed capacity review mechanism for HV and LV commercial tariffs with capacity charges	Prior to the commencement of the 2024−29 regulatory period, Evoenergy will notify relevant customers about the capacity charge review mechanism, the eligibility criteria, and instructions for how customers can lodge an application with Evoenergy. Further information is provided in section 11.2.

Targeted tariff simplification for residential customers

Following Evoenergy's initial TSS proposal in January 2023, Evoenergy has continued to engage with retailers and the ACT community regarding the proposed tariff reforms for the 2024−29 regulatory period. A major theme in the feedback received was a concern over the growing complexity of network tariffs in the ACT. In particular, Evoenergy has heard that if network tariffs are too complex, they may not be adopted by electricity retailers and, even if they are adopted, customers may find it difficult to respond to complex price signals.

This feedback extended to Evoenergy's proposed export tariff for residential customers, which was designed to prepare the ACT tariff structure for the anticipated growth of export services in the future. Some retailers noted the difficulty of implementing the proposed export tariff, and customers expressed concerns about having limited ability to respond to export charges. Customers also thought that the export tariff sent mixed signals about the uptake of CER at a time when the ACT is transitioning towards electrification.

Evoenergy has factored this feedback in its revised TSS, which includes targeted simplification of the proposed residential tariffs as outlined below.

- **Removal of the proposed export tariff –** Evoenergy is no longer proposing to introduce the residential export tariff in its revised TSS (see section 9). Instead, Evoenergy will utilise the proposed 'solar soak' charges on the new residential demand and TOU tariffs to reward customers with a lower price for energy used between 11am–3pm AEST when exports from residential solar are typically high. Solar soak charges provide a simpler and more gradual introduction to export-based price signals, whilst still managing the costs of two-way flows on the network. Evoenergy will continue to monitor demand for export services, and the

performance of solar soak charges, before again considering the potential for export tariffs in future regulatory periods.

- **Simplified new TOU tariff –** Evoenergy has simplified its proposed residential TOU tariff by removing the inclining block off-peak charge and replacing it with a flat off-peak charge (see section 11.1). This results in a more familiar TOU tariff structure that is both easier for customers to understand and simpler for retailers to implement. The simplified TOU tariff responds to customer and retailer feedback requesting a simple, TOU tariff option as an alternative to the more advanced residential demand tariff.

The proposed simplification of residential tariffs has been generally supported in Evoenergy's engagement with customers and retailers (see section 5). Evoenergy considers that the simplified residential tariffs achieve a better balance between customers' desire for simpler tariffs and the need for tariffs to incentivise efficient use of the network. Evoenergy also notes the high costs of implementing the more complex network tariffs initially proposed in Evoenergy's TSS – including large investments in billing systems and processes.[5] Given the feedback received from stakeholders, Evoenergy does not consider that this investment is in customers' best interests at this time.

Evoenergy also recognises that there may be other opportunities to rationalise its suite of network tariffs for residential and commercial customers whilst still preserving fair and efficient network price signals. As smart meters become more prevalent and customers transition to more cost-reflective tariffs, Evoenergy will explore opportunities to consolidate its less cost-reflective and legacy tariffs in the next regulatory period (2029−34).

Updates to peak charging windows

Evoenergy's revised TSS considers the latest available network load data, which shows the accelerating pace of electrification in the ACT and the growing impacts of customers transitioning from gas to electricity. Evoenergy has adjusted the charging windows in its revised TSS to ensure the proposed residential tariffs send cost-reflective price signals at the times when the network is expected to experience peak demand. This includes:

- **An extended evening peak period on the new residential tariffs –** Evoenergy proposes to extend the evening peak window on the new demand and TOU tariffs by one hour to 5pm–9pm AEST (previously, 5pm–8pm AEST).[6] Evoenergy has observed that evening peak demand increasingly persists beyond 8pm AEST. Extending the evening peak period until 9pm AEST provides an important price signal to encourage customers to shift demand (such as EV fast charging) to later in the night when residential demand is typically lower.
- **A morning peak period on the new residential TOU tariff** – Evoenergy's initial TSS did not include a morning peak period on the new residential TOU tariff. More recent network load analysis indicates that the morning peak is becoming more prevalent on the network, in part driven by the transition of heating loads from gas to electricity. Evoenergy therefore proposes to include a morning peak period between 7am–9am AEST on the new residential TOU tariff. Evoenergy is not proposing to introduce a morning peak period on its new residential demand tariff, since the morning period is already covered by a cost-reflective demand charge and an energy consumption charge.

Evoenergy has carefully considered the customer bill impacts of the new peak charging windows to ensure the tariffs remain fair and continue to achieve a balanced and efficient level of revenue recovery (see section 14).

[5] The costs of implementing complex network tariffs would be incurred in the 2019−24 regulatory period, and do not form part of Evoenergy's expenditure forecasts for the 2024−29 regulatory period.
[6] For the proposed demand tariff, the evening peak period applies to the peak demand charge. For the proposed TOU tariff, the evening peak period applies to the peak energy consumption charge.

New individually calculated tariffs for large customers connecting to the sub-transmission network

Evoenergy currently does not have any customers that connect to its sub-transmission network. However, in response to feedback from very large customers that would like to connect to Evoenergy's sub-transmission network, Evoenergy proposes to develop new tariffs for sub-transmission customers (customers connecting at 66 kilovolts (kV) and above).

In light of the unique and varied circumstances that apply to customers connecting to the sub-transmission network, Evoenergy proposes to use individually calculated tariffs. These individually calculated tariffs will be highly efficient, since sub-transmission customers are sophisticated network users that can respond to advanced, cost-reflective price signals. In consideration of the unique connection characteristics and usage profiles of sub-transmission customers, Evoenergy proposes that the network tariffs for these customers would be individually calculated based on the circumstances.

Evoenergy's proposed individually calculated network tariffs are described in more detail in section 11.2.

1.6 Proposed tariff reforms

Evoenergy's network tariff reforms for the 2024–29 regulatory period have been informed by extensive consumer engagement and lessons learned from tariff trials carried out in the 2019–24 regulatory period. The tariff reforms in Evoenergy's revised TSS are summarised in Table 3. A more detailed explanation is provided in section 11.

Table 3 Summary of proposed tariff reforms

Tariff	Tariff reforms proposed for 2024–29
Residential	
New TOU tariff	• Introduce a low 'solar soak' charge, between 11am− 3pm daily, to encourage customers to soak up solar energy that is exported to the electricity network, and gradually introduce customers to export-related pricing concepts. • Introduce an extended evening peak period (5pm – 9pm) compared to the existing TOU tariff (5pm – 8pm). This responds to recent trends in residential network demand and will help manage the risks of EV charging in the evening, which can impose higher network costs. • No shoulder periods, providing a simpler and more cost-reflective tariff design.
New demand tariff	• Introduce a low 'solar soak' charge, between 11am− 3pm daily, to encourage customers to soak up solar energy that is exported to the electricity network, and gradually introduce customers to export-related pricing concepts. • Introduce an off-peak demand charge between 9pm−9am. • Introduce a seasonal peak demand charge with higher demand charges in the high season (winter months from 1 June to 31 August), and lower charges in other months. • Introduce an extended evening peak period (5pm–9pm) compared to the existing demand tariff (5pm–8pm), to manage the risks of higher evening residential loads (e.g. due to EV fast charging) that can impose higher network costs

Low voltage (LV) commercial	
kVA capacity tariffs	• Provision to review capacity charges in extenuating circumstances, as negotiated between Evoenergy and individual customers.
Streetlighting tariff Small unmetered loads tariff	• Remove the fixed network access charge; and only apply an energy consumption charge.
Large-scale battery tariff	• New tariff for large-scale, stand-alone batteries (and other storage technologies) connected to the distribution network. • Different peak and off-peak periods depending on the location of the ~~large-scale battery~~customer (residential or commercial area).
High voltage (HV) commercial	
All tariffs	• Provision to review capacity charges in extenuating circumstances, as negotiated between Evoenergy and individual customers.
Large-scale battery tariff	• New tariff for large-scale, stand-alone batteries (and other storage technologies) connected to the distribution network. • Different peak and off-peak periods depending on the ~~large-scale batteries'~~ customer's location (residential or commercial area). • Different price levels compared to the LV commercial large-scale battery tariff, described above.
Individually calculated tariffs for customers connecting to the sub-transmission network	• New individually calculated tariffs for new customers that connect at 66kV and above. • The tariff structure includes a peak demand charge, peak export rebate, capacity charge and, if necessary, an export charge and import rebate. • A net consumption charge will be included to recover jurisdictional scheme costs. • All prices are to be based on long-run marginal cost (LRMC), with residual costs recovered from the capacity charge. • Tariffs will be tailored to reflect customers' network use, any pre-funding of network assets, and the circumstances that apply to the relevant part of the sub-transmission network.

Note: All times refer to Australian Eastern Standard Time (AEST).[7]

Subject to approval by the AER, the tariff structures and assignment policy contained in the revised TSS will form the basis of Evoenergy's annual pricing proposals for the financial years 2024/25 to 2028/29. The AER will conduct a review process for annual prices to check consistency with the TSS, compliance with pricing principles, and other requirements, such as the control mechanism under the AER's final distribution determination for Evoenergy.

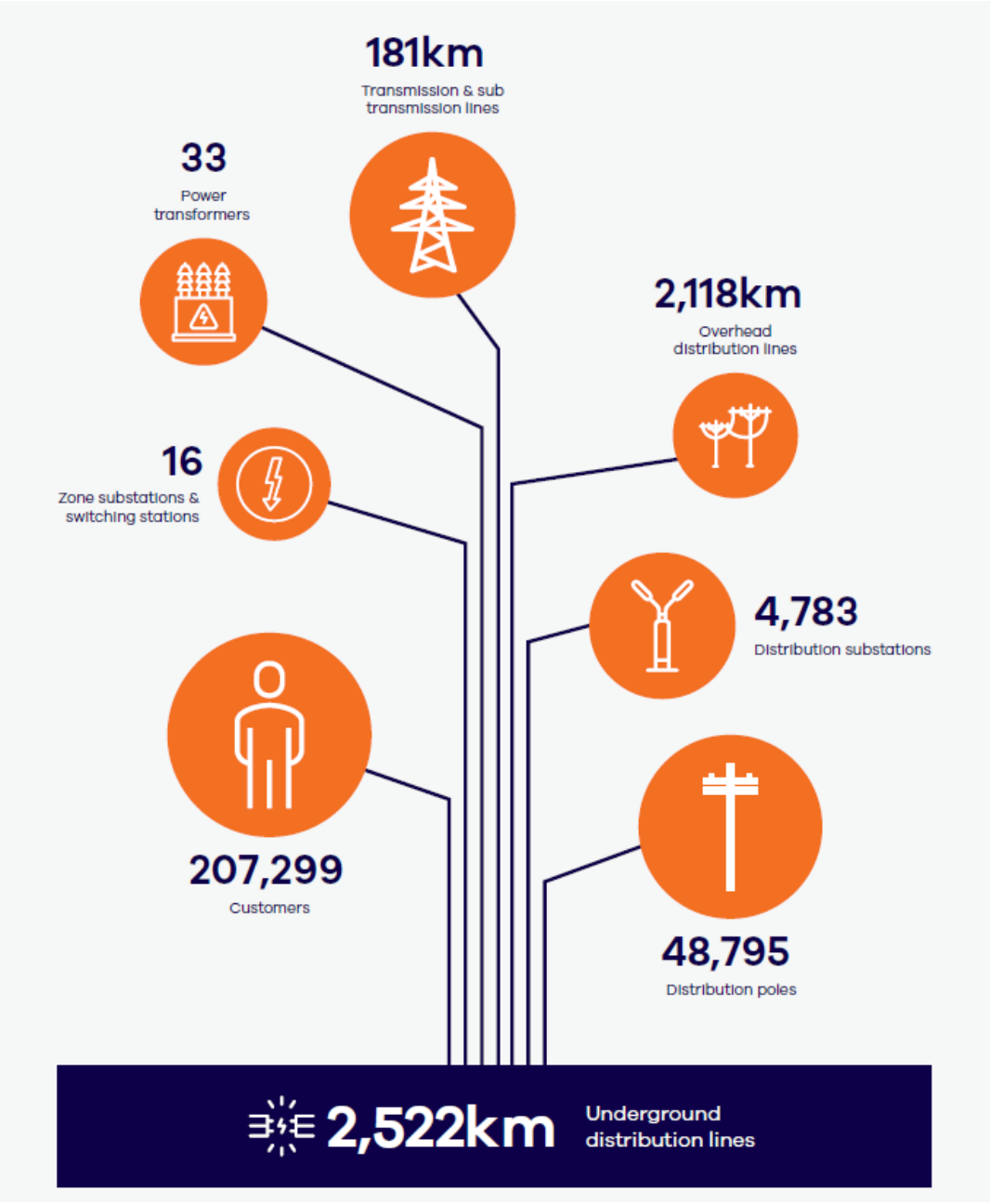
[7] AEST is the time zone 10 hours ahead of Coordinated Universal Time (UCT+10hours). AEST is used in the ACT from the first Sunday in April to the first Sunday in October. Australian Eastern Daylight Time (AEDT) is used during the remainder of the year (UTC +11hours). TOU times will therefore advance by 1 hour from the first Sunday in October until the first Sunday in April each year.

2. Introduction

2.1 About Evoenergy

Evoenergy owns and operates the electricity network in the ACT and gas networks in the ACT and surrounding New South Wales (NSW) areas. Within the ACT, Evoenergy operates and maintains a network of poles, wires, transformers and other equipment to distribute electricity safely and reliably to customers. The Evoenergy network is an essential part in the process of moving electricity from where it is generated to where customers use it. Figure 1 provides an overview of Evoenergy's electricity network.

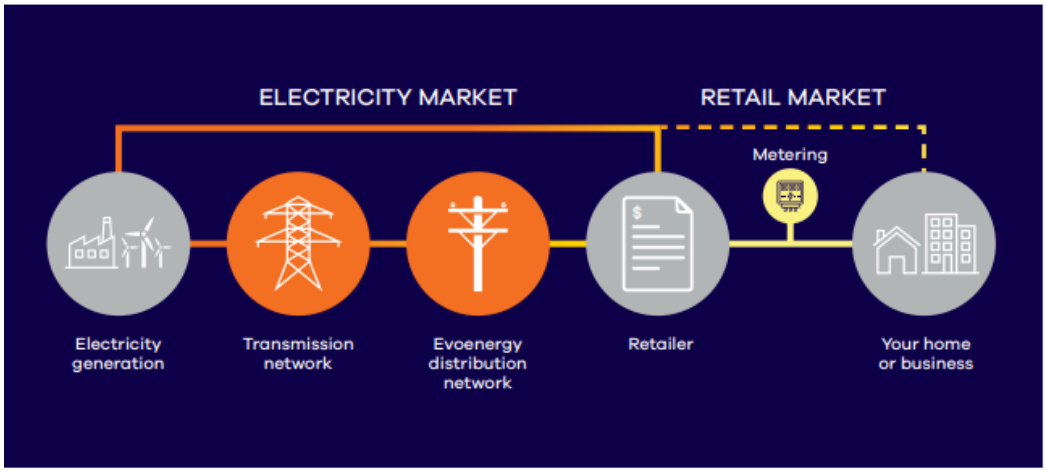
Figure 1 Evoenergy's electricity network



Source: Evoenergy Annual Planning Report 2022

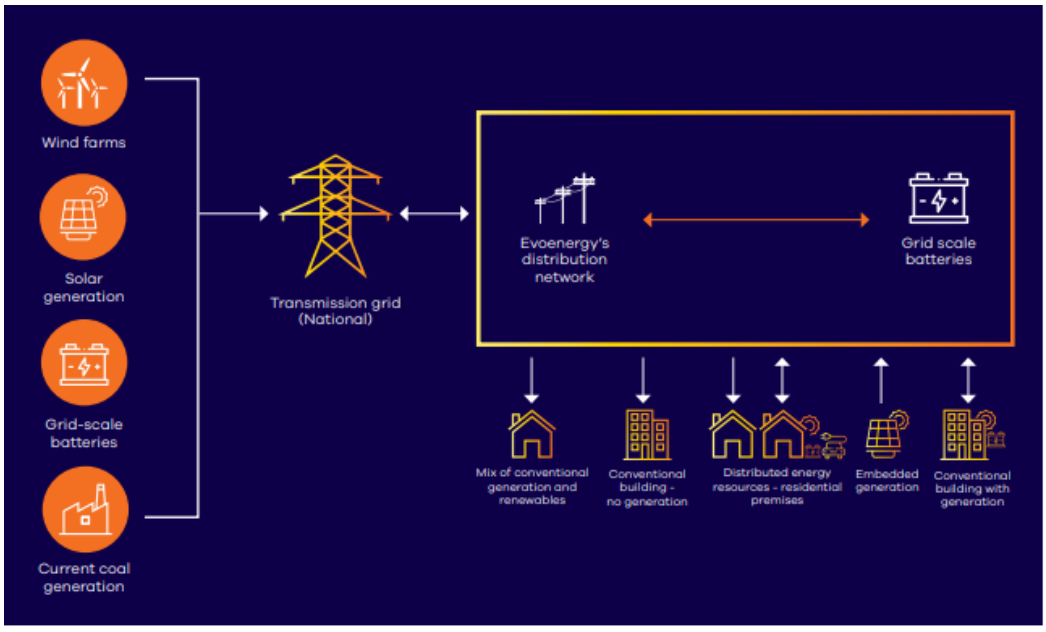
The electricity supply chain is shown in Figure 2. Electricity is produced at generation sites (power plants, solar farms, wind farms, etc.) and then transported through transmission lines to substations, which reduces its voltage to a level that can flow through distribution lines and substations to ACT homes and businesses. While the electricity network delivers (transports) electricity, a retailer's role is to purchase the electricity from generators and package up those and other costs (including network costs) to the end customer.

Figure 2 Electricity supply chain



The ACT electricity network, like all electricity distribution networks, was initially designed and constructed to only deliver centrally generated electricity to customers (i.e., a one-way flow of electricity). As more customers install roof top solar and home batteries, the network is increasingly used to export electricity from customers' premises to the network (i.e., two-way flows of electricity). Evoenergy's traditional role of managing the one-way flow of energy to customers is evolving into that of a distribution service operator (DSO), which facilitates two-way energy flows and enables the efficient use of customer and network assets. The transition of the electricity network from one-way to two-way flows is illustrated in Figure 3 below.

Figure 3 Role within a two-way energy delivery chain



2.2 Objective of this document

Evoenergy has prepared this revised Tariff Structure Explanatory Statement (TSES) as an accompanying document to the revised TSS, both of which have been submitted to the AER in accordance with the NER. The term 'revised' refers to the fact that these documents have been updated since Evoenergy's proposed TSS and TSES which were submitted to the AER in January 2023. The updates include Evoenergy's responses to the AER's draft decision on the TSS (issued in September 2023), additional feedback received from stakeholders, and updates to account for the latest available information at the time of Evoenergy's revised proposal.

The purpose of the TSES is to provide Evoenergy's customers and other stakeholders with clear and accessible information about current network tariffs, and how these tariffs are proposed to change in the future. It explains how Evoenergy intends to structure its network tariffs in the future, focusing on reforms for the 2024–29 regulatory period. The proposed changes are discussed with reference to the unique challenges and opportunities Evoenergy faces as the ACT network operator.

The NER requires network businesses such as Evoenergy to develop a TSS that clearly shows how the pricing principles have been applied to develop price structures and indicative price levels, typically for a five-year regulatory period.[8] The TSES should be read in conjunction with the TSS.

2.3 Structure of this document

Table 4 outlines the structure of this document, and a description of the key sections contained therein.

Table 4 Structure of the TSES

	Section	Description
2	Introduction	Introduces this TSES.
3	Background	Summarises Evoenergy's previous tariff reforms and describes key features of its network.
4	Key concepts and existing tariffs	Explains the meaning of key terms and presents Evoenergy's existing tariff structure.
5	Consumer engagement	Describes how Evoenergy engaged with stakeholders and incorporated their feedback in its proposed tariff reforms.
6	Approaches to setting prices	Explains the overarching two-step framework for setting prices for each tariff.
7	Pricing principles	Describes how Evoenergy's proposed approach complies with the pricing principles set out in the NER.
8	Tariff strategy	Summarises key principles that underpin Evoenergy's proposed tariff reforms based on feedback from stakeholders.
9	ACT export tariff transition strategy	Explains how Evoenergy's proposed tariffs respond to the anticipated growth in exports on the ACT network.
10	Residential tariff options targeting EV charging	Describes Evoenergy's proposed tariff strategy to support efficient EV charging on the network.

[8] NER, clause 6.18.1.

11	Proposed tariff reforms	Presents Evoenergy's proposed tariff reforms for the 2024–29 regulatory control period.
12	Proposed tariff assignment	Explains how Evoenergy will assign customers to network tariffs.
13	Consideration of contingent tariff adjustments	Explains Evoenergy's proposal to not apply contingent tariff adjustments in the 2024−29 regulatory period.
14	Indicative network bill impacts	Presents indicative network bill impacts of Evoenergy's proposed tariff structure.
15	Alternative control services	Sets out how prices are set for alternative control services.

3. Background

3.1 History of Evoenergy's tariff reforms

Evoenergy began introducing cost-reflective tariffs over 15 years ago. Cost-reflective pricing provides network electricity charges that reflect the cost of providing electricity network services to customers. Evoenergy's first TSS applied from July 2017 to June 2019.

The cost of expanding the network to facilitate more energy imports by customers is driven primarily by increases in peak demand, rather than customer's total energy use. Hence, a key theme of Evoenergy's tariff reforms has been introducing tariffs with charges based on customers' demand. This is typically achieved via a demand charge within a demand tariff, since demand tariffs better reflect the driver of network cost (i.e., they are more 'cost reflective').

In its first TSS, Evoenergy reformed the network tariff structure to include highly cost-reflective demand tariffs as the default for residential and small business customers with Type 4 meters (referred to as 'smart meters'). The below is a summary of the approved changes resulting from the first TSS.

- **Residential customers**: a new peak period demand tariff was introduced on 1 December 2017 for residential customers whose premises were fitted with a smart meter. This start date aligned with the timeframe for metering contestability. For customers without smart meters, Evoenergy better aligned price levels with the long-run marginal cost[9] of serving those customers.
- **LV commercial customers**: a new peak period demand tariff for LV commercial customers was introduced on 1 December 2017 while continuing to offer cost-reflective tariffs for customers in the LV commercial tariff class.
- **HV commercial customers**: given that HV commercial customers already had a highly cost-reflective network tariff structure, Evoenergy maintained the existing tariff structure for HV commercial customers and consolidated the number of tariffs from four to three.

The introduction of demand tariffs for residential and commercial customers with an installed smart meter provided customers with a more cost-reflective option compared to the existing tariff structure. These became Evoenergy's default tariffs to enable more active management and control of the distribution component of electricity bills for customers who manage when and how they use electricity.[10] Customers that default to the demand tariffs can opt-out to a TOU tariff.

From 1 December 2017, Evoenergy closed the following less-cost reflective tariffs to customers with smart meters:

- Residential Basic Network (code 010 and 011);
- Residential 5000 Network (code 020 and 021);
- Residential with Heat Pump Network (code 030 and 031); and
- General Network tariff (code 040 and 041).

Customers assigned to these tariffs may remain on them until they receive a smart meter. Given that customers with a smart meter are automatically assigned to a demand tariff (with a provision to opt-

[9] The concept of long run marginal cost is explained in section 77.1.
[10] Assuming retailers pass-on the tariff structure to consumers.

out to a TOU tariff), the above tariffs are expected to become obsolete by 2030, as per the final Metering Review report released by the AEMC on 30 August 2023.[11]

Box 1 – Meter types

Most residential and small business customers have an accumulation meter, although smart meters are becoming more prevalent because all new and replacement meters must be 'smart meters' (since December 2017).

Meter types:

- **Accumulation meters** (Type 6): measure the total electricity a customer uses. These meters are read manually. Customers with accumulation meters have limited tariff options. They are generally on a tariff that has a fixed charge and a single charge on total energy used.
- **Interval meters** (Type 5): record electricity use in 30-minute intervals. These meters are read manually. Customers with interval meters can be assigned to tariffs with prices that vary according to the time of day (e.g., TOU tariffs).
- **Smart meters** (Type 4): record electricity use in close to real-time. These meters are remotely read. Customers with smart meters can generally be assigned to any type of tariff structure, including demand-based tariffs.

Large business customers (typically using at least 160 MWh per annum) have either a type 1, 2, 3, or 4 meter. Some connections to the network, such as for streetlighting, have an unmetered connection, referred to as a Type 7 meter.

In its second TSS, which applies from July 2019 to June 2024, Evoenergy focused on refining the tariff structure for LV and HV commercial customers to sharpen price signals, increase cost reflectivity and encourage efficient use of the network. The reforms approved by the AER included the following.

- Replaced kVA anytime demand charges with kVA peak demand charges, which created a greater incentive for large commercial customers to actively manage their maximum demand during the peak demand window.
- Refined the tariff assignment policy for commercial customers.
- Closed access to one of the controlled load tariffs for new LV commercial connections as it sent a contradictory message to commercial customers about the commercial peak window.

Given the significant changes to the residential tariff structure during 2017, Evoenergy made limited changes to residential tariffs in its second TSS. This allowed Evoenergy to assess the lessons and feedback from these earlier tariff reforms to progress its journey towards tariff cost reflectivity further.

This document is part of Evoenergy's third TSS, which applies from 1 July 2024 to 30 June 2029. The third TSS continues to evolve Evoenergy's network tariffs towards greater cost-reflectivity and responds to the challenges and opportunities presented by the accelerating pace of electrification in the ACT.

3.2 ACT regulatory context

As with all electricity distribution network service providers (DNSPs) in the National Electricity Market (NEM), Evoenergy is regulated under the National Electricity Law (NEL) and the NER. The AEMC is

[11] AEMC, *Final report: Metering Review, 30 August 2023*. Available at: https://www.aemc.gov.au/market-reviews-advice/review-regulatory-framework-metering-services

responsible for setting the NER, while the AER monitors and enforces compliance with these regulatory requirements.

Once approved, this third TSS will remain in place from 1 July 2024 to 30 June 2029. The tariff structures in the approved TSS will remain substantially unchanged over the financial years 2024/25 to 2028/29. Evoenergy sets prices for those tariff structures to recover its approved revenue in annual pricing proposals that Evoenergy submits to the AER. Evoenergy cannot increase the revenue it is allowed to recover, which is set by the AER.

The Independent Competition and Regulatory Commission (ICRC) regulates ActewAGL Retail's standing offer electricity prices for small customers in the ACT. ActewAGL Retail is subject to price regulation by the ICRC for the current four-year period (2020/21 to 2023/24). The upcoming retail regulatory period will cover part of the upcoming network regulatory period.

3.3 Jurisdictional context

The ACT is an active leader in actions to reduce greenhouse gas emissions, passing *The Climate Change and Greenhouse Gas Reduction Act 2010 (ACT)* in 2010 "to promote the development of policies and practices to address climate change, to set targets to reduce greenhouse gas emissions and to provide for monitoring and reporting in relation to the targets."[12] As the owner and operator of both the electricity and gas networks in the ACT, Evoenergy has a critical role in supporting the transition needed to reduce emissions in the energy system over the next decade and beyond.

The following subsections provide an overview of the ACT's net zero emission target and the uptake of CER in the ACT.[13] ACT Government incentives and customer appetite to be more energy self-sufficient has led to an increase in the adoption of DER, including solar PV systems, home batteries and EVs. The increased uptake of these technologies and the evolving ways customers choose to use and share electricity is changing the role of network operators, including Evoenergy. Consequently, Evoenergy has carefully considered appropriate tariff reforms to support a two-way electricity network that efficiently uses both customer and network assets, whilst balancing the need for tariffs that are easy-to-understand and meet community expectations for fairness. The forecast uptake of CER is outlined in the subsections below, followed by an overview of the ACT network and an explanation of ACT retail bills.

ACT: net zero emissions by 2045

The ACT Climate Change Strategy sets a plan to achieve net zero emissions by 2045 (based on 1990 levels).[14] In August 2022, the ACT Government set out its position to pursue an electrification pathway to achieve that target in its paper *Powering Canberra: Our pathway to electrification*.[15] The paper flags the ACT Government's intent to release the first stage of an Integrated Energy Plan in 2024, informing how it plans to transition the ACT away from fossil fuel use.[16]

[12] *The Climate Change and Greenhouse Gas Reduction Act 2010* (ACT), 2010. Available here: https://www.legislation.act.gov.au/a/2010-41/
[13] Distributed Energy Resources (DER) are consumer-owned devices that can generate or store electricity or have the 'smarts' to actively manage energy demand.
[14] https://www.climatechoices.act.gov.au/policy-programs/act-climate-change-strategy
[15] ACT Government, *Powering Canberra - Our pathway to electrification*, ACT Government Position Paper, August 2022, p 5.
[16] ACT Government, *Powering Canberra - Our pathway to electrification*, ACT Government Position Paper, August 2022, p 5.

The ACT pathway towards electrification will have a direct impact on Evoenergy's network – including the impacts of customers switching from gas to electricity to meet their essential energy needs, and the accelerating uptake of EVs.

The vast majority of the ACT's greenhouse gas emissions are from transport (more than 60 per cent).[17] To address this, the ACT Government released the Zero Emissions Vehicle Strategy in July 2022.[18] This included commitments to phase out sales of new light internal combustion engine vehicles by 2035 and to roll out more EV charging stations to ensure at least 180 publicly available stations by 2025.[19]

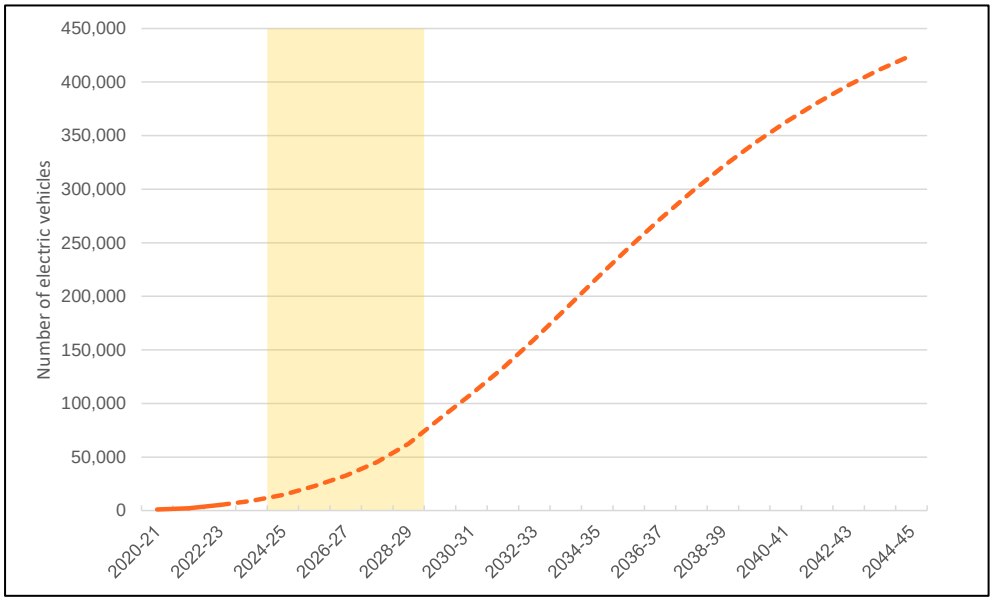
Evoenergy's proposed tariff reforms have been developed with consideration and analysis of how the ACT electricity network is expected to be used as the ACT transitions to a net zero emissions future.

Electric vehicles (EVs)

Given that EVs are expected to be predominantly recharged via the electricity network, Evoenergy's network has a fundamental role in enabling the decarbonisation of the transport sector as the ACT moves to a net zero emissions future. This new load will provide challenges and opportunities for Evoenergy.

The tariff reforms proposed for the 2024–29 regulatory period consider appropriate price signals that enable the network to continue to operate efficiently as EV recharging becomes more prominent. The ACT already has the highest per capita rate of EV sales (by state/territory) in Australia.[20] This trend is expected to accelerate in anticipation of the achievement of the net zero emission target set by the ACT Government (see Figure 4).

Figure 4 Forecast number of electric vehicles



Source: Evoenergy forecasts
Note: The yellow highlighted period represents the 2024–29 regulatory period.

Given the projected rate of EV uptake and its impact on the network is still uncertain, Evoenergy proposes to incorporate flexibility into its future tariff structure so that price signals can change in line with the adoption of EVs. Feedback from Evoenergy's customers clearly states they are seeking an

[17] ACT Government, *ACT's Zero Emissions Vehicles Strategy 2022 - 30*, July 2022, p 2.
[18] ACT Government, *ACT's Zero Emissions Vehicles Strategy 2022 - 30*, July 2022.
[19] ACT Government, ACT's Zero Emissions Vehicles Strategy 2022 - 30, July 2022, p 16.
[20] As at September 2022, EV sales in the ACT represented 9.5 per cent of total vehicle sales. See: Electric Vehicle Council, *State of Electric Vehicles*, October 2022, p 10.

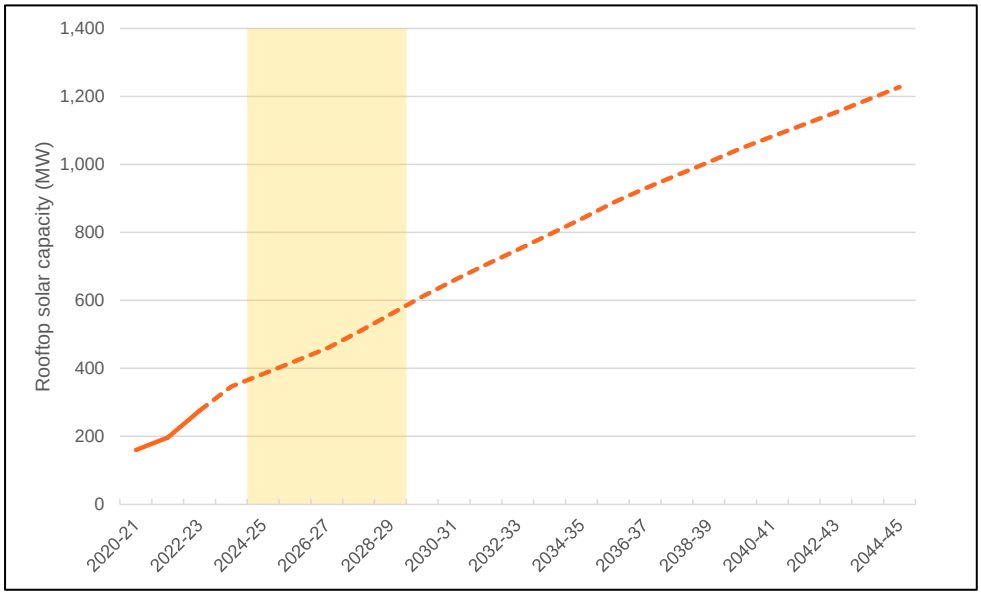
electricity network that is fit for purpose as the electrification of transport accelerates. This includes the transition of public transport and commercial fleets as well as privately owned vehicles. At the same time, customers prefer tariff structures that are simple, and allow customers to retain control over when and how they charge. Whilst it is not expected to be a problem in the 2024−29 period, there is a risk that traditional tariff structures (with fixed peak and off-peak periods) could lead to the creation of new network peaks in the future as EV owners look to utilise high-powered chargers during periods of low prices.

The tariff mechanisms proposed to handle the increased uptake of EVs in a cost-reflective manner during the 2024−29 regulatory period are described in sections 10 and 11. Evoenergy has also undertaken initial research and customer engagement on future-focussed, flexible-load tariffs that can be used to manage EV charging more dynamically in response to network constraints. Such tariff options may help resolve the constraints of static peak and off-peak periods that feature in traditional network tariffs. The findings of Evoenergy's research are described in section 10, and Evoenergy will continue to explore tariff options targeting EV charging for introduction in future regulatory periods.

Solar PV installations

The uptake of rooftop solar photovoltaic (solar PV) systems in the ACT increased significantly during the 2019–24 regulatory period, almost doubling from 3,808 unit installations in 2019 to 6,738 unit installations in 2023 (as of 24 November 2022).[21] With a total of 45,000 solar units installed in the ACT,[22] approximately 25 per cent of Evoenergy's customers now have rooftop solar PV. Evoenergy expects this strong trajectory to continue throughout the 2024–29 regulatory period as customers increasingly look to take control of their electricity bills and contribute to the transition to a cleaner energy system, as illustrated in Figure 5.

Figure 5 Forecast capacity of rooftop solar PV



Source: Evoenergy's forecasts.
Note: The yellow highlighted period represents the 2024–29 regulatory period.

Solar irradiance is generally highest in the middle of the day, so generation from rooftop solar PV peaks at that time. The self-generated electricity that customers do not use is typically exported into

[21] Clean Energy Regulator, *Postcode data for small-scale installations*, 18 November 2022, available at https://www.cleanenergyregulator.gov.au/RET/Forms-and-resources/Postcode-data-for-small-scale-installations#SGU--Solar-Deemed, accessed 24 November 2023.
[22] Ibid.

the network for other customers to use. However, when most self-generated electricity is exported to the network during the middle of the day, it coincides with the time of day when demand (in primarily residential areas) is generally relatively low. This can create localised imbalances between demand and supply that cause the voltage on the network to fluctuate. Over time, these voltage fluctuations can put at risk the safe and reliable provision of the network services Evoenergy provides, which may result in additional costs to manage these risks in future.

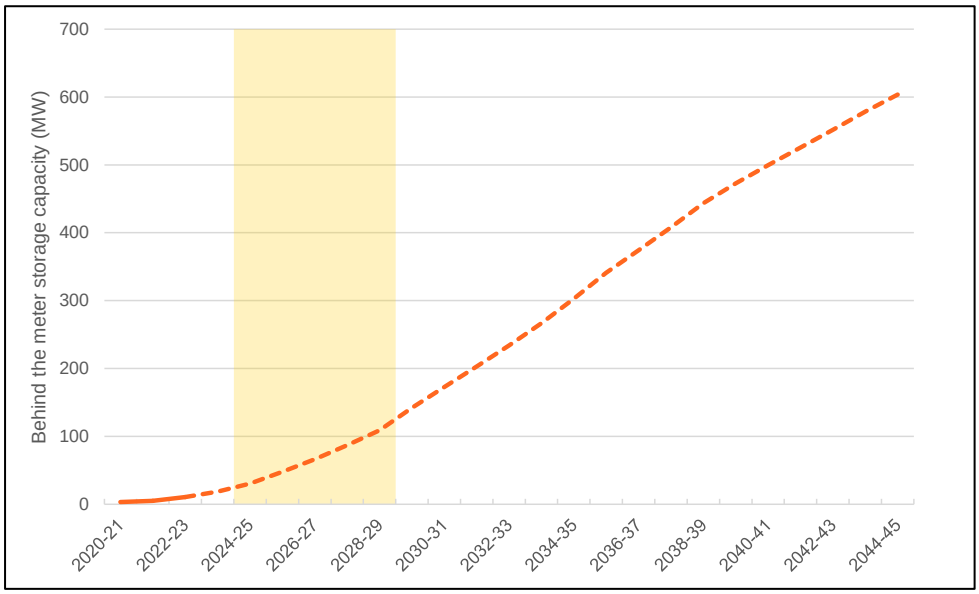
For the first time, Evoenergy proposes to introduce 'solar soak' charges on its residential tariffs to address the forecast increasing uptake of solar PV. These reforms are discussed in section 11.

Home battery storage

Home batteries can store energy either imported from the electricity network or self-generated from a customer's solar PV. Batteries can then discharge that electricity to meet that customer's electricity needs later or for use by other customers by exporting into the electricity network.

The number of customers that have invested in battery storage systems on their premises – also known as behind-the-meter storage – is growing from a low base. In 2019, 337 batteries were installed (at the same time as solar PV) in the ACT. By 2022, batteries installed had increased by over 2.5 times to 868 units (as of 18 November 2022).[23] The rate of battery installations is expected to continue ramping up as the cost of battery storage falls. Evoenergy expects the aggregate capacity of home batteries to increase over the next regulatory period (2024–29), as illustrated in Figure 6.

Figure 6 Forecast capacity of behind-the-meter storage



Source: Evoenergy's forecasts.
Note: The yellow highlighted period represents the 2024–29 regulatory period.

Home batteries present a significant opportunity to improve the efficiency of how a customer uses the network by:

- Recharging their battery from the network during the middle of the day when there is excess electricity supply on the network (i.e., to soak up solar exported onto the grid at that time).

[23] Clean Energy Regulator, *Postcode data for small-scale installations*, 18 November 2022, available at https://www.cleanenergyregulator.gov.au/RET/Forms-and-resources/Postcode-data-for-small-scale-installations#SGU--Solar-Deemed, accessed 7 December 2022.

- Storing self-generated solar, thereby reducing the imbalance between supply and demand in the middle of the day.
- Freeing up excess network capacity in the evening by discharging stored energy.

The benefits of CER – both solar PV and home batteries – will be compounded as Home Energy Management Systems (HEMS) become more prevalent. HEMS enable customers to schedule both their demand and supply (from solar and/or batteries) to minimise the costs they impose on the network, thereby reducing their network electricity bill.[24] Customers with EVs may also be able to benefit from HEMS, by controlling when and how fast their cars are charged in response to network price signals and availability of solar generation.

HEMS have the potential to dramatically increase responsiveness to cost-reflective tariffs since they allow the management of energy use and DER:

- with minimal or no marginal effort;
- without any adverse effect on the amenity they receive from energy appliances; and
- so as to provide the opportunity to reduce the network component of the electricity bill.

Large-scale batteries

Evoenergy expects to receive a number of connection applications from large-scale batteries in the coming years, with the Federal Government committing to three community batteries,[25] and the ACT Government committing to install at least 250 MW of batteries.[26]

Large-scale batteries have the potential to both impose network costs (similar to other large customers) and reduce network costs (through their ability to address import or export related network constraints). This is because, in contrast to many of Evoenergy's other customers, large-scale batteries are not primarily 'consumers' of electricity. Rather, these batteries are typically commercial entities that import and export energy at different times, participate in wholesale electricity markets and provide various services (e.g., Frequency Control Ancillary Services (FCAS)).

The sophisticated nature of their activities means that large-scale batteries are uniquely placed to respond to highly cost reflective price signals and contribute to improving network utilisation. To do so will require large-scale batteries to respond differently depending on where in the distribution network they are located (i.e., in a commercial or residential area).

Evoenergy has been trialling a tariff suitable for large-scale batteries during the 2019–24 regulatory period. This experience is used to propose permanent ~~large-scale battery~~ tariffs applicable to large-scale batteries and other large-scale storage technologies in the 2024–29 regulatory period, as described in section 11.

[24] This assumes the customer is on a cost reflective tariff.
[25] The Canberra Times, *Federal Labor's Chris Bowen promises community batteries in Casey, Dickson and Fadden*, 28 March 2022, available at https://www.canberratimes.com.au/story/7675065/labor-promises-community-batteries-for-act/, accessed 26 October 2022.
[26] ABC News, *ACT Labor promise Canberra-wide network of renewable energy batteries if elected*, 30 September 2020, available at https://www.abc.net.au/news/2020-09-30/biggest-renewable-battery-promised-act-labor-election/12715314, accessed 26 October 2022.

ACT network charges and retail bills

Evoenergy's network costs are one component of the final bill that ACT customers receive from electricity retailers. A customer's final electricity bill reflects a combination of costs incurred in providing customers with electricity which can be summarised into two components:

- **Network component**: primarily covers the poles and wires required to deliver electricity.
- **Retail component**: covers the electricity retailer's costs, including the actual cost of purchasing the electricity, and other costs that are not included in the network component. Evoenergy has no control over the retail cost component.

The network component specifically includes the following:

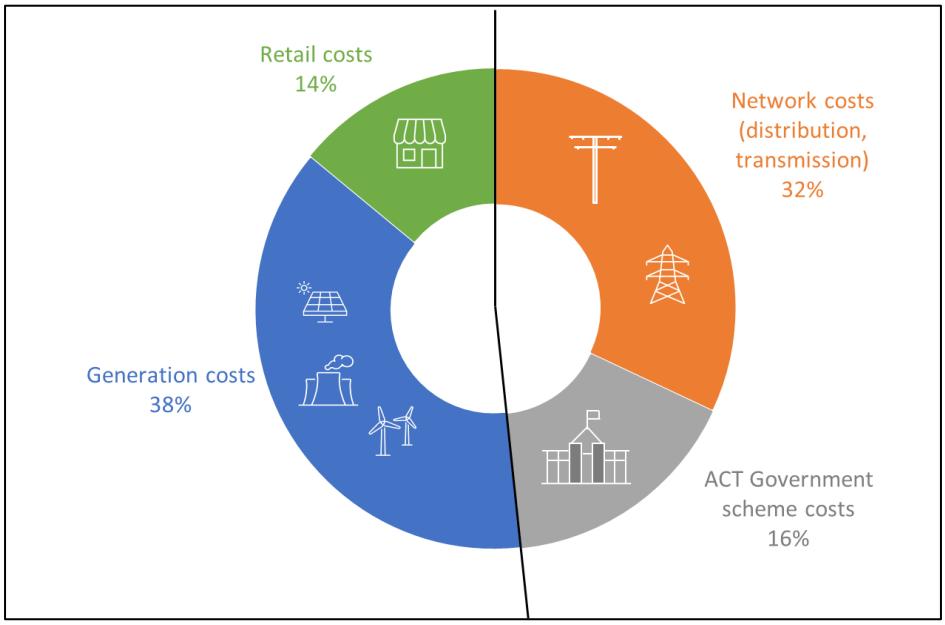
- **Distribution costs**: the cost of installing, operating and maintaining poles and wires that deliver electricity from the substations to homes and businesses.
- **Transmission costs**: the cost of high voltage lines that deliver electricity from the large electricity generators to substations.
- **ACT Government levies, taxes, and tariffs**: the energy industry levy, the utilities network facilities tax, and the feed-in tariffs for small, medium, and large-scale solar and wind. Evoenergy doesn't control the jurisdictional-specific components of the bill.
- **Metering costs**: the cost of providing applicable electricity metering services.

The retail component of the bill includes energy purchase costs (retailers purchasing electricity from generators and hedging those costs), and retail costs and margins (reflecting retailer operating costs).

Evoenergy doesn't control the structure of retail tariffs, although some retailers choose to incorporate the structure of Evoenergy's network tariffs in their retail offers to customers. The way in which network prices are set and passed through by retailers can influence how customers consume electricity, which has implications for the future cost of providing a safe and reliable network service. Importantly, only the network component of the electricity bill is determined as part of this five-year regulatory review process.

Figure 7 shows the components of an average annual electricity bill based on 2022/23 prices. The charges that Evoenergy passes on to retailers (inclusive if ACT Government levies) typically make up around half of a typical customer's electricity bill.

Figure 7 ACT electricity bill composition



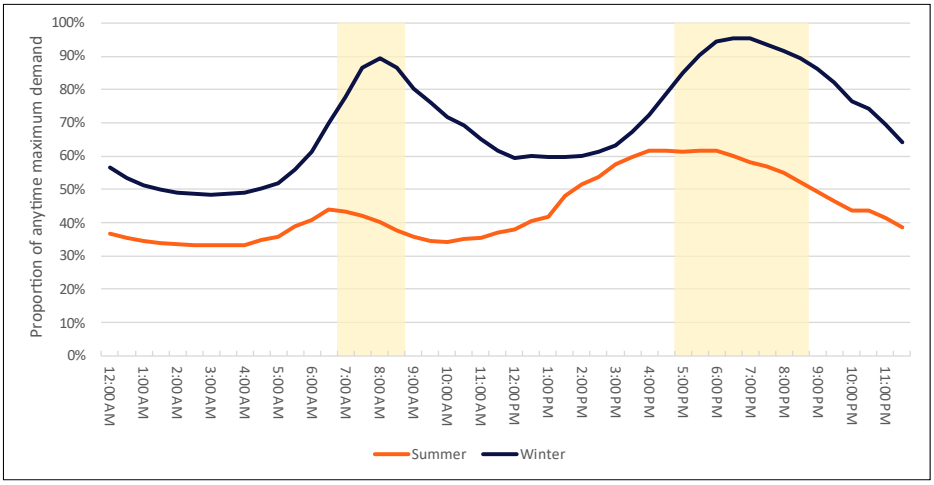
Source: ICRC, Retail electricity price recalibration 2022–23: standing offer prices for the supply of electricity to small customers, 6 June 2022.

3.4 The ACT electricity network

Evoenergy's costs are typically driven by peaks in demand which are often caused by customers using heating or cooling appliances on very cold or hot days. Although these peaks in demand have historically occurred in either summer or winter, the highest peaks have generally occurred during winter. Demand in cold winter months typically spikes in the morning when customers wake up before subsiding during the day, with the highest peak typically occurring in the evening when customers are home using electrical appliances, including heaters.

Figure 8 illustrates the average network demand across the top five highest peaking days in the winter and summer of 2022/23. Peak network demand is typically lower in summer (orange line) compared to the winter peak (blue line). Specifically, during 2022/23 peak demand during winter was approximately 36 per cent higher than summer peak demand. Figure 8 also illustrates the emergence in 2022/23 of a morning peak in demand that rivals the evening peak.

Figure 8 Average Maximum Demand on top five peak demand days 2022/23



Source: Evoenergy zone substation data.
Notes: The yellow area represents the peak periods (7am−9am and 5pm–9pm AEST). The peak winter day was 21 June 2023 and the peak summer day was 20 February 2023.

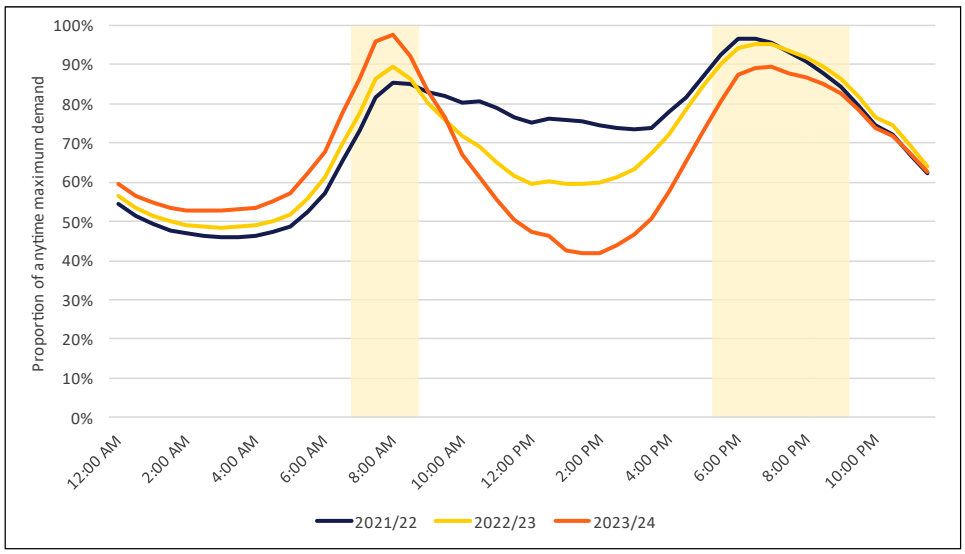
Evoenergy selected 2022/23 as a representative year for analysis purposes since it offers the most reliable projection of future demand, with fewer discrepancies caused by COVID-19 lockdowns which primarily occurred during 2019/20 and 2021/22.

Load on Evoenergy's network is characterised by morning and evening peaks in energy demand. Historically, maximum network demand has occurred during the evening peak period, with a pronounced but relatively lower peak in the morning.

However, Evoenergy's analysis of recent peak demand events indicates an upwards trend in the morning peak to a level that rivals the evening peak. The outworking of this trend is most evident in the new 2023/24 data that Evoenergy has incorporated in this revised TSS, as illustrated in Figure 9.

Figure 9 presents the average demand profile across the top five peak demand days during the winter season and demonstrates a relative increase in the morning peak relative to observed maximum demand between 2021/22 and 2023/24.

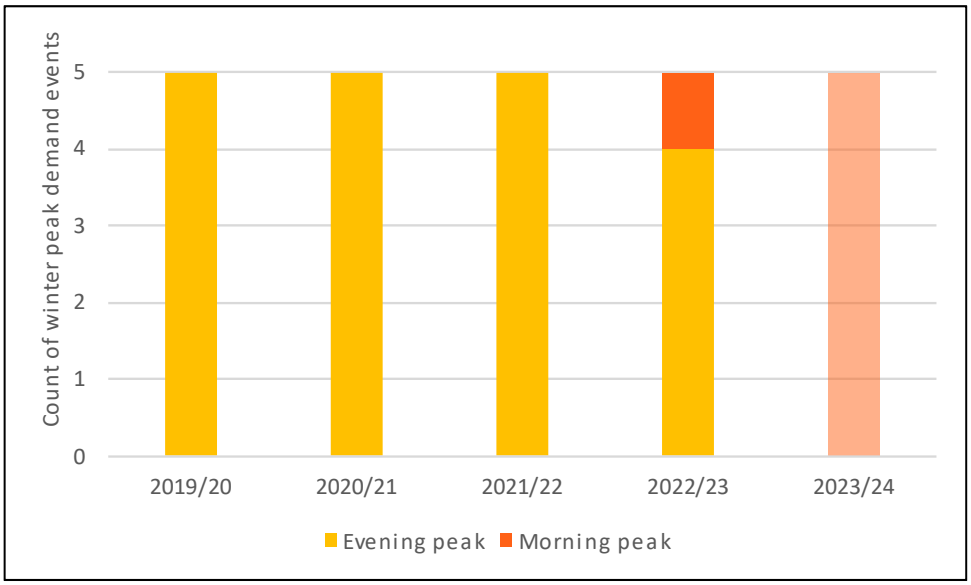
Figure 9 Average winter maximum demand



Source: Evoenergy zone substation data for top five maximum demand days per financial year as a proportion of the maximum observed demand for each year.

Figure 10 presents the timing of the top five maximum demand days for each year between 2019/20 and 2023/24. It shows the emergence of morning peaks in contributing to high demand periods across Evoenergy's network in recent years.

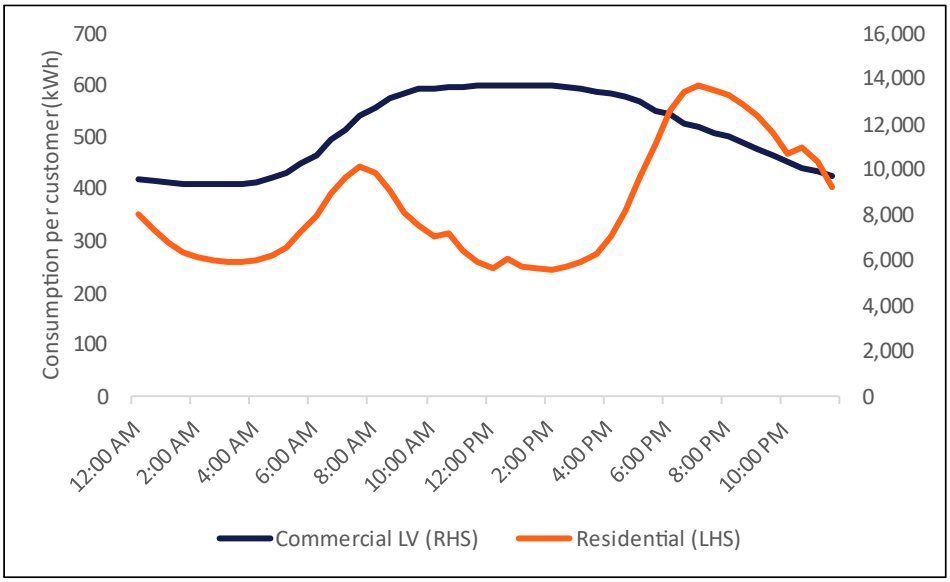
***Figure 10* Timing of high periods of network demand**



Source: Evoenergy analysis of top five peak demand days per year. Note that 2023/24 is a partial year and only includes data between July and September (inclusive).

Figure 11 shows a typical profile of residential and commercial loads on the Evoenergy network over a 24-hour period. It shows that a residential customer typically uses the most electricity in the morning and evening, while a commercial customer typically uses the most electricity in the middle of the day during typical business operating hours.

Figure 11 Residential and commercial load profiles 2022/23 (consumption per LV customer, kWh)



Source: Figure presents a sample of Evoenergy customer load across approximately 10,000 residential customers and 6,800 low voltage commercial customers.

Evoenergy explains the key features of residential and commercial customer demand in more detail in section 11. It also describes how very low levels of demand in the middle of the day in residential

areas of the network are increasingly becoming drivers of future network costs and how Evoenergy is responding with innovative tariff reforms.

4. Key concepts and existing tariffs

This section describes key tariff-related concepts for the current 2019–24 regulatory period, which provide important context to the proposed reforms for the upcoming 2024–29 regulatory period.

Key terms that Evoenergy uses throughout this TSES are summarised below and described in more detail in the subsections that follow.

- **Tariff class**: group of customers that have similar characteristics.
- **Tariff component**: the name given to each of the charges that comprise a tariff.
- **Charging parameter**: information regarding how and when a tariff component and level is applied.
- **Tariff**: the name given to a selection of charging components.
- **Tariff level**: the price that is charged for each tariff component.

4.1 Tariff classes

Evoenergy serves approximately 210,000 residential and commercial electricity customers assigned to three groups – called tariff classes – based on their characteristics.

Tariff classes are important for customers because they determine the selection of tariffs that are available to them. The NER requires tariff classes to be established by grouping retail customers on an economically efficient basis and avoiding unnecessary transaction costs. Evoenergy therefore groups customers into tariff classes based on the following two features that reflect the way customers use Evoenergy's network.

- The nature of their connection activities – residential or commercial.
- The level of the network to which they connect – low voltage (LV) or high voltage (LH).

Customers on the LV network connect at less than 11,000 volts (11kV), which are typically connections at the street level. Both commercial and residential customers can connect to the LV network; hence there are two tariff classes for the LV network – LV residential and LV commercial.

Customers connected to the HV network connect at or above 11 kV. These customers are required to make a capital contribution towards their connection assets and transformers. These customers also have the option of owning and operating their own HV assets. There is only one tariff class for the HV network because only commercial customers can connect to that part of the network.

On this basis, Evoenergy has and proposes to continue to have the following three tariff classes.

1. LV residential customers
2. LV commercial customers
3. HV commercial customers

4.2 Tariff components

Historically, Evoenergy's tariffs have typically comprised a mix of the following tariff components.

- Fixed network access charge
- Energy consumption charge
- Maximum demand charge
- Capacity charge

Fixed network access charge

The fixed network access charge is a fixed daily charge (typically charged in cents per day) that does not vary with electricity consumption, demand or capacity. It is charged per customer for residential customers, and per connection point or account for LV and HV commercial customers.

The fixed network access charge is based on the cost of constructing and maintaining connection assets and servicing customers in each tariff class, including customer service costs such as network call centre costs.

Energy consumption charges

Energy consumption or usage charges apply to each unit of electricity consumed. The cents per kilowatt hour (c/kWh) or cent per kilovolt hour (c/kVAh) rates may vary:

- with the level of consumption (with higher rates applying above certain thresholds); or
- with the time-of-use (with lower rates applying outside peak periods).

Demand charges

Maximum demand charges are levied on each unit of a customer's maximum demand (in c/kW/day or c/kVA/day), measured at each connection point. Households typically have one connection point, but commercial customers can have more than one connection point.

Maximum demand is equal to the highest demand calculated coincident over a 30-minute clocked interval (starting on the full or half hour) during the billing period, which is typically a calendar month. Maximum demand charges may also be seasonal, meaning the demand charges can vary according to season. Maximum demand charges provide a price signal about the relatively high cost of providing capacity to meet demand. They also provide incentives for customers to smooth their load more evenly and improve their power factor, which allows the network to deliver energy more efficiently. These price signals have proven to be effective demand management tools, particularly for commercial customers that generally have a better ability to respond to advanced price signals compared to most residential customers.

Capacity charges

Evoenergy's capacity charges are levied on a similar basis to maximum demand charges (in c/kVA/day) but are applied to maximum demand measured over a much longer, historical period. Specifically, the capacity charge is based on the customer's highest demand recorded coincident over a 30-minute clocked interval (starting on the full or half hour) during the previous 13 months, including the current billing month.

Evoenergy commenced the application of maximum demand and capacity charges for most commercial tariffs several years ago. Maximum demand and capacity charges are based on the cost of providing capacity to meet a customer's maximum demand. They are intended to provide incentives for customers to manage their load on the network. Applying these charges has further strengthened Evoenergy's price signals, providing incentives to use the network efficiently.

Critical peak export charge/rebate

Customers on tariffs with a critical peak export charge/rebate are notified (by Evoenergy) of upcoming critical peak events up to 48 hours before the event commences. The maximum duration of each critical peak event and the number of times a critical peak event can be called are set out in the charging parameters. Customers who export during a critical peak event will receive a charge or rebate (depending on the tariff component) based on electricity exported within the critical peak period.

Under the NER, export charges will apply to exports beyond a basic export level (approved by the AER) for ten years.

4.3 Charging parameters

Charging parameters refer to the specific features of tariff components including how and when a tariff component is applied. Charging parameters are designed to promote efficient use of the network. This particularly applies to energy consumption and demand tariff components that aim to send price signals about future network costs. For example, the charging parameter for the Evoenergy residential off-peak charge for energy consumption is currently 10pm–7am AEST.

Charging parameters can help customers better manage the network portion of their electricity bills, by signalling how to use the network efficiently. Importantly, the charging parameters that can be applied depend on the metering technology installed at a customer's premises.

4.4 Existing tariffs

Each tariff class contains a set of tariffs, and each tariff is structured to include a unique set of tariff components with specific charging parameters. More cost-reflective tariff structures include demand-based tariff components, with charging parameters that apply those demand price signals when demand (on the network used by a customer) typically peaks. Evoenergy has been progressively implementing more cost-reflective tariffs over time, with the uptake of those tariffs boosted by the continued deployment of smart metering technology.

On 1 December 2017, in line with the timing of the Metering Rule Change,[27] Evoenergy introduced peak demand tariffs for residential and LV commercial customers with smart meters. Prior to the implementation of peak demand tariffs for small customers, all new small customers were assigned to the TOU tariff as the default tariff and were able to opt-out to flat or block tariffs.

HV commercial and large LV commercial customers have historically been offered tariffs with demand and/or capacity tariff components, which provide incentives to manage their peak demand, together with TOU consumption charges to provide incentives to consume energy more efficiently.

The subsections below briefly describe Evoenergy's existing key tariffs for customers in each of the tariff classes. These tariffs are important context to Evoenergy's proposed reforms. Specifically, the

[27] AEMC, *National Electricity Amendment (Expanding competition in metering and related services) Rule 2015*, 26 November 2015.

proposed tariff reforms for the 2024–29 regulatory period are modifications of the existing residential demand and TOU tariffs.

Existing residential tariffs

This subsection describes the key features of Evoenergy's existing key tariffs for residential customers.

Residential demand tariff

The residential demand tariff gives residential customers the opportunity to actively manage and control the size of the network component of their electricity bills by considering when and how they use electricity. [28]

The demand tariff includes the following three tariff components.

- A fixed network access charge.
- An anytime energy consumption charge.
- A maximum demand charge based on the customer's highest 30-minute demand between 5pm and 8pm (AEST) each calendar month.

Since 1 December 2017, the residential demand tariff has been the default tariff for residential customers with a smart meter installed.

Residential TOU tariff

The residential TOU tariff provides an opportunity for customers with the necessary metering capability to respond to price signals at different times of the day and manage their network electricity bill. [29]

The residential TOU tariff comprises the following tariff components.

- A fixed network access charge.
- An off-peak, shoulder and peak energy consumption charge applies at different times of the day.

Customers with a smart meter can opt-out of the residential demand tariff and into the residential TOU tariff once in a 12-month period.

Residential controlled load tariffs

Residential customers can opt-in to one of Evoenergy's secondary, off-peak 'controlled load' tariffs. These tariffs are available to customers who have a separate controlled load element at their premises which is installed to the satisfaction of Evoenergy. All other energy used (i.e. any usage not connected to the controlled load element) is charged according to the customer's primary network tariff (e.g. a Residential Demand or Residential TOU tariff).

Evoenergy currently offers two controlled load tariffs, as follows:

- The **Off-peak (1) Night Network Tariff** which provides operation for a minimum of six hours and a maximum of eight hours within any one day, between 10pm–7am AEST.

[28] Assuming the retailer passes on the network tariff structure.
[29] Ibid.

- The **Off-peak (3) Day & Night Network Tariff** which provides operation for a total of 13 hours in any one day. This comprises eight hours between 10pm–7am and five hours between 9am–5pm.

The controlled load network tariffs are applicable installations including:[30]

- recharging electric vehicles;
- water heating storage units where electricity is used to supplement other forms of energy (for example, solar hot water);
- water heating storage units for which a test certificate has been issued indicating compliance with Australian Standard 1056 and having lower or upper and lower elements but with any upper element connected to the principal charge;
- compressing natural gas for compressed natural gas vehicles;
- permanent heat (or cold) storage installations of a design and rating acceptable to Evoenergy, which absorb their major energy during restricted times, but which may be boosted at the principal charge at other times;
- storage space heating or cooling including under-floor, concrete slab heating systems; and
- swimming or spa pool heating, and associated auxiliaries, but not spa baths.

The controlled load tariffs provide a low price to encourage customers to use energy outside of the morning and evening peak periods. However, energy usage is restricted to the designated off-peak times. Depending on the meter configuration and controlled device, customers may be able to bypass the control load element.[31] For example, customers could activate the bypass if they need to use the installation outside of the controlled off-peak times. This is typically achieved by pressing a button on the electricity meter. While the bypass is activated, the standard charges in the customer's primary tariff will apply to all energy used by the installation (i.e. the customer will not receive the lower price offered on the controlled load tariffs).

Other residential tariffs

Evoenergy has a number of older, less cost-reflective tariffs that are no longer available to new customers.

From 1 December 2017, the Residential Basic, Residential 5000, and Residential Heat Pump tariffs were closed to Evoenergy customers with a smart meter,[32] because these tariffs are not sufficiently cost-reflective. Customers currently assigned to these tariffs remain on them until they change to a smart meter. Evoenergy's assignment policy means these tariffs will become obsolete over time.

Existing low voltage commercial tariffs

This subsection describes the features of Evoenergy's main existing tariffs for LV commercial customers.

LV kW demand tariff

[30] The design and rating of the installation must be acceptable to Evoenergy.

[31] Following the 'Power of Choice' reforms in 2017, metering services are provided by retailers and metering coordinators. Accordingly, Evoenergy cannot guarantee the availability of an override.

[32] Residential customers with a replacement smart meter can remain on their existing network tariff until 12 months after their smart meter is installed, however they can opt-in to the Residential TOU or demand tariffs according to the assignment policy.

The LV kW demand is the default tariff available to LV commercial customers with a smart meter, and without a current transformer (CT) meter.[33] The tariff gives LV commercial customers the opportunity to actively manage and control the size of the network component of their electricity bills by considering when and how they use electricity.

The LV kW demand tariff comprises the following tariff components.

- A fixed network access charge.
- An anytime energy consumption charge which varies with the level of consumption but not the time of day.
- A maximum demand charge based on the customer's highest 30-minute demand between 7am and 5pm (AEST) on weekdays, during the billing period.

General TOU tariff

The General TOU tariff provides an opportunity for customers with the necessary metering capability to respond to price signals[34] and manage their network electricity bill.

The General TOU tariff comprises the following tariff components.

- A fixed network access charge.
- An off-peak, shoulder and peak energy consumption charge, which applies at different times of the day.

Customers with a smart meter can opt-out of the LV kW demand tariff and into the General TOU tariff once in a 12-month period.

kVA demand

The kVA demand tariff is the default tariff available to LV commercial customers with a smart meter and a CT meter installed. The kVA demand tariff comprises the following tariff components.

- A fixed network access charge.
- An off-peak, shoulder and peak energy consumption charge, which applies at different times of the day.
- A maximum demand charge based on the customer's highest 30-minute demand during peak business times during the billing period.

LV commercial controlled load tariff

LV commercial customers utilising a controlled load element can opt-in to Evoenergy's Off-peak (1) Night network tariff. This is a secondary tariff available to LV commercial customers taking all other energy on the General Network tariff, the General TOU tariff, and the LV kW Demand Tariff.

The Off-peak (1) night network tariff relates to the supply of energy at controlled times, for a minimum of six hours and a maximum of eight hours within any one day, between 10pm–7am AEST. The Off-peak (1) Night network tariff is also available to residential customers (see the section above for a full description).

[33] CT meters are used to measure a proportion of the current passing through a connection. A multiplier is then applied to the measure to estimate the total kWh. Connections to Evoenergy's network that are rated at 100Amps or greater have CT meters and the appropriate compliant metering installed.

[34] Assuming that the retailer passes on the network tariff structure.

Up to 30 June 2019, LV commercial customers were also permitted to be assigned to the Off-peak (3) Day and Night network tariff, but this option became unavailable from 1 July 2019.

Existing high voltage commercial tariffs

This subsection describes the features of Evoenergy's existing tariffs for HV commercial customers.

HV commercial demand tariff

To qualify for the HV commercial demand network tariffs, customers must take their energy at high voltage (nominal voltage not less than 11 kV) and make a capital contribution towards their connection assets and transformers. HV commercial customers have the option of owning and operating their own HV assets. There are three HV commercial tariffs, each with the same structure, which comprises the following tariff components.

- A fixed network access charge per connection point.
- An off-peak, shoulder and peak energy consumption charge, which applies at different times of the day.
- A maximum demand charge based on the customer's highest 30-minute demand during peak business times during the billing period.
- A capacity charge based on the customer's highest 30-minute maximum demand during peak business times during the last 13 months, including the billing month.

Table 5 sets out Evoenergy's existing tariff classes, tariffs, and tariff components. Evoenergy's proposed new tariffs are introduced separately in section 11.

Table 5 Existing tariff classes, tariffs, and tariff components

				Consumption charges (kWh)						Demand charges		
Tariff class	Tariff	Tariff code	Fixed	All time	Block tariff	Peak	Shoulder	Off-peak	Controlled load off-peak	Demand (kW)	Demand (kVA)	Capacity (kVA)
Residential	Basic*	010	✓	✓								
	TOU	015	✓			✓	✓	✓				
	Res 5000*	020	✓		✓							
	Res heat pump*	030	✓		✓							
	Demand	025	✓	✓						✓		
	Off-peak (1)^	060							✓			
	Off-peak (3)	070							✓			
LV commercial	General*	040	✓		✓							
	General TOU	090	✓			✓	✓	✓				
	Small unmetered	135	✓	✓								
	Streetlighting	080	✓	✓								
	LV kW demand	106	✓	✓						✓		
	LV kVA demand	101	✓			✓	✓	✓			✓	
	LV kVA capacity	103	✓			✓	✓	✓			✓	✓
HV commercial	HV demand	111* 121* 122	✓			✓	✓	✓			✓	✓

*Closed to new customers.

^ The Off-peak (1) night network tariff is also available to LV commercial customers on the General, General TOU, or LV kW demand tariffs.

4.5 Tariff trials

In addition to introducing tariff reforms in the 2019–24 regulatory period via the second TSS, Evoenergy also introduced tariff trials described below. A detailed description of these tariff trials and the outcomes is explained in Addendum 7.1.6 of Evoenergy's proposed TSS.[35]

Residential battery tariff

Evoenergy designed a residential battery tariff trial for residential customers with controlled batteries and EVs, supported by modern renewable energy technologies. The tariff trial provided a unique opportunity for Evoenergy to test new network tariffs that could be suitable as the uptake of renewable technologies increases across the network in the future.

The residential battery trial tariff comprised the following tariff components.

- A fixed network access charge.
- An off-peak, shoulder and peak energy consumption charge, which applies at different times of the day.
- A seasonal maximum demand charge based on the customer's highest 30-minute demand during peak times during a calendar month.
- A seasonal export charge.
- A critical peak export rebate.

The design of this tariff informed Evoenergy's proposed tariff reforms that are described in section 11.

Large-scale battery tariff

Given that a number of large-scale batteries are expected to be introduced to the ACT electricity distribution network, Evoenergy trialled a tariff designed for large-scale, distribution network-connected, stand-alone batteries.

The large-scale battery tariff trial provided Evoenergy with an opportunity to test customer responses to highly cost-reflective price signals. The trial was particularly important given that large-scale batteries generally respond to a range of price signals (including wholesale prices and FCAS), not only network price signals.

The tariff structure of the large-scale battery tariff comprised the following tariff components.

- A capacity charge based on the customer's highest 30-minute maximum demand during the last 13 months, including the billing month.
- A seasonal maximum demand charge based on the customer's highest 30-minute demand during peak times during the billing period.
- A net consumption charge based on the difference between the electricity imported and exported by the customer.
- An export critical peak rebate.
- An export critical peak charge.

[35] Evoenergy, *Addendum 7.1.6: Tariff trials report – Regulatory proposal for the ACT electricity distribution network 2024−29*, January 2023.

- An avoided / incurred transmission use of system (TUOS) charge.[36]

This trial tariff informed Evoenergy's proposed new large-scale battery tariffs that are presented in section 11.

[36] This element was not treated as a tariff component, rather a direct payment/rebate based on the customers' maximum demand at the time the nearest distribution zone substation experienced peak demand each calendar month.

5. Consumer engagement

5.1 Consumer engagement principles and program

Evoenergy has focussed on engaging with the community throughout the development of the proposed network tariff reforms, and has continued this engagement following the submission of its proposed TSS in January 2023. Evoenergy spent time with local energy customers through various channels to understand what they value most and their priorities and expectations regarding future network tariffs. The principles underlying the consumer engagement program are set out in Table 6.

Table 6 Evoenergy's stakeholder engagement principles

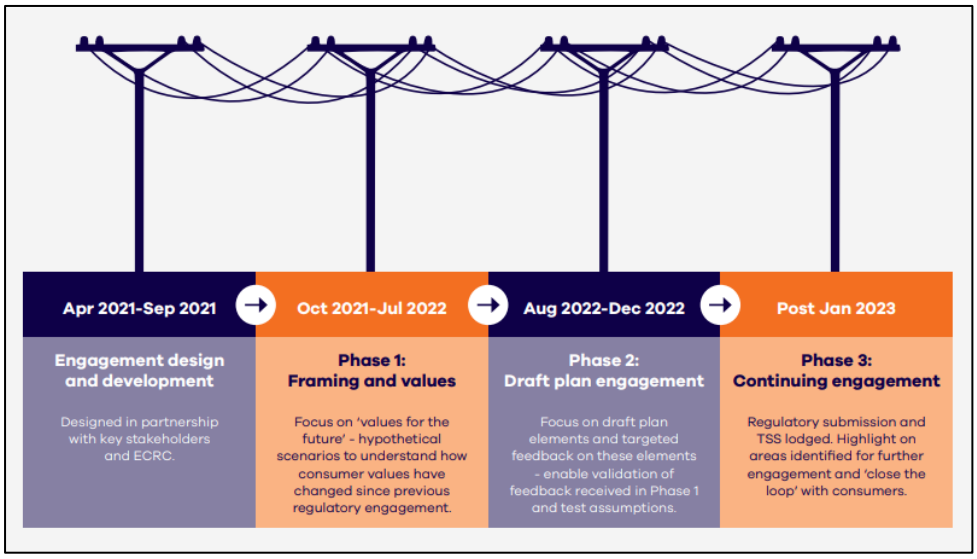
Principle	What this means to Evoenergy	What it means to stakeholders
Adaptive	• Tailored approaches (not one size fits all) • Moving with the times	• Flexible and tailored engagement communication to meet stakeholder needs • Engagement on your terms
Curious	• Eagerness to learn and discover new things • Welcoming multiple perspectives	• We will listen to you — you will be heard • Inclusive engagement practices
Brave	• Evaluating our engagement practices • Having courageous conversations and seeking feedback	• You can hold us accountable • We will ask you for feedback on our engagement
Honest	• Providing information that is clear, accurate, relevant and timely • Transparency around the purpose, scope and outcomes of our engagement	• We will use plain language that helps you make informed contributions • You will be able to read reports on our engagement activities on our website
Committed	• Dedicating time and resources to engagement • Acting with integrity — doing what we say we'll do	• We are around for the long haul — our engagement is ongoing • We will explain how your input impacts our work and your experiences

Evoenergy's long standing Energy Consumer Reference Council (ECRC) was consulted to develop a consumer engagement strategy to inform TSS engagement, using the principles outlined in Table 6 to underpin the strategy. In line with Evoenergy's broader regulatory consumer engagement strategy, TSS engagement aimed to achieve the following goals.

- Inform, consult, involve and collaborate with electricity customers, key stakeholders and other Canberra community members about the future of ACT electricity network tariffs.
- Gather diverse customer input to inform the development of the TSS.

The TSS engagement program was delivered over three phases, as shown in Figure 12 and explained below.

Figure 12 Consumer engagement program phases



Phase 1: Framing and consumer values

Phase one of the engagement program focused on understanding how the values of energy consumers have changed since the last TSS was developed. Evoenergy sought to understand what's important now, and what Canberrans thought would be important as the energy landscape changes.

During phase one, Evoenergy engaged with a range of stakeholders about TSS matters. This included detailed engagement on tariff options such as retaining existing tariffs, transitioning to new tariffs, and tariff options for exporting to the grid. The following engagements were undertaken in phase one.

- Workshops with the Community Panel[37]
- Workshop with the Community Pricing Panel[38]
- Survey of ACT EV owners and intentional owners
- Deliberative forums
- ECRC meetings
- Engagement with the broader community via social media and traditional media (i.e., media release, news item on website)

Phase 2: Draft plan engagement

Building on the engagement in phase one, phase two provided stakeholders with an opportunity to provide feedback on Evoenergy's draft plan for the proposed TSS before its submission to the AER (January 2023). The draft plan contained information about Evoenergy's TSS consumer engagement program (phase one) and the proposed tariff reforms Evoenergy was considering at that stage of the TSS' development.

[37] Evoenergy established a Community Panel to engage directly with the ACT community about the 2024-29 regulatory proposal. It involved a group of 20 randomly selected community members who reflect the diversity of the ACT community.
[38] Evoenergy established a Community Pricing Panel to engage directly with the ACT community about the 2024–29 TSS. It involved a group of 29 randomly selected community members who reflect the diversity of the ACT community.

Evoenergy undertook a range of engagement activities between August and December 2022 to promote the publication of the draft plan and seek feedback on its content. This included the following forums.

- Workshops with the Community Panel
- Workshop with the Community Pricing Panel
- 'Energy Matters' workshops with large energy users
- Meetings with retailers, aggregators and the ACT Government
- Workshop with ACT Council of Social Services (ACTCOSS)
- ECRC meeting
- Engagement with the broader community via social media and traditional media (i.e., media release, news item on website)
- Invitation to stakeholders who had registered interest in the development of the Electricity Distribution Network Determination 2024-29 (EN24) draft plan to provide feedback and make a submission.

These engagement activities were supported by updated information on Evoenergy's 'engage with energy' website.[39] This website was developed to provide information about Evoenergy's 2024–29 regulatory proposal and TSS matters to facilitate increased understanding and feedback opportunities for the general public.

Phase 3: Continuing engagement

Following submission of Evoenergy's proposed TSS in January 2023, Evoenergy continued engaging with the ACT community and retailers about its proposed tariffs. The third phase of engagement provided an important opportunity to gather submissions received on Evoenergy's proposed TSS, reflect on new information and concerns raised by stakeholders, and engage on possible tariff improvements for Evoenergy's revised proposal.

Evoenergy undertook a number of engagement initiatives between August 2023 and November 2023, including:

- Workshops with Evoenergy's Deep Dive Consumer Panel[40]
- Bilateral meetings with retailers
- Survey of customers on EV charging behaviours and preferences for future tariff options for EV charging and smart appliances (including quantitative choice-modelling questions).

This engagement was also informed by nine written submissions received on Evoenergy's regulatory proposal, including submissions from retailers and consumer groups.

The third phase of engagement has directly contributed to several important tariff refinements in Evoenergy's revised TSS, including the simplification of Evoenergy's proposed residential tariffs and the removal of the proposed residential export tariff.

[39] www.engagewithenergy.com.au

[40] Evoenergy established a deep dive panel comprising 30 participants representing a diverse cross-section of the Canberra community. The panel met three times between September and October 2023, and undertook 12 hours of discussions.

Table 7 on the next page summarises the engagement activities, topics of engagement, stakeholders engaged, promotion, feedback mechanism and where the engagement sat on the International Association for Public Participation (IAP2) spectrum. The table separates the engagement activities into tariff trial engagement, TSS engagement, and revised TSS engagement. The table is followed by a detailed description of the key engagement activities and the feedback received.

Table 7 Stakeholder engagement

Stage		Engagement topics	Stakeholder group	Promotion	Feedback mechanisms	IAP2 Spectrum
Tariff trial engagement	**Community workshops at community hall** December 2020 May 2021	• Electricity network • Load profiles • Electricity bills • Cost-reflective tariffs • Tariff trial • Future customer	• Residential customers	• Website • Mailing list • Social media • Community presentation	Customer workshops	Consult
	Meetings with large-scale battery proponents December 2020, February 2021, March 2021, August 2021, February 2022	• Battery operation impacts on network • Tariff trial principles, structure • Bill impacts • Capacity charge adjustment	• Commercial customers	• Invitation	One-on-one meeting	Involve
	ECRC meetings October, December 2020	• Approach to customer engagement • 2024-29 Tariff Structure Statement • Cost-reflective tariffs	• Residential customers • Vulnerable customers • Commercial customers	• Invitation	Workshop	Involve
	ACT Government March 2021	• Tariff trial overview • Large-scale battery tariff trial	• ACT Government	• Invitation	One-on-one meeting	Inform
	One-on-one meetings with aggregators May 2021, August 2021	• Tariff trial overview • Tariff trial structures • Indicative prices • Indicative bill impacts	• Aggregators	• Invitation	One-on-one meeting	Involve
	Retailer meetings August, September, December 2021	• Future changes to the network • Tariff trial overview • Tariff trial structures • Load profiles • Export tariffs • Cost-reflective tariffs	• Retailers	• Invitation	One-on-one meeting	Involve

Stage		Engagement topics	Stakeholder group	Promotion	Feedback mechanisms	IAP2 Spectrum
TSS Engagement	**Community pricing panel** 5 meetings. April, May, October 2022	• Energy industry, tariff overview • Future changes to the network • Cost-reflective tariffs • Tariff options • Bill impacts • Export pricing	• Residential customers • Vulnerable customers	• Community presentation	Customer workshops	Collaborate
	Deliberative forums May, June 2022	• Solar soak charge • Export pricing	• Residential customers • Vulnerable customers	• Invitation	Customer workshops	Collaborate
	EN24 Community Panel November 2021 – June 2022	• Network tariff overview • Network funding and bills • Cost reflective tariffs • Future network pricing • Export pricing • Engagement feedback (including from vulnerable customers)	• Residential customers • Vulnerable customers	• Community presentation	Customer workshops	Collaborate
	EV survey March 2022	• EV ownership, use, recharging habits, willingness to change	• Residential customers	• Website • Social media	Survey	Consult
	Retailer meetings August 2022	• Future use of the network • Tariff reform options • Export tariffs • Provided copy of Draft EN24 plan	• Retailers	• Invitation	One-on-one meeting Written submission	Involve
	Aggregators November 2022 December 2022	• Proposed tariff reforms • Tariff assignment	• Aggregators	• Invitation	One-on-one meeting	Inform
	ACT Government July 2022 September 2022	• Proposed tariff reforms • Export pricing • Inclining block charge	• ACT Government	• Invitation	One-on-one meeting Forum	Involve

Stage		Engagement topics	Stakeholder group	Promotion	Feedback mechanisms	IAP2 Spectrum
	Utility Industry Regulator's Forum (November 2022)					
	ACTCOSS November 2022	• Network tariff reform • Export pricing	• Vulnerable customer representatives	• Invitation	Workshop	Involve
	ECRC December 2020 – December 2022	• Tariff pricing options • Implementation of new tariffs • Consumer engagement update	• Residential customers • Vulnerable customers • Commercial customers	• Invitation	Workshop	Involve
	Draft EN24 plan August 2022	• Consumer engagement feedback • Proposed network tariff reforms	• Residential customers • Vulnerable customers • Commercial customers • ACT Government • Retailers • Aggregators	• Website • Mailing list • Social media • Community presentation	One-on-one meetings Written submissions	Involve
	Energy Matters August 2022	• Commercial tariff reforms • Export pricing	• Commercial customers	• Community presentation	Customer workshop	Involve
Revised TSS engagement	**Deep Dive Panel** September 2023 October 2023	• Proposed residential tariffs and options for simplfiication • Export pricing • Future tariff options for Evs	• Residential customers	• Invitiation	Workshop Written panel report	Involve

Stage		Engagement topics	Stakeholder group	Promotion	Feedback mechanisms	IAP2 Spectrum
	Retailer meetings September 2023 to November 2023	• Proposed residential tariffs and options for simplification • Feedback received on tariff complexity • Export pricing • Controlled load tariffs for Evs	• Retailers	• Invitation	One-on-One Meetings	Involve
	Survey on EV charging and tariff preferences October 2023	• EV ownership, charging habits, responsiveness to prices • Preferences for network/retailers control over charging • Choice modelling of future tariff preferences for Evs and smart appliances	• Residential customers	• Invitation	Survey	Consult

Community pricing panel

The community pricing panel was established to explore a range of network pricing issues to inform Evoenergy's proposed TSS. The pricing panel comprised 29 representative ACT community members, including six participants from the broader EN24 Community Panel. The panel was initially presented with contextual information to enable informed feedback on detailed proposed tariff reform and assignment options. The pricing panel met four times in phase one, and the outcome of their deliberations was used to inform the tariff reforms presented in the draft EN24 plan. The community pricing panel met a fifth time in phase two (October 2022). This meeting was initiated by the AER, and its purpose was to gauge support for Evoenergy's proposed tariff reforms. The sessions were online meetings and used a series of online tools to gather feedback, including the meeting chat function, 'Slido' (for live polls), and surveys. Addendum 7.1.1 of Evoenergy's proposed TSS published in January 2023 provides the community pricing panel meeting agendas, summaries, feedback and material provided to panellists.[41] The key feedback received from the community pricing panel is summarised in Table 8.

Table 8 Community pricing panel – feedback

Session	Topics discussed	Feedback received	Evoenergy's response
One 12 April 2022	• Electricity supply chain • Monopolies • Cost-reflective tariffs • Future use of the network	• In session one, 70% knew there were retail and network tariffs; 30% didn't know. • Panellists wanted more information about network costs, pricing, the future of the network, impacts of change.	• Provide more information about network costs, pricing, the future of the network, and the impact of change in subsequent sessions. • Useful context for subsequent sessions.
Two 26 April 2022	• Bill impacts for different network tariff structures • Background and load profiles • Electric vehicles • Solar • Batteries • Future challenges and opportunities for the network	• Uptake of renewable technology presents both opportunities and challenges. • Avoid disincentivising EV purchases. • Opportunity to use EVs for load balancing/flattening. • Range of views on whether it's fair or unfair for all customers to pay for network upgrades required to export.	• Consideration of price/bill impacts to test whether they are likely to disincentivise EV purchases. • Consideration of tariff charging parameters that assist EV owners to flatten their load. • Consideration of introducing export tariffs gradually (in response to mixed views on its fairness).

[41] Evoenergy, *Regulatory proposal for the ACT electricity distribution network 2024-29 - Addendum 7.1.1 Communication Link: Community Pricing Panel report*, January 2023.

Session	Topics discussed	Feedback received	Evoenergy's response

Three
 	
17 May 2022
	• Export pricing
	• Tariff options:
	  ○ TOU
	  ○ Demand
	  ○ New battery
	  ○ Tariff assignment
		• 65% of panellists prefer simpler TOU tariff option.
		• 67% of panellists support the proposed demand tariff as it better reflects network costs.
		• 88% of panellists support the proposed residential battery tariff because it incentivises 'responsible' exporting which helps even out peak demands.
		• Fairly evenly split views on how customers are assigned to tariffs in the future.
			• Panellists' tariff preferences are addressed in the proposed tariff reforms and tariff assignment policy (see section 11 and 12).

Four
 	
31 May 2022
	• Indicative bill impacts
	• Export tariff:
	  ○ structure
	  ○ assignment policy
	  ○ timing (introduction)
		• Majority considered indicative prices were reasonable.
		• Over half considered the proposed tariff changes were fit for future use of the network.
		• Majority prefer an export tariff with a charge and rebate.
		• Majority preferred mandatory assignment (to export tariff) for all new export customers, and opt-in for existing export customers.
		• Strong preference to introduce export tariffs in the 2024–29 regulatory period.
			• The export tariff structure initially considered by Evoenergy included both an export charge and rebate.
			• Evoenergy's initial tariff proposal included an export tariff, with new exporting customers defaulting to the export tariff, and existing export customers opting in.[#]

Five 24 October 2022	• Proposed tariff reforms • Proposed tariff assignment • Indicative customer impacts • Two-way pricing (structure, assignment, customer impacts)	• Panellists supported the proposed tariff reforms and assignment policy, with scores of 3.9 out of 5. • Generally comfortable with the indicative customer impacts, with a rating of 3.4 out of 5. • Support for the introduction of export tariffs, with a score of 3.7 out of 5.	• The proposed TSS included the tariff reforms and tariff assignment policy that was presented, generally supported at that session. [#]

[#]The export tariff was subsequently withdrawn in Evoenergy's revised TSS, consistent with further stakeholder feedback in Phase 3 of the engagement

Targeted focus group sessions were conducted to deep dive into specific elements of the proposed tariff reforms. Held over two nights, the focus groups comprised customers that represented four energy personas — current solar users, those open to installing solar in the future, those not open to solar, and vulnerable customers. These groups were recruited through quantitative research undertaken in March 2022 which surveyed 640 Canberrans to understand their attitudes and uptake of renewable energy technology. These face-to-face workshops explored customer sentiment on the introduction of a solar soak charge and two-way pricing, as summarised in Table 9.

Table 9 Deliberative engagement pricing workshop – feedback

Session	Topics discussed	Feedback received	Evoenergy's response
One 24 May 2022	• 'Solar sponge' ○ Low electricity charge during the middle of the day, designed to soak up excess solar	• Uncomfortable with the term 'solar sponge' as it has a negative connotation of taking advantage of solar customers. • Non-solar customers would have an opportunity to access the benefits of solar. • Customers could program electrical appliances in the middle of the day (solar soak period). • Comfortable that some charges (outside the middle of the day) would increase to compensate for low 'solar soak rate. • When asked whether solar customers were willing to (essentially) provide their excess solar generation to non-solar customers at a low (solar soak) rate, they responded affirmatively. • 'Solar soak' charge could disincentivise solar installations.	• Evoenergy has changed the term 'solar sponge' to 'solar soak'. • Communication about the new solar soak charge needs to be clear, with messaging about ways in which customers can utilise the new charge to reduce their network bill. • Given the general level of support for this, Evoenergy proposes to introduce a 'solar soak' charge into the newly proposed residential TOU and demand tariffs.
Two 8 June 2022	• Export pricing ○ Charge/reward applied to electricity sent from customers' premises to the network	• Some considered it a fairer way to charge. • Some considered it unnecessary given relatively low bill impacts. • Export pricing may encourage battery uptake and discourage solar uptake. • Include an export charge and export rebate. • Introduce in 2024–29 regulatory period. • Opt-in for existing customers; mandatory for new export customers.	• Evoenergy undertook bill impact modelling to test whether the export tariff was likely to rationally disincentivise solar installations and incentivise battery uptake and concluded this was unlikely. • The export tariff structure initially considered by Evoenergy included both an export charge and rebate. • Evoenergy's initial tariff proposal included an export tariff, with new exporting customers defaulting to the export tariff, and existing export customers opting in.[#]

[#]The export tariff was subsequently withdrawn in Evoenergy's revised TSS following further feedback in Phase 3 of the engagement.

Draft EN24 plan

Evoenergy's draft EN24 plan was publicly released on 24 August 2022, marking a significant milestone and moving the proposed TSS into phase two of the consumer engagement program.

A range of communication and engagement activities were undertaken within the five week consultation period (24 August to 30 September 2022) to enable a broad range of customers and stakeholders the opportunity to ask questions, provide feedback, and/or make a written submission to Evoenergy within the consultation period. The feedback received was used to inform Evoenergy's tariff proposal.

Communication and engagement on the Draft EN24 plan included two TSS specific questions to provide an opportunity for targeted, meaningful and accessible engagement on TSS matters. In response, Evoenergy received submissions from the ACT Government, the ACTCOSS, the Electric Vehicle Council, and a retailer. In addition, feedback was received from seven members of the public as well as comments on social media. A copy of the draft EN24 plan is available on Evoenergy's website[42], and a detailed outline of the feedback received is documented in Appendix J of Evoenergy's January 2023 proposal.[43] The TSS specific feedback is summarised in Table 10.

Table 10 Draft EN24 plan – feedback

Question	Feedback received	Evoenergy's response
Do you think the proposed future tariff structure is appropriate to support the ACT transition to Net Zero 2045 (NZ45)?	• Only 4 responded directly to this question, with 3 indicating they didn't think the proposed tariff structure was appropriate for the future. • One respondent considered that export charges could disincentivise solar installations. • The use of smart technology, such as HEMS, should be used to respond to proposed cost-reflective price signals. • ACTCOSS supports Evoenergy's aim to provide cost-reflective network tariffs, especially as this will help maximise efficient use of the network, minimise extreme spikes in demand and manage capacity constraints stemming from greater electrification. Evoenergy and retailers need to consider education programs to support the introduction of the proposed tariffs. • Proposed tariff reforms could change customer behaviour with the potential to introduce new demand peaks. Evoenergy should ensure proposed tariffs are fit for the long term. • ACTCOSS considers introducing an export tariff will support equity and fairness for	• In response to this feedback, the proposed TOU and demand tariffs presented in the draft EN24 plan have been simplified and aligned. • Evoenergy is no longer proposing to introduce a new residential tariff (e.g. the residential battery tariff), partially in response to feedback about simplicity. • In its revised TSS, Evoenergy is no longer proposing to introduce a residential export tariff in 2024−29. This will help improve simplicity of Evoenergy's TSS, and responds to stakeholder concerns around fairness, complexity, and mixed incentives. • Evoenergy has engaged with aggregators to discuss options for greater implementation of HEMS. • Evoenergy has amended the term 'solar sponge' to 'solar soak'. • In its revised TSS, Evoenergy has simplified its new proposed residential TOU tariff, by removing the inclining block charges and replacing them

[42] Evoenergy, *Draft EN24 plan – our draft electricity network plan for the five-year regulatory period commencing 1 July 2024*, August 2022, available at: https://www.evoenergy.com.au/-/media/evoenergy/documents/electricity/evoenergy-draft-en24-august-2022.pdf?la=en&hash=8D7B9E0D8F5B0B18A405F6FF8B0C2ACD9A76C237

[43] Evoenergy, *Regulatory proposal for the ACT electricity distribution network 2024−29 - Appendix J: Draft EN24 plan feedback summary*, January 2023.

Question	Feedback received	Evoenergy's response
	cost recovery. Low-income households are less able to afford CER to help reduce energy bills and already spend disproportionately more on energy. • Given the proposed tariff structure (as per the Draft EN24 plan) is more complex than the structure in 2019–24, it may impact the adoption of more cost-reflective tariffs by retailers and the effectiveness of price signals. Concern by a retailer that complex tariff structures or more tariff choices could lead to retail customer churn and increased retail operating costs (that are passed onto customers). • A retailer suggested the term 'solar sponge' may add complexity to tariffs. The suggestion that existing and widely understood terms such as 'peak', 'shoulder' and 'off-peak' may be more effective. • Evoenergy's proposal for an inclining block charge (on the proposed residential TOU tariff) may create new overnight peaks and disincentivise the use of EV smart chargers.	with an easier-to-understand flat off-peak charge.
Are there specific aspects of the proposed tariff structure that you support or would like to know more about?	• The ACT Government was interested in more information regarding the inclining block charge (in the proposed TOU tariff) and associated customer impacts. They were also keen to understand how the proposed inclining block charge is balanced against tariffs (i.e., controlled load tariffs) that encourage usage overnight. • The ACT Government sought information regarding the basic export level, customer impacts associated with the proposed export tariff, and any additional service improvements or expected curtailments. • The ACT Government was interested in community-scale battery models that could allow customers to store surplus solar generation during peak export periods and defer it for consumption in peak import periods. They also queried possible exceptions for customers exporting surplus solar to a community-scale battery.	• In its revised TSS, Evoenergy has simplified its new proposed residential TOU tariff, by removing the inclining block charges and replacing them with a more familiar flat off-peak charge. • Controlled load tariffs can be a tool for managing overnight loads. Residential ACT customers can opt-in to a controlled load tariff,[44] and Evoenergy does not propose to change this in the 2024–29 regulatory period. • In its revised TSS, Evoenergy is no longer proposing to introduce a residential export tariff in 2024−29. This will help improve simplicity of Evoenergy's TSS, and responds to stakeholder concerns around the fairness, complexity and mixed incentives of export pricing. Instead, Evoenergy will utilise the new 'solar soak' charges to encourage residential customers to use more energy during the middle of the day when solar exports are typically high. • To support and encourage the uptake of large-scale (including community)

[44] Off peak (1) Night tariff, code 060; Off peak (3) Day and Night, code 070.

Question	Feedback received	Evoenergy's response
		batteries, Evoenergy has trialled a tariff and proposes its introduction in the 2024–29 regulatory period. This tariff is designed to recognise the network benefit costs that large batteries can provide/impose.

Submissions on Evoenergy's proposed TSS and the AER's issues paper

The publication of Evoenergy's proposed TSS in January 2023 marked the beginning of the third phase of Evoenergy's engagement, with the objective of gathering feedback on the proposed tariff reforms and exploring refinements for Evoenergy's revised TSS proposal.

In March 2023, the AER published an issues paper[45] highlighting the key areas of Evoenergy's proposal and seeking written submissions by stakeholders. A total of nine submissions were received on the issues paper, including from key stakeholders such as retailers, consumer groups, and ACT Government.[46] The feedback received in the submissions was used to inform the revised TSS and to provide a focus point for deeper exploration of tariff topics in the third phase of engagement post January 2023. The key themes from the feedback, and Evoenergy's response, are summarised in Table 11.

Table 11 Responses to Evoenergy's proposed TSS and the AER's Issues Paper

Theme	Feedback received	Evoenergy's response
Export tariffs	• The ACT Government recognises the role export tariffs could play but notes the need for community education alongside any changes to the tariff structure to avoid unexpected cost increases and bill shock. The ACT Government also highlighted the need to support electrification as the community transitions away from fossil fuels. • ACTCOSS does not oppose export tariffs, but is concerned about their impact on solar adoption at a time when batteries and load management systems are still not value-for-money for many customers. • The Conservation Council highlighted the risk that export tariffs could disincentivise households from installing rooftop solar PV, and that more education is needed. • The Consumer Challenge Panel noted a range of perspectives expressed on export tariffs, including mixed views about their fairness. The Consumer Challenge Panel was not confident that customers	• Evoenergy no longer proposes to introduce a residential export tariff in 2024−29. Evoenergy recognises the implementation complexities and mixed views from customers and retailers about the fairness and effectiveness of residential export charges at this time. • In the 2024−29 period, Evoenergy will seek to maximise opportunities from its new residential 'solar soak' charges to manage export related network costs. • Evoenergy will continue to monitor the impacts of exports on the network and the effectiveness of solar soak charges. If appropriate, Evoenergy will consider residential export charges for introduction in future regulatory periods.

[45] AER, *Issues Paper – Evoenergy Electricity Distribution Determination, 1 July 2024 – 30 June 2029*, March 2023.
[46] Submissions are available on the AER's website: https://www.aer.gov.au/industry/registers/determinations/evoenergy-actewagl-determination-2024-29/proposal

Theme	Feedback received	Evoenergy's response
	supported introducing export tariffs, noting that many customers believe it is fair for everyone to share in the costs of enabling solar exports. • ActewAGL noted a range of concerns relating to the complexity of Evoenergy's proposed export tariff – including the date-specific tariff assignment policy and the costs/complexity of implementing a secondary residential export tariff. • EnergyAustralia suggested that solar soak charges could be effective at encouraging consumption during times of high solar exports, and avoid penalising exporting customers.	
EV charging and tariffs	• The ACT Government encouraged Evoenergy to consider the times at which customers will charge their EVs at home, and whether this will have impacts on peak demand. The ACT Government also emphasised the need for network tariffs to encourage efficient charging behaviour. • The conservation Council noted the need for targeted tariff education for EV owners to optimise charging routines.	• For its revised TSS, Evoenergy has undertaken customer research on EV charging preferences, customer responsiveness to price signals, and preferences for future tariffs to manage EV charging (see section 10). • Evoenergy will continue its investigations into future-focussed 'flexible load' tariffs which align with advances in technology (such as dynamic operating envelopes, EV 'smart' chargers and other smart appliances). These tariffs may initially be explored through tariff trials once the required technology and network infrastructure becomes available. • Evoenergy's new residential demand and TOU tariffs will provide customers with cost-reflective price signals throughout the day to help inform customer decisions about when and how fast to charge their EVs. • During the 2024−29 period, Evoenergy will offer its two existing controlled load tariffs to residential EV owners on an opt-in basis to encourage charging outside of the morning and evening peak periods.
Tariff complexity	• ACTCOSS and the Conservation Council emphasised the importance of simple tariffs, noting that many customers do not understand or have the capacity to respond to network tariffs. This can have a particular impact on vulnerable customers. • ACTCOSS expressed concerns about Evoenergy's proposed off-peak inclining block charges, which are complex for customers to understand and may not yet be needed to manage overnight peaks. • The conservation council raised the importance of avoiding mandatory tariff	• Evoenergy has simplified its proposed residential tariffs in the revised TSS. This includes removing the inclining block off-peak charges on the TOU tariff and removing the proposed residential export tariff. • Evoenergy will continue to offer the TOU tariff as a simpler opt-out option for residential customers who are assigned to the demand tariff. • Evoenergy will retain the existing TOU and Demand tariffs to minimise customer impacts from tariff re-assignment. However,

Theme	Feedback received	Evoenergy's response
	assignment and providing opt-out tariff options to manage customer impacts. • ACT Government questioned the need for demand charges in the overnight period, and that this could disincentivise off-peak charging and adoption of EV chargers. • ActewAGL was concerned about the complexity of Evoenergy's residential tariffs, when compared to other network businesses. It preferred simpler TOU tariffs, with fewer charging parameters. • Origin Energy also noted the need for simple network tariffs, stating that the decision to apply cost reflective tariffs to customers ultimately rests with retailers.	these tariffs will be closed to new customers from 1 July 2024. • Evoenergy recognises that the number of network tariffs and charging parameters has grown over time. Evoenergy will consider further opportunities for tariff simplification and rationalisation in the next regulatory period (2029−34)

Evoenergy Deep Dive Panel

Prior to finalising the revised TSS, Evoenergy undertook further consultation with customers to seek additional, in-depth views on its tariff proposal and explore opportunities for further refinements in Evoenergy's revised TSS. Evoenergy established a Deep Dive Panel comprising 30 participants which met three times between September 2023 and October 2023. The panel was a combination of members involved in phase 1 and 2 as well as new members.

The panel's initial session was used to introduce panel members to Evoenergy's regulatory proposal, including Evoenergy's operating context, and the key challenges and opportunities in the 2024−29 regulatory period. Panel members were also introduced to network tariff structures and concepts, including the inter-relationships between network and retail tariffs. In subsequent sessions, the panel explored more detailed tariff topics, including Evoenergy's proposed residential tariff reforms for 2024−29. Panel members discussed options for simplifying Evoenergy's tariff proposal, export prices, and future tariff options for electric vehicles. The panel prepared an independent report, which is included in Appendix C to Evoenergy's revised proposal.[47]

The key areas of feedback provided by the panel are shown in Table 12, and have been reflected in Evoenergy's tariff strategy for the revised TSS. Overall, the panel was supportive of the residential tariff simplification proposed by Evoenergy in its revised TSS, including the removal of the residential export tariff. The panel's feedback also supported Evoenergy's consideration of flexible load tariffs for residential EV charging (which is discussed in section 10).

Further detail on the engagement process and outcomes from Evoenergy's Deep Dive Panel are presented in the Phase 3 engagement report provided as Appendix C to Evoenergy's revised proposal.[48]

[47] Evoenergy, *Revised regulatory proposal 2024–29, Appendix C: Communication Link Phase 3 Engagement Report*, October 2023.
[48] Ibid.

Table 12 Feedback from Evoenergy's Deep Dive Panel

Theme	Feedback received
Tariff complexity and Evoenergy's proposed changes	• Customers want tariffs that are transparent and easy-to-understand, with a focus on improving tariff education and awareness to support customers' energy choices. Evoenergy's current tariffs can be confusing and complex. • Panel members understood that network tariffs are not necessarily passed on to customers by the retailer in the same form. There is a need for greater transparency about the interactions between network and retail tariff structures, and how these are incorporated into electricity bills. • Evoenergy has a role to play in educating retailers and customers about tariffs. • Tariffs need to provide an opportunity to incentivise and inform the move to distributed energy resources such as solar, batteries, and EVs in a balanced way. • Panel members welcomed the removal of the proposed export tariff as it could send mixed signals to the community and was confusing. • Panel members supported the tariff simplification presented for Evoenergy's revised proposal.

Tariff options for EV recharging	• Evoenergy needs to ensure the network will support increasing uptake of EVs and their demand on the network.
	• Panel members considered different levels of control over EV charging and smart appliances. Panel members preferred tariffs that maintained customer flexibility.
	• Panel members were presented with a range of network future tariff options to support residential EV charging:
	  ○ 50% supported 'flexible load' tariffs, which allow charging to be ramped down in response to extreme network events but still give customers control most of the time.
	  ○ 40% preferred to retain the current tariff arrangements, which allow customers full flexibility to choose when and how they charge based on price signals.
	  ○ 10% supported controlled load tariffs that restrict charging to designated off-peak times.

Other consumer engagement

The cornerstones of Evoenergy's TSS engagement program included the activities covered in detail above. In addition, Evoenergy undertook a series of other engagements summarised in Table 13.

Table 13 Other consumer engagement – feedback

Activity	Topics discussed	Feedback received	Evoenergy's response
Energy Matters Major commercial customers engaged through online forums focused on TSS matters.	• Proposed refinement to the capacity charge • Export pricing – whether commercial customers seek a tariff that offers two-way pricing	• Supportive of the proposed change to the capacity charge. • Comfortable with the existing tariff structure. • Major commercial customers are not seeking a two-way tariff.	• Evoenergy intends to propose a refinement to the capacity charge to enable an ex-ante review of the charge (see section 11.2). • Evoenergy is not proposing to introduce two-way pricing for commercial customers in the 2024–29 regulatory period.
EV survey (March 2022) Initial survey of ACT residents who own or intend to own an EV	• Motivations for EV ownership, usage, and recharging • The role of price in deciding when and how to recharge • Willingness to change recharging behaviour based on pricing	• Strong preference to recharge at home, particularly those with a fast charger (31%). • EV owners avoid recharging in the morning (7am–9am). • Non-solar EV owners are more inclined to recharge overnight. • EV owners with a fast charger more likely to charge during the evening peak period. • EV owners charge during peak periods for convenience rather than necessity. • Overnight recharging is as much about being ready for tomorrow as the cost savings. • EV owners have flexibility to change recharging time, so opportunity to change recharging behaviour. • The optimal point to influence behaviour is 20–40% (saving). At 40%, 9/10 would try to avoid peak times. At 30%, this equates to a saving of $160/year (30% off the network bill). • 1/3 of EV owners 'extremely open' to a third-party taking control of their recharging.	• The network load profile could change substantially as a result of EV re-charging. • The findings from this survey were used to inform tariff reforms that address the expected uptake of EVs in the ACT during the 2024–29 regulatory period. Specifically, ○ off-peak demand charges overnight in the proposed residential demand tariff. ○ extended evening peak periods on the proposed residential demand and TOU tariffs to manage risk of evening fast-charging. ○ continuing to offer controlled load tariffs to encourage EV recharging in off-peak periods. ○ investigations into future-focused flexible load tariffs for EV charging.

Activity	Topics discussed	Feedback received	Evoenergy's response
Survey and choice-modelling of EV tariff options (September – October 2023)	• Preferences for EV recharging • Response to price signals • Willingness to accept 3rd party load control	• Around 9 per cent of respondents already own an EV and, of those who don't, 32 per cent expect to buy an EV within the 2024−29 period. Around half of current EV owners use a fast-charger at home. • A range of factors were rated as important or very important for choosing EV charging times, including convenience (68 per cent) and price of electricity (61 per cent). • Controlled load tariffs for EV charging were generally not favoured by respondents. Respondents were concerned about surrendering control to a third party, and worried about the risk of not having enough charge. • Flexible load tariffs (which allow charging to be dynamically slowed down, rather than switched off) were more popular. The ability for customers to over-ride the load control was also very important for respondents.	• Evoenergy's new residential tariffs will continue to provide strong price signals at different times of the day to help EV owners manage their charging. • Customers with an EV charger can opt-in to one of Evoenergy's existing controlled load tariffs. However, Evoenergy is not proposing any new controlled load tariffs targeting EVs due to low levels of customer support. • Evoenergy will continue to investigate flexible load tariffs with an over-ride capability, and explore opportunities for tariff trials and potential implementation in future regulatory periods.

Activity	Topics discussed	Feedback received	Evoenergy's response
EN24 Community Panel[49]	• Network tariff overview • Network funding and bills • Cost reflective tariffs • Future network pricing • Export pricing • Engagement feedback (including from vulnerable customers)	• Interest in tariff choice and understanding different tariffs. • Suggestions that landlords and government should provide opportunities for 'others' to access the benefits of solar. • Some consider export tariffs as a disincentive to move to renewable energy sources (solar and battery). • Evoenergy should recognise and support shifts to more sustainable energy use and generation.	• Based on keen interest in tariffs (at early meetings), Evoenergy formed a community pricing panel to focus on network tariff reform. • Export tariffs are no longer proposed in Evoenergy's revised TSS.
'Have your say' survey[50] Survey of ACT residents	• Network tariffs • Network service delivery • Climate change • Energy use	• 1/3 of survey respondents did not know what tariff they were on. • More than half of survey respondents want to receive cost reflective price signals (i.e., know when it's more and less expensive to use electricity). • Half of survey respondents believe it's fair to use tariffs to encourage export at peak times. • 65% of respondents believe everyone should pay for network upgrades to enable self-generated export to the grid (i.e., solar), while 11% are unsure, and 24% believe that only customers with solar should pay for upgrades required to export to the network.	• This feedback reinforces Evoenergy's strategy to continue progressing cost reflective tariff reforms. • Evoenergy has simplified the proposed residential demand and TOU tariffs in its revised TSS to make them easier to understand, while still being cost reflective. • The residential export tariff is no longer proposed in the revised TSS. Instead, 'solar soak' charges will provide a softer introduction to export-based pricing concepts.

[49] Evoenergy, *Regulatory proposal for the ACT electricity distribution network 2024-29 – Appendix G: EN24 community panel process and outcomes report*, January 2023.
[50] Evoenergy, *Regulatory proposal for the ACT electricity distribution network 2024-29 – Appendix I: EN24 'have your say' survey results*, January 2023.

Activity	Topics discussed	Feedback received	Evoenergy's response
ACTCOSS workshop[51]	• Overview of Evoenergy • The regulatory process for tariff reform • The energy transition • Energy issues facing vulnerable customers	• Export pricing could be a disincentive to take up solar. • The tariff reform and the regulatory process are complex. • Vulnerable customers have difficulty accessing renewable energy technologies. • Transparency and clear communication are needed.	• Evoenergy has simplified its proposed residential tariff reforms for the revised TSS, including removing the proposed export tariff. • Evoenergy acknowledges the regulatory process can be complex. Evoenergy has attempted to improve communication through a dedicated website,[52] the draft EN24 plan and workshops.
ACT Government One-on-one meetings Draft EN24 plan submission Utility Industry Regulators Forum	• Large-scale battery tariffs • Residential export tariffs • Proposed reforms to residential tariff structure and tariff assignment policy • Inclining block off peak structure of the proposed residential TOU tariff	• ACT Government was generally comfortable with the introduction of an export tariff. They indicated support for introducing export charges beyond the basic export level and within a defined time period and welcomed the introduction of an export rebate within a defined period. • The ACT Government was keen to understand the application and implication of the inclining block off peak structure in the proposed residential TOU tariff. • ACT Government provided a written submission to Evoenergy's draft EN24 proposal, with feedback and Evoenergy's responses covered in Table 8.	• Evoenergy initially presented the workings of the proposed export tariff and discussed the inclining block off peak structure in the proposed residential TOU tariff. • Subsequently, in response to the feedback received, Evoenergy has simplified its proposed residential tariffs in its revised TSS – including removing the proposed export tariff. • This engagement emphasised the need for Evoenergy to communicate the workings of newly proposed tariffs clearly. It also prompted the detailed customer impact analysis of the tariff reforms, as set out in section 14.

Evoenergy established a website[53] dedicated to the 2024–29 regulatory proposal (including TSS). This website included information on the regulatory process, Evoenergy's consumer engagement program and engagement activities. The website also provided an opportunity to enter personal

[51] Evoenergy, *Regulatory proposal for the ACT electricity distribution network 2024-29 – Appendix K: ACTCOSS and Evoenergy workshop listening report*, January 2023.
[52] https://engagewithenergy.com.au/
[53] Ibid.

details so that consumers could be provided information about the consumer engagement program and receive updates. The 'Have Your Say' survey was conducted through this website.

Further, the ECRC assisted in the design of the consumer engagement program. That is, before the commencement of the program, they were presented with the proposed program and, through conversation, had the opportunity to direct the design of the program.

TSS updates were provided at most ECRC meetings ensuring ECRC members were informed about the proposed tariff reforms and the feedback Evoenergy received from stakeholders. In addition, the ECRC was provided with updates on key engagement activities and feedback, including the EV survey, community pricing panel, deliberative engagement pricing workshops, and the draft EN24 plan. ECRC members were also invited to attend some engagement activities (such as the community pricing panel) as observers. At ECRC meetings, members were asked to participate in a 'health check' of Evoenergy's regulatory proposal and TSS engagement. This was designed to provide Evoenergy with robust feedback on its engagement activities from an informed audience (given ECRC members were involved in the design of the program and invited to observe several engagement activities).

5.2 Engagement with retailers and aggregators

Retailers

Evoenergy's tariff reform engagement with retailers is an ongoing conversation. While Evoenergy was developing tariff trials for residential and large-scale batteries, Evoenergy engaged with a series of retailers, including large national retailers, smaller local retailers and bespoke retailers. This engagement commenced in 2020 with a series of one-on-one online and face-to-face meetings.

The network tariff trial engagement commenced with an overview of the concept and purpose of network tariffs and progressed to sharing the specific network tariff trial structures. For retailers interested in participating in the tariff trials, Evoenergy frequently met to discuss passing through the network tariff trial price signals to end customers.

This network tariff trial engagement developed working relationships with retailers that enabled a smooth transition for engagement more broadly about the proposed TSS for the 2024–29 regulatory period. These one-on-one meetings provided active ACT retailers with a detailed explanation of the tariff reforms Evoenergy included in the proposed TSS published in January 2023. These reforms generally aligned with those set out in the Draft EN24 plan, providing retailers with a preview of the content.

Evoenergy provided information to retailers about the proposed changes to existing tariffs and the introduction of new tariffs, including Evoenergy's initial proposal to introduce export tariffs for residential customers. Retailers expressed their preference for simple network tariffs, acknowledging this is challenging as the energy industry transitions to a renewable future. Retailers were interested in Evoenergy's transition to export tariffs and were keen to understand the mechanics of export charging. A copy of the Draft EN24 plan was sent to the active ACT retailers, with a written response from one retailer.

After the revised TSS was published in January 2023, three major retailers provided written submissions on Evoenergy's proposal. The feedback informed Evoenergy's engagement for the revised TSS, and provided a focus for more in-depth discussions with retailers about their concerns over tariff complexity – particularly as it relates to Evoenergy's proposed residential tariff reforms.

A central theme in the retailer feedback was that Evoenergy's suite of tariffs has grown in size and complexity as the network has transitioned to more cost-reflective tariffs over time. This creates two related challenges. First, retailers indicated that they may not be able to pass-through more complex

tariffs to end-customers (due to high implementation costs, the variability of network tariffs across distribution networks, and customer preferences for simple retail tariffs). Second, customers may find it difficult to respond to more complex network tariffs, and may find some tariff components difficult to understand. These concerns have been reflected in some retailers choosing not to adopt Evoenergy's existing residential demand tariff in their retail tariff structures.

Between September 2023 and November 2023, Evoenergy held one-on-one meetings with retailers to gather more feedback about tariff implementation concerns, the likelihood of retailer's passing-through Evoenergy's proposed tariffs, and targeted options for tariff simplification for Evoenergy's revised TSS. Two sets of one-on-one meetings were held with retailers. The initial set of meetings provided an opportunity for Evoenergy to seek further information about matters raised in retailers' submissions on the proposed TSS, and to update retailers on feedback received from other stakeholders (including the AER and consumer groups). Evoenergy then used the initial meetings to canvass some high-level options for simplifying its proposed residential tariffs, including the export tariff, in response to the feedback received. In the second set of meetings, Evoenergy presented its proposed tariff changes for the revised TSS, and obtained retailer endorsement for the simplification of the proposed residential tariffs – including the removal of the proposed export tariff.

Evoenergy and retailers also discussed tariff options for residential EV charging, including existing tariffs offered by retailers, and retailers' experiences with controlled load tariffs. Evoenergy presented its proposed tariff strategy to address EV charging in 2024–29, as well as initial findings from Evoenergy's investigations of more advanced, dynamic tariff options.

A summary of feedback on the proposed TSS and Evoenergy's response is outlined in Table 14 below.

Table 14 Retailer Feedback

Key themes	Feedback	Evoenergy's response
Proposed residential TOU and demand tariffs	• Retailers generally prefer simpler, TOU network tariffs to more complex demand tariffs. • Concerns about the complexity and implementation challenges of the inclining block-charges on the proposed TOU tariff. At least one major retailer would not pass-on the tariff structure in its retail tariffs, and others were uncertain. • Concern that while new charges (i.e., off-peak demand charge) are offset by changes in existing charges, customers can perceive the addition of a new tariff component as resulting in a higher bill.[54] • Retaining the existing TOU and Demand tariffs (in addition to the newly proposed tariffs) results in duplicative tariff structures, which increase complexity and administration costs.	• Evoenergy has simplified the proposed TOU tariff in the revised TSS by removing the inclining block off-peak charges to provide customers and retailers with a simpler tariff option based on well-understood TOU price signals. • In the draft EN24 plan, Evoenergy proposed to introduce a 'residential battery tariff' that was trailed during the 2019–24 regulatory period. Based on consumer and retailer feedback, the lessons learned from the tariff trial have been incorporated into newly proposed demand and TOU tariffs to reduce tariff structure complexity. • The peak time windows on the proposed residential demand and TOU tariffs are now better aligned to reduce complexity/improve simplicity. • Evoenergy has retained its existing TOU and demand tariffs to minimise impacts for existing customers.

[54] This assumes the retailer passes the proposed demand tariff structure through to end customers.

Key themes	Feedback	Evoenergy's response
		However, Evoenergy will consider opportunities for further tariff simplification in the 2029–34 period.
Proposed 'solar soak' charge	• One retailer stated that customers might perceive the term 'solar sponge' as a tariff for solar customers rather than for all residential customers (with a smart meter). • The solar soak charge needs to be low enough to provide an incentive for customers to shift load.	• Evoenergy has changed the term 'solar sponge' to 'solar soak'. • Customer impact modelling has informed the price level of the solar soak charge. Evoenergy intends to monitor the response to the solar soak charge, if possible.[55]
Proposed residential export tariff	• Broad understanding of the potential for residential export tariffs to manage export-related network costs. • Concerns about implementation complexity due to it being a separate tariff, secondary to Evoenergy's primary network tariffs for residential customers. • Uncertainty over whether ACT retailers would pass-on the export tariff structure to customers, with at least one major retailer indicating it would not do so. • Concerns about different approaches to basic export levels across distribution networks, which could increase the complexity of retail tariffs. • The date-specific tariff assignment policy (as required under the NER) creates administrative complexity for retailers, and retailers are concerned about tariff assignment changes within the regulatory period. • Given that the proposed export charge and rebate would be calculated in hourly intervals, there was a suggestion to consider half-hourly intervals to align with the peak demand charging metric.	• Evoenergy has removed the proposed export tariff from its revised TSS in response to retailer and customer feedback, and implementation concerns. • The expected low level of retailer adoption in the ACT means the export tariff would not achieve its originally intended objective of signalling export-costs to customers. • In light of stakeholder feedback, Evoenergy does not consider the additional investment required to implement a residential export tariff is in ACT customers' best interests at this time. • Evoenergy will instead utilise the much simpler, 'solar soak' charges on the residential demand and TOU tariffs to encourage energy use at times when solar exports are typically high. This also addresses retailer concerns about secondary tariffs, since the solar soak charges are part of Evoenergy's primary tariff structures. • Evoenergy will continue to monitor export-related costs on the ACT network and the performance of solar soak charges. If indicated, export tariffs may be considered again in future regulatory periods
Contingent tariff adjustment mechanism	• Retailers are concerned about the uncertainty, complexity, and administrative costs of within-period tariff changes arising from contingent tariff adjustments.	• Evoenergy has removed the contingent tariff adjustment mechanism from its revised TSS, which will provide retailers and customers with greater tariff certainty and simplicity over the 2024–29 period.

[55] Monitoring response to the solar soak charge will depend on the way in which retailers pass through the solar soak charge to customers.

Key themes	Feedback	Evoenergy's response
	• Retailers are also concerned about the process and timing for notifying contingent tariff adjustments, and the opportunity for engagement before any changes are made	• The extended peak periods initially contemplated as contingent tariff adjustments are now reflected in Evoenergy's proposed TOU and demand tariffs to apply from 1 July 2024. This is supported by updated load profile data which has become available since Evoenergy's initial TSS proposal in January 2023.
Tariff options for electric vehicles (EVs)	• Retailers questioned whether network tariffs (including controlled load tariffs) had been considered to manage expected residential EV charging. • Retailers are concerned about negative customer experiences on controlled load tariffs. This includes reduced charging convenience, and technical barriers to using energy from rooftop solar for controlled load EV charging. • Some retailers currently offer tariffs for EV charging (e.g. bundled with the purchase of an EV from a retailer). However, there are technical barriers to identifying energy used for EV recharging as distinct from other residential uses.	• ACT residential customers can opt-in to Evoenergy's existing controlled load tariffs to recharge their EV. The controlled load tariffs enable charging outside of the morning and evening peak periods. • Evoenergy's proposed demand and TOU tariffs provide cost-reflective price signals throughout the day, which can help inform customer choices about when and how fast to charge their EVs, while retaining customer flexibility. • Evoenergy considers that controlled load tariffs are not a long-term solution for managing EV load on the network (see section 10). Therefore, Evoenergy is not proposing any new controlled load tariffs targeting EV charging during the 2024–29 period. • Evoenergy will continue investigations into future-focussed 'flexible load' tariffs which provide greater responsiveness to network conditions, and improved charging amenity compared to controlled load tariffs. These may initially be explored through tariff trial arrangements once the required technical capabilities become available.

Aggregators

Evoenergy met with the two main aggregators operating in the ACT. The feedback was received via one-on-one, face-to-face and online meetings in which aggregators were provided with a detailed explanation of the proposed tariff trials and tariff reforms.

The aggregators were initially engaged during the commencement of Evoenergy's tariff trials (i.e., prior to phase one). This is because the tariffs being trialled included highly cost reflective price signals intended for response by a HEMS, as operated by an aggregator. Aggregators welcomed the opportunity to trial new tariffs designed for HEMS.

Aggregators were also engaged during phase two of the engagement program to provide an update on the proposed tariff reforms. The aggregators raised a series of informed questions about the operation of the proposed tariff reforms. They concluded that the proposed price signals were generally an effective way of communicating how different patterns of network usage increase or

decrease Evoenergy's costs. Thus, they considered the rationale for the proposed tariff reforms was sound.

Specific feedback received from aggregators is outlined below.

- The proposed export tariff (no longer included in Evoenergy's revised TSS):
  - The gradual transition to export tariffs via tariff assignment and price levels (customer impacts) is reasonable.
  - Most new solar PV systems can be controlled to avoid exporting beyond the basic export level.
- Proposed TOU tariff:
  - It is appropriate to maintain energy consumption-based tariff components rather than a demand-based charge in this tariff.
  - An off-peak inclining block charge (no longer proposed in Evoenergy's revised TSS) may mitigate the risk that retailers do not pass through key features of the proposed TOU tariff.
- Proposed demand tariff:
  - The off-peak demand charge effectively signals the need to monitor high-peaking overnight usage, such as EV fast chargers.

5.3 Key feedback themes and Evoenergy's response

Consumer engagement activities were designed to encourage the involvement of representatives from a cross section of customer segments. The key feedback themes and Evoenergy's response is summarised in Table 15.

Table 15 Feedback themes

Key themes	Evoenergy's response	Section reference
Provide network tariffs that are fit for future users of the network Consumers generally support a transition towards more cost-reflective network electricity tariffs, provided a focus on tariff simplicity and that the transition avoids disincentivising the uptake of renewable energy technologies in the ACT.	• Through its proposed TSS, Evoenergy's tariff reforms are designed to address expected changes in network usage profiles, particularly an increased uptake of EVs and batteries. An example of this is the proposed introduction of a 'solar soak' charge during the middle of the day, designed to encourage the use of electricity to soak up solar exported to the grid. • Evoenergy is no longer proposing a residential export tariff for introduction in the 2024–29 period, partly in response to mixed views from customers about fairness and the perceived disincentive for uptake of renewable technology in the ACT.	Proposed tariff reforms (section 11)
The ACT community has mixed views about export pricing for residential	• Given the mixed views on the fairness of export pricing, and the concerns expressed by retailers, Evoenergy is no longer proposing a residential export tariff for introduction in the 2024–29 period. • Evoenergy proposes to instead utilise 'solar soak' charges to reward customers with a lower price for energy 'soaked up' during the	Export Transition Strategy (section 9)

Key themes	Evoenergy's response	Section reference
customers[56] There are mixed views about whether export pricing improves fairness/equity, whether customers will be able to understand and respond to export tariffs, and the contribution of export pricing to overall tariff complexity.	middle of the day – rather than charging customers for energy exported. Solar soak charges provide a 'softer' introduction to export-based pricing concepts within a familiar TOU-based tariff structure. • Evoenergy will continue to monitor exports on the network and the effectiveness of solar soak charges, and will consider the appropriateness of export pricing in future regulatory periods.	
Preference for simpler tariffs Many customers prefer TOU tariffs – which are perceived as being more simple and easier-to-understand than demand tariffs.	• Evoenergy has simplified its proposed residential tariffs in the revised TSS. This includes removing the inclining block charges on the proposed TOU tariff and instead utilising a more traditional TOU structure to signal the costs of using the network at different times of the day. The revised TOU tariff will provide a more simple, opt-out tariff option for customers and retailers that do not wish to utilise the more advanced demand tariff. • Evoenergy has ensured its proposed residential tariffs (demand and TOU) are well aligned. For example, the peak, solar soak, and off-peak periods are aligned between the two tariffs. This alignment is designed to enable switching between these two cost-reflective tariffs without the need to adjust customer focus on the time period of charging windows. • Evoenergy initially intended to introduce a 'residential battery tariff' that has been trailed during the 2019–24 regulatory period. Rather than adding a new tariff (and potentially adding more complexity to the tariff structure), the lessons learned from the tariff trial have been incorporated into proposed demand and TOU tariff structures. This is in response to the feedback received during phases one and two.	Proposed tariff reforms (section 11)
Improving pricing fairness is important to the ACT community	• Proposed introduction of a solar soak charge to enable: ○ Greater opportunity to shift load (into the middle of the day) to reduce the network component of the electricity bill. ○ Non-solar customers have the opportunity to access the benefits of solar. ○ Reduced impacts and costs of solar exports on the network.	Proposed tariff reforms (section 11) Export Transition Strategy (section)

[56] Charge/reward applied to electricity sent from customers' premises to the network.

Key themes	Evoenergy's response	Section reference
	• Evoenergy proposes a simplified but still cost-reflective residential TOU tariff in the revised TSS, to provide options for customers who are not able to respond to demand-based price signals or who prefer more simple tariffs.	
Optimising electric vehicle charging through customer choice and flexible load tariffs Customers want Evoenergy's network tariffs to support the uptake of EVs, while still giving customers flexibility over when and how they charge.	• Evoenergy will continue offering controlled load tariff options for EV recharging during the 2024–29 regulatory period to provide choice to EV owners and encourage charging outside of peak times. • Evoenergy will continue investigating a future tariff strategy that optimises EV charging without loss of customer amenity – including the possibility of flexible load tariffs that can optimise charging across the network to dynamically manage network constraints.	Residential tariff options targeting EVs (section 10)

5.4 Measurement and evaluation

After the key engagement activities, Evoenergy asked participants to evaluate the activity in terms of the content, presenters, and the opportunity to provide feedback. Evoenergy received generally positive feedback from participants, citing the opportunity to learn more about network tariffs and help shape the future of ACT network tariff structures. Participants also commented that there was a range of options to provide feedback, whether through chat functions and other online options, directly at workshops, or via written submissions. This subsection provides an overview of the formal evaluations undertaken for the community pricing panel and Draft EN24 plan.

Community Pricing Panel

After the fourth Community Pricing Panel, participants were asked a series of questions, and their responses are recorded in Table 16. The evaluation shows that the Community Panel generally understood the content and felt there was sufficient information and opportunity to provide feedback.

Table 16 Community pricing panel evaluation

Questions	Participant response
Was the content presented in a way that could be understood?	• 67% understood everything that was presented • 17% understood most of the presentation • 17% felt the presentation was a bit complicated but understood enough.
Did the presenters equip you with sufficient knowledge to provide feedback on the proposed tariff reforms?	• Sufficient: 67% • Somewhat sufficient: 33%

Questions	Participant response
Would you have preferred more information on the topics presented?	• The level of detail was right for me: 67% • I would have preferred much more detail: 17% • I would have preferred less detail: 17%
Ability to participate, contribute to the discussion and provide feedback	• Very easy: 50% • Easy: 33% • Neither easy nor difficult: 17%
Confidence that the feedback will influence Evoenergy's planning	• Very confident: 29% • Somewhat confident: 71%

Draft EN24 plan

The ACT community was asked whether Evoenergy was 'engaging with the right people about the right issues as part of preparing our plans for the 2024–29 regulatory period'. Six out of seven respondents agreed that Evoenergy's engagement was well targeted.

The ACT Government suggested that Evoenergy engage with non-network parties such as large-scale battery proponents. Evoenergy has been engaging with large-scale battery proponents on tariff reform since 2020 (before introducing tariff trials for large-scale batteries).

ACTCOSS suggested that Evoenergy should identify vulnerable customers and prepare engagement material that recognises the complexity of the energy industry. ACTCOSS also suggested the inclusion of bill impact modelling, which is addressed in section 14.

The community was also asked whether there were elements of the Draft EN24 plan that needed further engagement. In general, respondents suggested more information about underground power lines and the development of customer archetypes to identify those who will benefit or require extra support during the 2024–29 regulatory period. Specific to pricing, they suggested Evoenergy identify instances of cross-subsidisation between customer groups, which is covered in the pricing principles in section 7.

In summary, Evoenergy has engaged in detail with the ACT community about a range of tariff reform options that seek to improve the cost reflectiveness of the existing network tariff structure. Each of the reform options presented has been broadly supported.

6. Approach to setting prices

This section describes Evoenergy's overarching, two step approach to setting the price levels for each tariff component of each tariff.

6.1 Two-step framework

Evoenergy determines the prices for each tariff using the following two-step methodology.

1) Calculate the total level of revenue to be recovered from each tariff, which must be equal to the total efficient cost of serving those customers.
2) Set the price of each tariff component so that, based on expected customer numbers and demand, Evoenergy expects to recover the amount calculated in step one from each tariff.

Step 1: Estimate total efficient cost

Evoenergy calculates the level of revenue it expects to recover from each tariff,[57] equal to the total efficient cost of serving the customers that are assigned to that tariff. This is so that when summed with the revenue it expects to recover from all other tariffs, Evoenergy can expect to recover the level of revenue approved by the AER.

In practice, Evoenergy achieves this result by estimating the level of revenue it expects to recover from network charges that are based on efficient, long run marginal cost (LRMC) estimates. It then allocates the remainder of its approved revenue (residual costs) across tariffs with reference to the previous year's allocation of residual costs and the current year's forecast consumption.

This allocation methodology for residual costs accounts for the effect on retail customers of tariff changes from the previous regulatory year.[58] The total efficient cost of serving customers on each tariff is then equal to the revenue expected to be recovered from an efficient, LRMC-based price signal and the residual costs allocated to that tariff.

To avoid cross-subsidies between customers in different tariff classes, Evoenergy checks that the revenue recovered from customers in each tariff class is:[59]

- higher than the costs that could be avoided if it did not provide network services to those customers (the avoidable cost); and
- lower than the cost of providing network services to those customers only (the standalone cost).

Evoenergy explains the concepts of standalone and avoidable costs in more detail in section 7.

Step 2: Set prices that recover the total efficient cost

The second step is to set a price for each tariff component that recovers the level of revenue allocated to that tariff in step one, having regard to Evoenergy's forecast of customers numbers and consumption. Evoenergy's tariffs are based on the LRMC of providing network services to the customers assigned to those tariffs.[60] The LRMC is the future network cost that could be avoided by a change in a customer's use of the network, and its estimation is explained in section 7.

[57] NER, clause 6.18.5(g)(i)-(ii).
[58] NER, clause 6.18.5(h).
[59] NER, clause 6.18.5(e).
[60] NER, clause 6.18.5(f).

Evoenergy typically sets the peak demand and/or peak energy price in a tariff based on the LRMC of providing import network services. Given that additional exports can impose costs on the network, Evoenergy bases export prices on the LRMC of providing export services (for those tariffs where export prices apply). These LRMC-based prices reflect only future costs however the majority of Evoenergy's costs are historical costs. The difference in costs, or 'residual cost', is collected through other fixed and variable charges in the tariff so that Evoenergy expects to recover the total efficient cost of serving those customers, as determined in step one.

Throughout this process, Evoenergy analyses the effects on customer network bills and tailors its approach to avoid unacceptable bill impacts.[61] Evoenergy presents its assessment of customer bill impacts in section 14. In evaluating the effect on customers, Evoenergy also ensures that its prices comply with the side constraint specified in the NER, and the requirements of the AER's two-stage annual pricing process review.

[61] NER, clause 6.18.5(h).

7. Pricing principles

Evoenergy sets network prices to signal to customers the future cost of providing network services so that they can make informed choices about their consumption and investment decisions. If ACT customers choose to respond by reducing their consumption/demand during peak periods, they can help to reduce future network costs and, therefore, lower network bills.

The NER includes an economic based pricing objective and several pricing principles. The network pricing objective is for network prices to reflect the efficient costs of providing services to customers.

The pricing principles provide further guidance on how best to promote the pricing objective so that, in broad terms:[62]

- customers receive price signals that reflect future network costs;
- network businesses recover the total efficient costs of providing network services; and
- the customer impacts of cost-reflective tariffs are managed.

The pricing principles in the NER are outlined below.

- **Tariffs to be based on LRMC**: each tariff must be based on the LRMC of serving the customers on that tariff, to ensure network prices send efficient future cost signals to customers. (Clause 6.18.5(f))
- **Tariffs to recover total efficient costs**: this principle has three parts; to enable the recovery of total efficient costs, the revenue from each tariff reflects the total efficient cost of providing services to those customers, and the revenue is recovered in a way that minimises distortions to customers' usage decisions. (Clause 6.18.5(g))
- **No cross-subsidies between tariff classes**: the expected revenue from each tariff class must be between the standalone and avoidable costs of serving those customers. This safeguards against cross-subsidies between tariff classes, such as between residential and commercial customers. (Clause 6.18.5(e))
- **Consideration of customer impacts**: the impact of network price changes on customers must be considered in determining how to transition customers to cost-reflective prices over time. (Clause 6.18.5(h))
- **Tariffs to be capable of being understood**: network prices must be set so that customers can understand them. (Clause 6.18.5(i)(1))
- **Tariffs to be capable of being incorporated into retail tariffs**: network prices must be reasonably capable of being incorporated by retailers in their contracts offered to customers (Clause 6.18.5(i)(2))
- **Tariffs comply with jurisdictional obligations**: this principle allows network businesses to consider any jurisdictional specific obligations that are relevant to the costs that must be recovered from customers. (Clause 6.18.5(j))

Evoenergy develops its tariffs in accordance with these pricing principles. Evoenergy outlines how its TSS complies with the pricing principles below. Evoenergy's approach to complying with the pricing principles ensures that its tariffs reflect the efficient cost of providing services to its customers, consistent with the network pricing objective.

[62] AEMC 2014, *National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014, Rule Determination*, pp 10-11.

7.1 Tariffs to be based on the LRMC

Evoenergy sets a price for each network tariff based on the LRMC of providing the relevant network service. LRMC price signals are typically incorporated into the peak energy or peak demand tariff components.

The LRMC of providing a service reflects the future change in costs caused by a permanent, incremental increase or decrease in the use of that service.

Evoenergy considered the costs and benefits of various LRMC estimation methodologies and adopted the average incremental cost (AIC) method for the following reasons.

- It strikes a balance between the reliability of estimates and the administrative burden required to derive those estimates.
- In contrast to other methodologies based on hypothetical cost assessments (such as the perturbation approach),[63] the AIC method means that the LRMC reflects the same cost and network use inputs that underpin Evoenergy's proposal for the 2024–29 regulatory control period.
- It is widely accepted, and the most common methodology adopted by DNSPs.

Evoenergy estimates LRMC over a ten-year evaluation horizon.

AIC approach

The AIC approach involves estimating the LRMC of network services by reference to the average change in projected operating and capital expenditure attributable to future increases in network use.

In practice, the AIC approach involves:

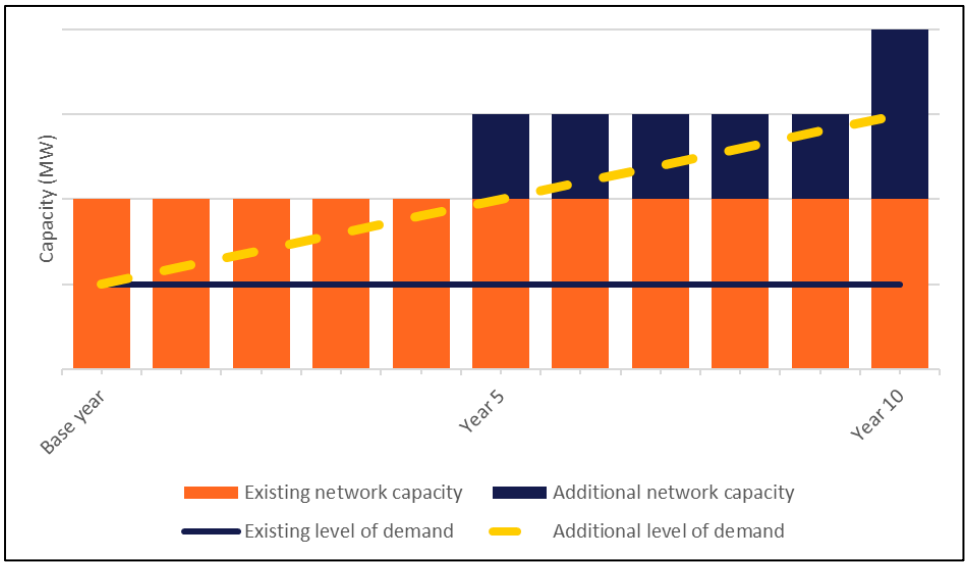
- projecting future growth in the use of the network;
- estimating the future capital and operating cost required to facilitate that expected increase in network use; and
- then calculating the LRMC as follows.

$$LRMC = \frac{\text{Present value of network costs caused by change in network use (\$)}}{\text{Present value of change in future network use (MW)}}$$

The conceptual circumstances that underpin the AIC approach are illustrated in Figure 13, where the orange bars reflect the capacity of the existing network, and the blue horizontal line reflects the current level of demand. The expected increase in demand is represented by the increasing yellow line. When it is expected to reach the capacity of the existing network in year five, the network is expanded to meet that demand, with that additional capacity indicated by the blue bars from year five onwards. The same circumstances occur again in year ten, leading to another expansion.

[63] The perturbation approach necessitates bespoke engineering assessments of how future network costs would change if demand was altered (or perturbed) by a fixed, permanent increment.

Figure 13 Illustration of the AIC approach



With reference to Figure 13, the AIC approach calculates LRMC equal to the present value of the dark blue bars (growth-related expenditure) divided by the growth in network use (in this case, demand) which is the difference between the yellow line and dark blue line. The resulting estimate of LRMC, therefore, reflects the average cost of serving demand growth over the ten year evaluation horizon.

The discussion below describes how Evoenergy estimated the LRMC of providing both import services and export services (where applicable) using the AIC approach.

LRMC of providing import services

Evoenergy estimated the LRMC of providing import services using the same approach as it did in the previous regulatory control period, with minor improvements. This approach involved:

- evaluating demand at the zone substation level;
- reviewing the drivers of all demand-driven capital expenditure projects; and
- separately estimating the proportion of demand-driven operating expenditure.

Since Evoenergy evaluated expenditure in constant, 2023/24 dollar terms, it calculated the present value of expenditure (and demand) by applying its proposed real weighted average cost of capital.

Demand

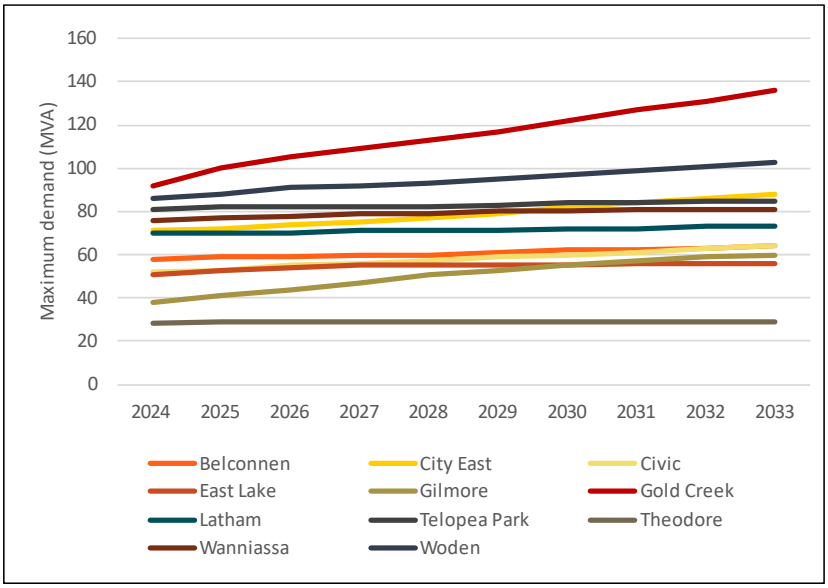
Evoenergy's approach to forecasting change in demand ensures consistency between the demand and expenditure inputs to LRMC. That is, there is consistency between growth related expenditure and the demand growth that is driving that expenditure.

Demand inputs that were based on the forecast change in *network* demand would distort Evoenergy's LRMC estimate, since network demand includes the offsetting effect of falling demand at some zone substations, which is not driving Evoenergy's growth-related expenditure. Evoenergy therefore evaluates forecast demand at each zone substations and, when calculating incremental demand growth, removes the offsetting effect of demand at zone substations where demand is falling. This reflects that it is location-specific demand that drives demand-driven capital expenditure.

Evoenergy's assessment of demand concludes that there is steady forecast demand growth across all zone substations over the next ten years. Figure 14 illustrates the expected demand at Evoenergy's substations.

Further, each zone substation is expected to experience peak demand during the winter months, in contrast to the 2019–24 regulatory period, when some substations peaked in summer.

Figure 14 Forecast growth in maximum demand



Source: Evoenergy demand forecasts.

Notes: Excludes Fyshwick, which is being decommissioned. Demand forecasts based on probability of exceedance (POE) 50 estimates for summer and winter.

As shown in Figure 14, Evoenergy forecasts demand growth in each future year as being equal to the sum of the incremental increase in demand at each zone substation. If demand at a particular zone substation was flat or falling, it made no contribution to the forecast demand growth in that year.

Capital expenditure

After forecasting demand at each zone substation, Evoenergy undertook a detailed, line-by-line assessment of over 120 demand-driven future capital expenditure projects. This line-by-line assessment ensured that Evoenergy:

- excludes any forecast expenditure that is not sufficiently avoidable;
- excludes any forecast expenditure that is caused by growth in exports, rather that imports; and
- correctly attributes expenditure to the tariff class that is causing that expenditure, either wholly or partly.

In practice, this is achieved by applying a series of apportionments that either include/exclude expenditure or allocate included expenditure between tariff classes.

Capital expenditure inputs were annualised (based on an assumed asset life of 45 years) to account for potential end-effects arising from a ten-year estimation horizon, which would otherwise bias the estimate of LRMC because Evoenergy's assets serve demand over a period much longer than ten years.

Operating expenditure

In previous regulatory periods, Evoenergy estimated the demand driven component of operating expenditure by assuming that it was equal to two per cent of capital expenditure. Evoenergy has improved its approach by undertaking a line-by-line assessment of over 40 historical operating expenditure items to estimate the relative proportion of each item that is demand-driven. The resulting estimate of demand-driven operating expenditure was then compared to the value of the regulatory asset base in each historical year.

This analysis indicated that it is appropriate to assume that demand driven operating expenditure is equal to around 1.96 per cent of capital expenditure. This analysis therefore also indicated that Evoenergy's previous (two per cent) assumption was appropriate.

LRMC estimate

Evoenergy's estimates of the LRMC of providing import network services to customers in each of the three tariff classes is summarised in Table 17.

Table 17 LRMC of import services by tariff class (2024/25)

Tariff class	Long run marginal cost
Residential	$125 per kW per annum
LV commercial	$60 per kW per annum
HV commercial	$46 per kW per annum

These estimates are broadly in line with Evoenergy's estimates of the LRMC in the 2019–24 regulatory period, except for the HV commercial tariff class, for which the estimate of LRMC has increased. This increase in the LRMC for the HV commercial tariff class reflects an expected higher number of new HV customers in the 2024–29 regulatory period and the resultant higher level of expected demand growth on the HV network, which is in turn reflected in the line-by-line attribution of capital expenditure to the HV commercial tariff class.

LRMC of providing export services

The AIC approach can be applied in the same way as described above (for import services) to estimate the LRMC of providing export services. The only difference relates to the nature of the inputs required, as follows.

- The change in network use (the denominator to the AIC calculation) is the forecast increase in export capacity.
- The change in network costs (the numerator to the AIC calculation) is the forecast increase in expenditure required to facilitate that additional export capacity.

Evoenergy estimated the annual change in export capacity over a ten year period, based on its medium solar PV export capacity forecast (presented in Figure 5 in section 3.3).

Evoenergy estimated the capital and operating expenditure required to facilitate this forecast increase in export capacity in its CER integration expenditure proposal. Specifically, Evoenergy undertook a cost-benefit analysis to determine the most appropriate network expenditure program to deliver

increased export capacity across the network. Details of this analysis are presented in Appendix 2.5 [64] of the 2024–29 regulatory proposal.

This analysis was performed using a model of Evoenergy's entire network to identify location specific export constraints and develop solutions that consider the relevant assets, network conditions and customer characteristics in that specific location. Consistent with import LRMC, capital expenditure inputs are annualised to account for potential end-effects arising from a ten-year estimation horizon.

Since the CER Integration business case explicitly identifies operating expenditure that is required to meet forecast growth in export capacity, there is no need to make an assumption in this regard. This is in contrast to the assumption required for demand-driven operating expenditure when estimating import LRMC.

Since exports typically do not impose costs on the HV network, or in areas of the network with a high concentration of commercial customers, the resulting estimate of export LRMC relates to residential customers. Evoenergy describes how this estimate will be applied to set prices for export charges for large scale batteries in section 9.

Evoenergy's estimates of the LRMC of providing export network services to customers is summarised in Table 18.

Table 18 LRMC of export services by tariff class (2024/25)

Tariff class	Long run marginal cost
Residential	$23 per kW per annum
LV commercial	0
HV commercial	0

Note: Given the removal of residential export tariff, the export LRMC estimate has not been updated in Evoenergy's revised TSS and reflects the value used in Evoenergy's proposed TSS (January 2023).

7.2 Tariffs recover total efficient costs

The revenue to be recovered from each network tariff must reflect a network business' total efficient costs of providing network services in a way that minimises distortions to price signals that encourage efficient use of the network by customers. This principle has three parts.

- Enabling the recovery of total efficient costs.
- The revenue from each tariff should reflect the total efficient cost of providing services to those customers.
- Revenue should be recovered in a way that minimises distortions to a customer's usage decisions, consistent with clause 6.18.5(g).

Each year Evoenergy will adjust the price levels, consistent with the approach outlined in this TSS, such that the expected revenue from all tariffs accords with the AER's distribution determination for the 2024–29 regulatory period.

[64] Evoenergy, *Regulatory proposal for the ACT electricity distribution network 2024–29, Appendix 2.5*, January 2023.

7.3 No cross subsidies between tariff classes

Clause 6.18.5(e) of the NER includes a pricing principle designed to avoid cross subsidisation between different tariff classes. This principle requires the revenues recovered from each tariff class to be:

- less than the standalone cost of providing network services to that tariff class; and
- at least equal to the avoidable cost of providing network services to that tariff class.

For a tariff to be deemed efficient under the NER, it must deliver a stream of revenue from a class of customers that is between this upper and lower bound. This is commonly known as the 'efficient pricing band'. Tariff prices are deemed efficient if the revenue recovered is:

- less than the standalone cost; and
- greater than the avoidable cost.

There are two reasons why a price within this 'band' is deemed efficient.

1. **Less than the standalone cost**: breaching this upper bound may result in that tariff class being incentivised to inefficiently bypass Evoenergy's existing distribution network in order to avoid paying Evoenergy's network tariffs, even though the incremental cost to Evoenergy of providing these services to that customer (or tariff class) may be less than the alternative (bypass) option.
2. **Greater than the avoidable cost**: if the revenue expected to be recovered from a tariff class does not exceed the cost that the business would avoid if it did not provide the distribution services, that tariff class is; (a) being subsidised by other tariff classes; and (b) would be overconsuming electricity services, relative to efficient levels (assuming that the tariff class demand curve is not perfectly inelastic).

The avoidable cost for each tariff class is calculated using Evoenergy's estimate of the LRMC, which is calculated using the methodology set out above. The standalone cost is then estimated as the avoidable cost for each tariff plus total common costs. Table 19 shows that the distribution-use-of-system (DUOS) revenue for each tariff class lies within the lower bound of the avoidable cost and the upper bound of the standalone cost for each tariff class.

Table 19 Avoidable and standalone costs, 2024/25 ($'000)

	Avoidable cost	DUOS charges	Standalone cost
Residential	$19,483	$75,113	$149,588
Low voltage commercial	$14,239	$77,118	$144,343
High voltage commercial	$2,484	$13,359	$132,589

7.4 Consideration of customer impacts

Tariffs are to be developed in line with a customer impact principle that requires network businesses to consider the impact on customers of changes in network prices and to develop price structures that are able to be understood by customers, as per clause 6.18.5(h) of the NER.

Evoenergy has considered the customer impacts of changing network tariffs in determining how to allocate residual costs and transition customers to cost-reflective prices over time (section 14). Evoenergy agrees with the AEMC that clear, understandable and stable network prices, in accordance with the principles in the network pricing section of the NER, will facilitate the ability of customers to receive and respond to future price signals.[65]

Evoenergy presents its assessment of customer bill impacts in section 14.

7.5 Capable of being understood

Evoenergy has designed tariffs to ensure they are reasonably capable of being understood by customers, in accordance with clause 6.18.5(i)(1). Over time, as many network businesses across Australia move towards more cost-reflective tariff structures, customer familiarity and, therefore understanding of cost-reflective tariffs will improve. This will include a greater understanding of the drivers of network costs and how network prices reflect those costs.

In setting the proposed tariff structure for the 2024–29 regulatory control period, Evoenergy has carefully assessed the ability of customers to understand changes to the tariff structure. Evoenergy has tested its proposed tariff reforms through consumer engagement and, where appropriate, identified areas where the proposed tariffs could be simplified so that they are easier for customers to understand and respond to. Through Evoenergy's continuing consumer engagement process, it will monitor customers' understanding of tariffs and evaluate the trade-off between cost reflectivity and complexity to determine the most appropriate way in which the tariff structures could be altered in the future.

7.6 Capable of being incorporated into retail tariffs

Clause 6.18.5(i)(2) requires that the structure of network tariffs must be reasonably capable of being incorporated by retailers in contract terms offered to retail customers. There are several consequences that can occur if this is not the case. First, retailers may not pass-through the network price signals to retail customers, significantly limiting the ability of network tariffs to influence the efficient use of the network. In turn, this also means that network costs may not be efficiently recovered from retail customers, resulting in cross-subsidies through retail tariffs even if the underlying network tariffs are economically efficient. Unreasonably complex network tariffs can also result in inefficient costs for both distribution businesses and retailers, including the costs of systems and processes to support tariff implementation. If the network tariffs are not adopted by retailers, the distributor's implementation costs will not be in customers' best interests.

Perhaps most importantly – Evoenergy considers that if network tariffs are not reflected in retail tariffs, it can create a disconnect between the genuine consumer engagement undertaken on network tariffs, and the final tariff outcome customers see on their electricity bill. Throughout the consumer engagement process, both distribution businesses and their customers invest significant time and effort in considering the merits, impacts, and fairness of different network tariff options. But in the absence of retailer pass-through, consumer engagement on tariffs risks becoming a theoretical exercise with limited tangible impacts to customers' energy bills.

In developing the proposed tariffs for 2024–29, Evoenergy has engaged closely with retailers to seek their views on any practical and implementation concerns surrounding Evoenergy's TSS. Feedback from retailers has directly contributed to a simplification of the proposed tariffs in this revised TSS –

[65] AEMC 2014, *National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014, Rule Determination*, p. 12.

particularly those tariff components that retailers noted were difficult or unlikely to be passed through to retail customers (such as the residential export tariff).

For future regulatory periods, Evoenergy will continue its dialogue with retailers to identify any further opportunities to ensure its network tariffs can be reasonably adopted in retail electricity offers.

7.7 Tariffs comply with jurisdictional obligations

As per clause 6.18.5(j), network tariffs must comply with any jurisdictional pricing obligations imposed by state or territory governments. If network businesses need to depart from the above principles to meet jurisdictional pricing obligations, they must do so transparently and only to the minimum extent necessary. At the time of this proposal, Evoenergy is subject to the following jurisdictional schemes pursuant ACT legislation.

- Energy industry levy
- Utilities Network Facilities Tax
- Feed-in tariff (small and medium scale)
- Feed-in tariff (large scale)

The costs of meeting Evoenergy's obligations for these jurisdictional schemes are recovered through Evoenergy's network tariffs.

7.8 Approach to updating tariffs annually

The AER is required to make a final determination on Evoenergy's TSS in April 2024, which follows a draft decision in September 2023, and Evoenergy's revised proposal in November 2023. The AER's final TSS determination will apply for each of the five financial years between 1 July 2024 and 30 June 2029.[66]

Evoenergy's annual pricing proposal will apply the methodology detailed in sections 6 and 7, and will:

- incorporate the use of updated cost and volume information to derive updated tariff levels;
- explain material differences (if any) between the tariffs included in the TSS indicative pricing schedule and those in its annual pricing proposal; and
- demonstrate compliance with the AER's final TSS determination.

The NER does not permit Evoenergy to amend the approved TSS in its first year.[67] Should it be necessary to revise the tariff structure for subsequent years, Evoenergy will consult with stakeholders and seek the approval of the AER nine months before any changes are to come into effect, pursuant to Clause 6.18.1B(b) of the NER. Otherwise, as part of ongoing consumer engagement, Evoenergy proposes to discuss annual tariff changes with the ECRC, an independent ACT forum of representatives from the ACT community. Evoenergy will also provide information to stakeholders through its pricing web pages.

[66] After this, Evoenergy will be required to submit another TSS proposal together with a regulatory proposal for the regulatory control period 1 July 2029 to 30 June 2034.
[67] Rule 6.18.1B(a) and 11.73.2. The financial year 2024/25 is the first year during which the TSS will be effective.

8. Tariff strategy

Advances in technology, a society-wide focus on reducing emissions, and an increasing emphasis on energy independence are leading to transformational changes in the way ACT customers use Evoenergy's network. Therefore, Evoenergy is proposing to reform ACT network tariffs to provide cost-reflective price signals that enable:

- efficient investment decisions in renewable technology such as solar PV installations, batteries, EVs, HEMS, or efficient energy appliances;
- efficient use of the ACT electricity network; and
- a smooth transition from gas to electricity.

The uptake of new renewable technologies and the ACT transition to full electrification is likely to reach a critical state within the 2024–29 regulatory period or shortly after. For instance:

- Evoenergy expects the uptake of EVs to increase dramatically during the 2024–29 regulatory period, which has the potential to lead to new peaks in demand throughout the night and day.
- The uptake of solar PV is reaching a level that requires Evoenergy to begin considering new options for managing two-way flows.
- The ACT government is targeting 250 MW of large-scale battery storage in the ACT and provides incentives for customers that buy behind the meter batteries under its Next Gen program.
- Conversion from gas to electricity has the potential to change the electricity network load profile with higher demand in the winter, and in the morning period (given gas is generally used to heat buildings in the winter).

There is still considerable uncertainty in relation to how these new renewable technologies will be used (and interact with the electricity network), and how full electrification in the ACT will affect the network. In that context, Evoenergy expects the 2024–29 regulatory period to be characterised as a period of change that will fundamentally shape the energy landscape for decades to come.

8.1 Future-proofing

Considering the transformation described above, Evoenergy's strategic objective for tariff reform in the 2024–29 regulatory control period is to align the ACT network tariff structure with the expected changes to the energy landscape in the ACT. In practice, this means putting in place a network tariff structure that provides the flexibility to respond to opportunities and challenges effectively and efficiently as and when they arise over the 2024–29 regulatory period.

Responding to new challenges and opportunities requires new and innovative tariff structures. The proposed tariff reforms contained within the 2024–29 TSS are designed to enable a response to changes in the use of the network as renewable technology is more widely adopted and lessons about their impact on the network are learned. This is why Evoenergy's tariff strategy is founded on a flexible approach to enable response when circumstances on its network require it.

Evoenergy expects that its tariff strategy after the 2024–29 regulatory period will be significantly informed by the insights it gains from:

- customer responses to its proposed tariff reforms for the 2024–29 regulatory period;
- monitoring the impacts of increasing two-way flows on the network, and the effectiveness of 'solar soak' price signals and new tariffs for large-scale batteries;

- monitoring the impacts of EVs and the transition from gas to electricity on the ACT network, including any changes to residential load profiles;
- tariff trials implemented during the 2024–29 regulatory period, where appropriate.

The 2029-34 regulatory period will likely be characterised by further reforms that better reflect networks cost and rewards as lessons from renewable energy technology uptake are considered.

At this stage, Evoenergy expects structural tariff reforms (potentially in the 2029–34 regulatory period) may include, among other things:

- new tariffs for dedicated public EV charging stations;
- refinements to residential tariffs to further address household EV recharging loads;
- consideration of an export tariff structure for residential customers;
- the potential introduction of seasonality in the proposed residential TOU tariff to align its structure with the proposed residential demand tariff; and
- refinements based on lessons learned from the transition from gas to electricity.

8.2 Simplicity

One of the key messages Evoenergy heard from stakeholders is the need to keep network tariffs simple while maintaining cost reflectivity. Hence, Evoenergy undertook a critical review of its existing structures, intending to simplify them without compromising cost reflectiveness. This review led to simplifying a range of residential tariff structures including:

- the simplification of the overall tariff structure in terms of the number of tariffs;
- a review of the necessity of tariff components; and
- attention to the alignment of charging windows across tariffs (within each tariff class).

Initially, Evoenergy intended to propose the introduction of a residential tariff that had been trialled during the 2019–24 regulatory period. Rather than introducing it as a new tariff, the learnings from the trial were incorporated into the proposed residential tariff structure for the 2024–29 regulatory period. These refinements make way for the introduction of new price signals that are better suited to address the challenges and leverage the opportunities Evoenergy expects to arise in the future.

The review also focussed on each tariff component to verify whether it was essential from a cost-reflective perspective. Tariff components that were not essential were replaced to simplify the tariff structure. This includes, for example, the removal of inclining block charges from Evoenergy's proposed new residential TOU tariff.

For similar reasons, Evoenergy has proposed to remove the residential export tariff from its revised TSS. It was found that a residential export tariff would result in immaterial bill impacts during the 2024−29 regulatory period (see section 9), and was not essential to maintaining cost-reflectivity within Evoenergy's network tariffs. In contrast to the immaterial bill impacts, the residential export tariff structure involved a high degree of complexity, both for ACT customers and retailers. It was found that Evoenergy's proposed solar soak charges would be better suited to achieving a favourable balance of simplicity and cost-reflectivity on the ACT network.

Evoenergy's review of tariffs also led to simplifying a range of other residential tariff structures to improve the alignment of charging windows across tariffs. For example, the proposed residential TOU and demand tariffs have peak, solar soak, and off-peak periods that align. The commercial tariffs also have consistent charging windows, enabling customers to transition from one tariff to another with no change to the charging windows.

Evoenergy acknowledges that there may be further opportunities for tariff simplification in the future. As Evoenergy has introduced more cost reflective tariffs over time, the number of tariffs and charging components has grown significantly. The current suite of tariffs includes a number of legacy tariffs that are no longer open to new customers in the 2024−29 regulatory period. The intention behind retaining these tariffs was to manage bill impacts and avoid disruption for existing customers. However, as the roll-out of smart meters continues, and the number of customers on legacy tariffs declines, it will be opportune to consider tariff rationalisation in the 2029−34 period.

8.3 Fairness

Evoenergy is acutely aware that while many of its network's current and future changes are driven by the adoption of renewable technologies, not all customers are willing or able to invest in these new technologies or transition quickly to full electricity. Evoenergy is therefore focused on providing opportunities for non-adopters of renewable technologies to contribute to the energy-market transformation and take control of their network electricity bill. Similarly, not all customers are able to fully engage with and respond to highly cost-reflective tariffs, and many customers place a premium on tariff simplicity and bill certainty. Acknowledging and addressing the needs of different types of customers on the network is central to achieving fairness in the tariff structure.

Below are examples of proposed tariff reforms that aim to improve network pricing fairness in the ACT in the future.

- Introducing a relatively low solar soak network electricity charge enables all customers, solar and non-solar, to lower the network component of the electricity bill by shifting some of their electricity use into the middle of the day, helping to avoid network costs caused by two-way flows at that time of day.[68]
- Providing a simple residential TOU tariff (with a more traditional and familiar tariff structure) as an opt-out option to the more advanced residential demand tariff.

Evoenergy also carefully evaluated the effect of its proposed reforms on different types of customers to ensure that the distribution of benefits and costs associated with the proposed tariff reforms are fairly distributed across customers (section 14).

8.4 Continued implementation of tariff trials

The NER allows Evoenergy to implement subthreshold tariffs (i.e. trial tariffs) in all but the first year of a regulatory control period.[69] The NER requires that subthreshold tariffs satisfy both individual and cumulative revenue thresholds. In particular, the NER requires that:[70]

- forecast annual revenue for each subthreshold tariff is no greater than one per cent of the annual revenue requirement (the individual threshold); and
- forecast annual revenue from all tariff trials is no greater than five per cent of the annual revenue requirement (the cumulative threshold).

Tariff trials are essential for innovation, as they allow DNSPs to:

- explore the suitability of highly cost-reflective tariffs in a controlled manner;
- engage with customers, retailers, aggregators and other stakeholders to understand how DNSPs can improve tariff design;

[68] This assumes retailers pass through the network tariff structure and price signals to end customers.
[69] NER, clause 6.18.1C
[70] NER, clause 11.148.8.

- obtain trial data to inform tariff design; and
- ensure a smooth transition for customers if tariff trials are incorporated as new permanent tariffs.

Evoenergy put into place a range of tariff trials during the 2019–24 regulatory control period, as explained in section 4. Many of Evoenergy's proposed tariff reforms for the 2024–29 regulatory period introduce features from these trial tariffs. For example, the proposed residential TOU and demand tariffs are based on learnings from a residential tariff trial. The proposed introduction of new tariffs for large-scale batteries (and other large-scale storage technologies) is also based on a trial.

Tariff trials will continue to be a key limb of Evoenergy's tariff strategy from the second year of the 2024–29 regulatory period onwards when tariff trials are permitted under the NER.[71] Evoenergy is considering a tariff trial for EV charging stations to promote efficiency on the network because EV charging stations have the potential to impose costs on the network due to very high levels of demand. The structure of this trial tariff will be finalised following further analysis, and closer to the proposed commencement of the trial. Prior to commencing the tariff trial, Evoenergy will engage further with EV public charging proponents and other interested stakeholders including retailers.

Evoenergy may also explore the potential for subthreshold tariffs to be deployed as targeted, location specific responses to network challenges that arise in certain locations, given community perspectives on locational pricing. However, this would require significant coordination with retailers.

Evoenergy will consider introducing further tariff trials during the 2024–29 regulatory period as an opportunity to progress its strategy of increasing tariff cost reflectivity and empowering customers to better manage their network bills.

9. ACT export tariff transition strategy

9.1 Overview

In recent years, the imbalance between the supply and demand of electricity has been widening. This typically arises in residential areas in the middle of the day when electricity demand is relatively low, and exports from rooftop solar PV are typically high. As the imbalance continues to widen (primarily due to increased uptake of solar), additional network investment may be required to manage voltage fluctuations on the network in the future.

Network tariffs can play a role in responding to these challenges by ensuring, where appropriate, that the costs and benefits of exports on the network are shared across customers in a way that promotes fairness and efficiency. At the same time, Evoenergy is cognisant that the ACT community's expectations for export services, and their important role in the energy transition, are very different from expectations for traditional import-based uses of the network. This includes differences in how customers perceive the role of solar PV on the network, customers' ability to respond to export-based price signals, and considerations of fairness and equity relating to not all customers having export capabilities. In light of this, there is a need to carefully balance the benefits of network tariff options for managing exports against the costs and the expectations of the ACT community.

Crucially, electricity retailers also play an important role as the primary interface between customers and their electricity supply. Accounting for if and how retailers pass-through network price signals to customers will be a strong determinant of the success of tariff reform to support the integration of CER in the ACT.

In recent years, the AEMC made changes to the NER that aim to integrate CER more efficiently into

[71] NER, clause 6.18.1C.

the network and provide greater opportunity for distribution businesses to explore new options for pricing export services.[72] Among other things, this NER change:

- clarified that networks can use negative prices to reward customers for decisions that reduce network costs;
- removed the former prohibition on charging customers for exporting energy onto the network; and
- provided that export charges can be levied only on exports above a basic export level (BEL) set by the network.

Evoenergy's TSS for the 2024−29 regulatory period sets a pathway to prepare the network for the accelerating uptake of CER in the ACT. This includes introducing customers to pricing concepts that reflect some of the impacts that exports can have on the distribution network. A key focus of Evoenergy's tariff strategy is to introduce these new price signals in a gradual and measured way that avoids unnecessary tariff complexity and implementation cost at a time when it is not yet needed.

In the 2024−29 regulatory period, Evoenergy proposes to introduce export charges and rebates only within the proposed new tariffs for large-scale batteries (and other large-scale storage technologies) ~~(~~in residential areas~~)~~. This recognises that, in contrast to residential customers, large-scale battery and storage operators are commercial customers who actively participate in energy markets and are positioned to respond to more advanced network price signals. Large-scale batteries and storage also have the ability to export energy at a much higher rate than residential customers, and hence provide a targeted focus area for introducing network tariffs to manage export-related costs.

Evoenergy does not propose to introduce export charges for residential customers during the 2024−29 period. The revised TSS departs from the approach in Evoenergy's initial TSS, which included a proposed residential export tariff to prepare the ACT network tariff structure for the anticipated future increase in export costs. Evoenergy's withdrawal of the residential export tariff reflects new information and stakeholder feedback received on Evoenergy's initial TSS (see section 5), including:

- feedback from customers, indicating a strong preference for simple tariffs and concerns about the mixed signals sent by export charges in relation to the uptake of CER on the network.
- feedback from retailers, which included that Evoenergy's initially proposed export tariff was difficult to implement, and there was a low likelihood it would be widely adopted in retail tariffs offered to ACT customers.
- feedback concerning the significant costs[73] and implementation complexity of residential export tariffs within Evoenergy's billing system, including the finding that implementation of a residential export tariff by 1 July 2024 is not possible based on constrained market availability and resourcing.

Evoenergy has carefully considered the stakeholder feedback, along with the high costs and complexity of implementing export tariffs, and has weighed this against the relatively small network impacts expected from small-scale residential solar during the 2024−29 regulatory period. Evoenergy notes that additional investment will be required in its billing system to implement a residential export tariff, which includes the development of new, custom capabilities that are not currently available to Evoenergy. In the revised TSS, Evoenergy has concluded that the pre-emptive introduction of residential export tariffs in 2024−29 does not reflect prudent and efficient investment that is in customers' best interests at this time.

[72] AEMC, *Access, pricing and incentive arrangements for distributed energy resources, Rule determination*, 12 August 2021.
[73] The costs of implementing the tariff would have been incurred in the 2019−24 regulatory period, and do not form part of Evoenergy's expenditure forecasts for the 2024−29 regulatory period.

Instead, Evoenergy proposes a more gradual, measured, and responsible transition pathway to begin introducing residential customers to export-related pricing concepts in the 2024−29 regulatory period. This will be achieved through the 'solar soak' charges on Evoenergy's proposed residential TOU and Demand tariffs. These charges reward customers with a lower price for 'soaking up' energy between 11am–3pm AEST when solar exports are typically highest. Solar soak charges have the potential to reduce export-related costs on the network while also being simple for customers to understand and simple for retailers to implement in retail tariffs. Importantly, the proposed solar soak charges provide a much stronger price incentive, and are expected to cover a much larger number of customers, than the initially proposed export tariff.

Under the proposed gradual transition, Evoenergy will fully explore the role that solar soak charges can play in managing exports on the network before considering residential export tariffs again in future regulatory periods. This will provide more time for customers and retailers to become familiar with Evoenergy's other residential tariff reforms (including the new residential demand and TOU tariffs), and avoids introducing additional tariff complexity at a time when it is not yet required.

The remainder of this section explains Evoenergy's planned transition to export-based pricing signals for residential customers and large-scale battery and storage operators, including Evoenergy's proposal to not implement export tariffs for residential customers in 2024−29.

9.2 Managing export-related impacts on the network

Evoenergy's customers are engaging in new and innovative uses of the network that give rise to new energy flows on the network. The driving force behind these new flows is the growth in the uptake of solar PV and the resulting flow of electricity to *and* from customers (two-way flows).

Evoenergy now experiences peaks in exports in residential areas in the middle of the day when:

- demand from residential customers is typically low; but
- supply from rooftop PV generation is typically high due to the high level of solar irradiance.

This analysis is demonstrated in section 11. The resulting imbalance between supply and demand creates new challenges and opportunities for the future use of Evoenergy's network.

The solar soak period with a relatively low network charge (as described in section 11) is an important tariff solution that Evoenergy is proposing to help manage the costs of future imbalances on the network. The solar soak charge implicitly signals some of the costs of providing export services, which are transferred as a benefit (i.e. reduced price) to customers who 'soak up' exported energy and help avoid network costs. This allows Evoenergy to manage export-related network costs by providing customers with the benefits of a lower price, rather than introducing new charges for exporting customers. In turn, solar soak charges can help empower customers[74] to consider non-network solutions such as:

- shifting discretionary loads into solar-soak periods (e.g. the charging of EVs); or
- investing in a behind-the-meter battery to store cheaper energy imported during solar-soak periods.

While the solar soak charge is important for signalling the costs of export-related network imbalances, Evoenergy expects that customer responses to network tariffs will be insufficient to entirely offset the network costs. One reason is that network solar soak charges will be a relatively small part of customers' retail bills and unlikely to result in changes in energy usage at the level required to remove export-related network investment. Another reason is that not all customers have the ability or willingness to manage the times of day at which they use energy. Evoenergy, therefore, developed a CER integration expenditure program for the 2024–29 regulatory control period to facilitate exports on its network.

[74] This assumes retailers pass-through the network price signals to customers.

In contrast to residential customers, Evoenergy proposes to introduce stronger export price signals for large-scale batteries (and other large-scale storage technologies) in residential areas, including export charges and rewards to apply during critical peak events. These price signals encourage large-scale battery and storage proponents to make efficient investment decisions based on the costs of CER integration, and recognise ~~a batteries'~~their ability to shift export loads in response to network and other market price signals. Evoenergy found, through the development and operation of its tariff trials, that large-scale battery customers were receptive to export charges and rewards, and were well positioned to respond to highly cost-reflective price signals. Section 11 outlines the relevant features of the export charge and reward which form part of the proposed tariffs for large-scale batteries (and other large-scale storage technologies).

9.3 Residential export tariff options in the ACT

Evoenergy is not proposing to introduce an export tariff in its revised TSS for the 2024−29 regulatory period. This represents a different approach from Evoenergy's proposed TSS (published in January 2023) which included a residential export tariff as a secondary tariff to apply alongside eligible customers' existing (primary) tariff.

Evoenergy's decision to remove the residential export tariff from the revised TSS has been informed by careful consideration of feedback received on the proposed TSS, as well as new information surrounding the cost and complexity of implementation. The decision has also been shaped by ongoing engagement with retailers and customers following Evoenergy's initial TSS proposal. These considerations are outlined in the sections below.

For the 2024−29 regulatory period, Evoenergy proposes to utilise the much simpler residential solar soak charges to signal to customers the network benefits of 'soaking up' energy during solar soak periods (11am–3pm AEST). This approach provides an opportunity to use the 2024−29 period to gather more information about customers' responses to solar soak charges and the impacts on the ACT network within a simpler tariff framework. Evoenergy will then consider the need for residential export tariffs again in the 2029−34 regulatory period based on the latest available evidence.

The removal of the export tariff in Evoenergy's revised TSS, and the focus on solar soak charges, was specifically endorsed by Evoenergy's Deep Dive Panel, and generally supported through engagement with major retailers in the ACT (section 5).

Customers value tariff simplicity and transparency

A recurring theme in Evoenergy's engagement was that customers place a premium on tariffs that are simple and easy to understand (section 5). More complex network tariffs may not achieve the desired levels of customer response and can reduce customers' ability to understand their electricity bills (assuming network tariffs are passed through by retailers).

Evoenergy has continued to receive consumer feedback in Phase 3 of its engagement program, following the submission of the proposed TSS in January 2023. Customers noted the need for greater transparency between retail tariffs and the underlying network tariff, and how network costs were being passed through to customers. The engagement also emphasised the need for more customer education about network tariffs focussed on explaining how key tariff components operate, why they are required, and the extent to which these were reflected in retail tariffs available to customers.

Evoenergy observed that, during the engagement sessions, many customers found aspects of export pricing difficult to understand. This includes how the basic export level would be applied, the date-specific tariff assignment policy, as well as confusion about the differences between the network export tariff, Evoenergy's proposed solar soak charges, and feed-in tariffs offered by retailers.

The removal of the residential export tariff in the revised TSS will result in a simpler residential tariff structure in 2024−29 and provide more time for customers to become familiar with Evoenergy's primary residential tariffs. Evoenergy is cognisant that its proposed TSS includes some significant tariff reforms for residential customers – including a new TOU tariff, new demand tariff, and the introduction of solar soak charges for the first time. This results in a potentially significant number of new tariff concepts for customers to understand, especially for customers who are transitioning to cost-reflective tariffs for the first time as the roll-out of smart meters accelerates in the ACT.

Evoenergy considers that the proposed solar soak charges strike an appropriate balance between the need for tariff simplicity while still signalling to customers the impacts of exports on the network. Solar soak charges are based on TOU pricing concepts, which will be familiar to many customers, and provide a soft introduction to network pricing based on the availability of solar exports on the network. As customer education develops over time, Evoenergy will again consider introducing more advanced pricing signals such as export tariffs in future regulatory periods.

During the 2024-29 regulatory period, Evoenergy will explore further opportunities to inform customers about network tariff structures and how customers can manage the network component of their electricity bill. As part of this, Evoenergy intends to work with retailers to understand the extent to which network tariffs are passed through to customers, and any opportunities to coordinate customer tariff education.

ACT customers are concerned about fairness of export charges

The removal of the residential export tariff in Evoenergy's revised TSS also responds to customer concerns about the fairness of export charges, and their alignment with the ACT's pathway to electrification and the transition to net zero emissions by 2045.

Evoenergy received highly mixed feedback on its initial proposal to introduce export prices in 2024−29. Customers in the ACT were generally supportive of the need for the electricity network to enable uptake of CER. However, while some did not oppose export tariffs, there was also a concern that export tariffs could be a barrier to greater solar uptake. A related concern was that, in practice, customers would have limited ability to respond to export charges and rewards – especially since home batteries and home energy management systems were not yet widespread and accessible to many customers.

Evoenergy's engagement also revealed a range of views on whether it is fair or unfair for all customers to pay for network upgrades to support residential exports (noting the broader benefits of increasing CER on the network). Some customers also considered that export charges and rewards were not yet needed in the ACT due to the relatively low price levels and bill impacts.

Low levels of adoption in retail tariffs means network export tariffs may not be effective in the ACT

Following the publication of Evoenergy's proposed TSS in January 2023, Evoenergy continued engaging with retailers on the option for a residential export tariff in the 2024−29 regulatory period. Retailers shared an overarching preference for simple network tariffs and expressed some concerns about the complexity of the proposed export tariff. Specifically, this included:

- The implementation of an export tariff as a secondary tariff, which would increase the number of network tariff combinations and charging parameters, and impose greater implementation costs on retailers.
- The date-specific tariff assignment policy for the export tariff,[75] which gives rise to undesirable tariff changes during the regulatory period and creates administrative complexity for retailers.

[75] Under the NER, mandatory assignment to export tariffs cannot occur until 1 July 2025, which is the second year of the 2024−29 regulatory period.

- The proposed basic export level, to be calculated on an hourly basis (5 kWh per hour), which is difficult and costly for some retailers to implement.
- Differences in export tariffs proposed across distribution businesses, including differences in time windows and how BELs are applied, leading to complexity for retailers operating across multiple distribution networks.

Retailers indicated that some or all aspects of Evoenergy's proposed residential export tariff may not be passed through in customers' retail tariffs due to the level of complexity and implementation cost. In these situations, retailers would instead spread the costs of the network export tariff across customers. For example, one major retailer indicated it would spread the net costs of Evoenergy's export tariff (export charges less export rewards) across all customers who receive a retail feed-in-tariff, irrespective of whether these customers incur the underlying network charges.

The relatively low proposed export charge (based on export-LRMC) and high basic export level in the ACT further reduce the incentive for retailers to pass-through the network export tariff structure. Indeed, retailers were supportive of Evoenergy's tariff simplification in the revised TSS,[76] and did not raise concerns about the removal of the residential export tariff.

Low levels of retailer adoption give rise to several consequences that would limit the effectiveness of an export tariff in the ACT during the 2024−29 regulatory period:

- Customers will not receive the intended network price signals (export charges and rewards) to encourage managing their exports on the network.
- An efficient allocation of export-related network costs and benefits will not be achieved in practice. For example, retailers that are unable to implement Evoenergy's export tariff may instead spread the costs across all customers who receive a feed-in tariff. As a result, retail customers may incur export costs even if they never export during the export charge window, or even if they always export below the BEL. This is not the intended operation of a network export tariff.

Noting the above, the required investment by Evoenergy in new billing system capabilities and processes to enable residential export tariffs is not prudent and efficient expenditure in customers' best interests for the 2024−29 regulatory period.

In contrast to export tariffs, Evoenergy's proposed solar soak charges are more likely to be adopted by retailers due to their simplicity. This is because solar soak charges utilise the same charging structure as existing TOU tariffs and are proposed to be incorporated in Evoenergy's primary residential tariffs (i.e., not as a secondary tariff, like the export tariff).

As part of considering residential export tariffs in future regulatory periods, Evoenergy will consult with retailers to maximise opportunities for passing through network tariffs to retail customers and to ensure alignment with retailers' billing system capabilities.

There is a limited role for a residential export tariff in the ACT in 2024−29

Evoenergy's initial proposal for a residential export tariff was, in part, motivated by the desire to prepare the ACT's network tariff structure for anticipated future increases in export-related costs. Importantly, the design of the export tariff was based on the expectation that network costs from

[76] Some retailers expressed the desire for further tariff simplification than what is reflected in the revised TSS (e.g. removal of legacy tariffs, and removing residential demand charges). Evoenergy will consider additional opportunities for tariff simplification in future tariff structure statements.

small-scale solar would not be significant in the 2024−29 regulatory period, but may increase in future periods. This was reflected in:[77]

- A high BEL of 5 kWh per hour, which was set by reference to the network's intrinsic hosting capacity and the expected number of exporting customers in 2034 (five years after the conclusion of the 2024−29 regulatory period).
- A low export charge of approximately 2 cents / kWh (based on Evoenergy's export LRMC), which reflects the efficiency of Evoenergy's proposed CER integration expenditure, and the contribution of small customer load to managing export growth.
- A generous export reward in the evening peak period, but noting that very few customers currently have the capability to export in the evening (partly due to the limited penetration and high costs of home batteries and HEMS).

Table 20 illustrates that Evoenergy's initially proposed BEL of 5 kWh per hour was significantly higher than that of other DNSPs that proposed to introduce residential export charges.

Table 20 Comparison of basic export levels

Distribution network service provider	Proposed basic export level
Ausgrid	2,500 kWh per annum (Applied in retailer billing as 6.85 kWh per number days in the billing period)
Endeavour Energy	2 kW
Essential Energy	1.5 kW
Power Water Corporation	No proposed export tariff
TasNetworks	No proposed export tariff

Source: Ausgrid, *Tariff Structure Statement Compliance Document*, January 2023, p 13; Endeavour Energy, *Tariff Structure Statement 2024-29 Regulatory Control Period*, January 2023, p 14; Essential Energy, *Essential Energy 2024–29 Tariff Structure Statement*, January 2024, p 18; Power Water Corporation, *Attachment 11.01 Tariff structure statement*, 31 January 2023, p 29; and TasNetworks, *Combined Proposal 2024-2029 Attachment 21 Tariff structure statement*, January 2023, p 31.

It follows that the export tariff would have minimal customer bill impacts in the 2024−29 regulatory period, even if it was fully reflected in retail tariffs. The high BEL, coupled with a low export charge (significantly below typical retail feed-in tariffs), means that an export tariff is unlikely to change ACT customers' decisions about when and how much to export.

These conclusions are supported by the bill impact analysis described in Evoenergy's proposed TSS which showed insignificant customer impacts from an export tariff in the ACT. Specifically, Evoenergy found that (based on a sample of exporting residential customers):[78]

- Out of exporting customers with maximum exports below 7.5 kW (the majority of exporting customers):
  - 92 per cent would be better off on an export tariff; and
  - None would experience a bill impact above $20.
- Only 2 per cent of all exporting customers would experience a bill impact of more than $20 per annum, but these customers have very high exports (typically above 10kW).

[77] Evoenergy, *Appendix 7.1 Tariff Structure Explanatory Statement for the ACT electricity distribution network 2024-29*, pages 107 to 110.
[78] Evoenergy, *Appendix 7.1 Tariff Structure Explanatory Statement for the ACT electricity distribution network 2024-29*, page 109.

Evoenergy notes that the real impacts to customer's electricity bills are likely to be even smaller because the export tariff structure is unlikely to be fully adopted in retail tariffs (see section above).

As a corollary, the proposed export tariff was not expected to play a significant role in managing exports on the network in the 2024−29 period. Rather, the tariff was directed towards establishing pricing structures that could be utilised in future regulatory periods when export-related costs are higher.

In contrast to the weak price signal that would arise from a residential export tariff in the ACT, a much stronger price incentive is provided by the very low solar soak price included in Evoenergy's proposed residential tariffs. A customer on the proposed residential TOU tariff that shifts load into the solar soak period will save between 2 cents per kWh and 13 cents per kWh, depending on whether they shift load out of the off-peak or peak period.[79]

Evoenergy therefore expects that its solar soak price is likely to elicit a much larger behavioural response from customers, in comparison to its initially proposed residential export tariff. Further, the solar soak price will apply to a significantly larger number of customers during the 2024-29 regulatory period. Evoenergy initially proposed that only residential customers who begin exporting from 1 July 2025 onwards would be mandatorily assigned to an export tariff during the 2024-29 regulatory period.[80]

The costs of a residential export tariff in the ACT outweigh the benefits during the 2024−29 period

In response to the customer and retailer concerns discussed above, as well as the high implementation costs, Evoenergy has reconsidered the appropriateness of a pre-emptive introduction of residential export pricing in 2024−29. Since Evoenergy's initial TSS in January 2023, it has become apparent that the complexity and costs of introducing a residential export tariff in the ACT exceed the relatively minor benefits at this time. Given the expected low levels of retailer adoption, it is unlikely a residential export tariff would be successful in its intended purpose of preparing customers for sharper export-related price signals that may be needed in the future.

Instead, Evoenergy's proposed solar soak charges are more likely to be reflected in retail tariffs and are better suited to providing customers with a 'soft' introduction to export-related pricing concepts. Importantly, solar soak charges can help avoid prematurely imposing the costs and complexity of a residential export tariff on the ACT network in the 2024−29 regulatory period.

If it is determined that a residential export tariff is required in 2029−34, the current lack of material costs, the off-setting role of export rewards, and the low levels of retailer adoption suggest that bill impacts won't be a significant impediment to their future introduction.

Evoenergy's proposal to rely on solar soak charges in the first instance, rather than residential export charges, is also consistent with the approach adopted by Western Power, which has significant levels of solar PV on its network. In its TSS that was approved in early 2023, Western Power highlighted that it proposed to use:[81]

> *…a very low, 'super off-peak' energy price to encourage more use of the network during periods when solar panels are exporting renewable energy to the grid. This reflects our*

[79] These amounts are calculated as the difference between the indicative solar soak price and the indicative off-peak energy and peak energy prices for 2024/25.
[80] Evoenergy, *Appendix 7.1 Tariff Structure Explanatory Statement for the ACT electricity distribution network 2024-29*, page 110.
[81] Western Power, *Appendix F.1 Tariff Structure Statement Overview Revised proposed access arrangement*, 15 November 2022, page 3.

preference for a consumer-led, demand side response to solar PV, rather than the alternative of using export prices to discourage exports from small-scale solar PV…

9.4 Large-scale battery tariffs

This subsection explains that Evoenergy's newly proposed LV and HV ~~large-scale battery~~ tariffs for large-scale batteries (and other large-scale storage technologies) include the following.

- In predominantly residential areas:
  - a critical export charge, that applies for a maximum of three hours, up to six times a year; and
  - a critical export reward, that applies for a maximum of three hours, up to six times a year; and
- In predominantly commercial areas:
  - a critical export reward, that applies for a maximum of three hours, up to six times a year; and
  - no export charge.

The export reward component of these tariffs depends on whether the large-scale battery (or other large-scale storage technology) is connected in predominantly residential or commercial areas of the network, as determined by Evoenergy. In both cases, all charges, and rewards will be based on the applicable LRMC estimates.

Export charges do not apply in predominantly commercial areas due to the lower levels of rooftop solar PV and higher levels of commercial load during the middle of the day when solar irradiance is typically highest. This means that exports to the network during the middle of the day are generally consumed by (commercial) connections in these areas.

During the critical charge periods described in section 11, the BEL is set equal to 2 kVAh. At all other times, the BEL is set equal to the customer's export capacity, such that the customer will not face export charges.

9.5 Summary of the basis for export prices

Table 21 contains a summary of the basis on which each export charge and reward is to be determined in Evoenergy's commercial export tariffs.

Table 21 Basis of export charges and rewards

Tariff	Export charge	Export reward	Comments
LV large-scale battery (Residential area) Tariff code 108	Export LRMC	Import LRMC (LV residential)	Export charge subject to a Basic Export Level of 2 kVAh per critical peak event.
LV large-scale battery (Commercial area) Tariff code 109	None	LV import (LV commercial)	No export charge due to no low-load events in commercial areas
HV large-scale battery (Residential area) Tariff code 123	Export LRMC	Import LRMC (HV)	Export LRMC used because managing exports may involve HV investments in the future Export charge subject to a Basic Export Level of 2 kVAh per critical peak event.
HV large-scale battery (Commercial area) Tariff code 124	None	Import LRMC (HV)	No export charge due to no low-load events in commercial areas

For the avoidance of doubt, the tariffs shown above apply to large-scale, stand-alone batteries and other large-scale, stand-alone storage technologies.

10. Residential tariff options targeting EV charging

The accelerating uptake of EVs in the ACT will be a defining feature of the 2024−29 regulatory period (as described in section 3). Increasingly, customers are turning to Evoenergy's network to provide electrical energy to power their vehicles and meet their essential transportation needs. Energy that previously came from sources such as petrol and diesel (supported by a global supply chain of refineries, pipelines and transportation systems), will increasingly be delivered to customers' homes and businesses through the electricity distribution network. Evoenergy will need to ensure that its distribution network is ready to meet these demands, and that Evoenergy's network tariffs send the right price signals to customers at the right times.

Just as the 2024−29 period will be defined by transformational changes in the ACT energy mix, it will also be a period defined by significant uncertainty. This includes the number of EVs expected in the ACT, the times of day and places where customers will charge their EVs, and the uptake of fast chargers which can impose significant demands on the electricity network. In addition, technological innovation is also driving the availability of new solutions to help customers manage their energy usage and charge their EVs. For example, customers are increasingly gaining access to EV 'smart' chargers, EVs that can be programmed to charge at specific times, and home energy management systems that can help coordinate when and how energy is used in the home.

Evoenergy's tariff structure for 2024−29 seeks to meet these challenges. The tariff reforms proposed by Evoenergy will see the ACT network tariff structure become more cost-reflective than ever before, supported by the roll-out of smart meters and other enabling technologies. This means that from 1 July 2024, customers will have access to new tariffs and more opportunities to manage their electricity bill by choosing when and how they charge their EVs.[82] Even if customers do not ultimately change their EV charging behaviours, cost-reflective tariffs will ensure that network costs are more efficiently allocated between EV owners and non-owners.

In preparing this revised TSS, Evoenergy has continued its dialogue with customers and retailers to better understand how the network tariff structure can meet their needs and support efficient EV charging decisions. As part of this, Evoenergy has explored customers' charging preferences, the responsiveness of EV charging to network price signals, and customers' preferred balance of charging cost versus flexibility. This consumer engagement is described in section 5.

Evoenergy also commissioned a quantitative 'choice-modelling' survey to better understand how charging behaviours can be influenced through cost-reflective price signals, and the tariff features that are most valued by customers.

The insights from Evoenergy's research and engagement have informed the proposed tariff strategy to help manage residential EV charging in the 2024−29 regulatory period. The strategy seeks to balance the need for cost-reflective price signals, customer and retailer preferences for simple tariffs, and customers' desire to maintain flexibility over their EV charging. The key elements of this strategy include:

- Proposed new residential demand and TOU tariffs, which provide cost-reflective network price signals throughout the day to help customers determine when they charge based on the costs to the network.
- The ability for residential customers with an EV charger to opt-in to one of Evoenergy's two existing controlled load tariffs, which offer a low network charge for energy used outside of peak times.

[82] This assumes that electricity retailers pass-on Evoenergy's network tariffs to retail electricity customers.

- Investigations into 'flexible load' tariffs that could potentially be implemented in the future to allow Evoenergy to dynamically manage EV charging on the network without significant impacts to customers.[83]

The sections below describe each of these elements, preceded by an overview of the key insights from Evoenergy's research and engagement.

10.1 Research and engagement on residential EV charging

EV charging was a topic at a number of Evoenergy's engagement activities with customers and retailers to support the development of the 2024−29 TSS. Among others, these activities included:

- workshops on EV tariff options with Evoenergy's Deep Dive Consumer Panel (September and October 2023);
- discussions with Evoenergy's community pricing panel (April 2022); and
- meetings with retailers, which included exploration of retailers' experiences with EV tariffs, including controlled load tariffs (September to November 2023).

The details and outcomes of these engagement activities are outlined in section 5. In summary, the key findings from the engagement included the below.

- There was an overarching preference for simpler and fewer network tariffs – tariffs should be easy for customers to understand and respond to, and simple for retailers to implement.
- Customers thought it was important that tariffs should not disincentivise the uptake of EVs and renewable technologies, in the context of the ACT's energy transition.
- Some retailers reported negative experiences with controlled load tariffs for EV charging, including technical barriers preventing customers from using energy from rooftop solar for controlled load charging.
- Customers have mixed views about surrendering control over their EV charging and prefer tariffs that maintain customer control. There were generally low levels of support for controlled load tariffs for EV charging, and customers preferred 'flexible load' tariffs which give customers more control. Many customers thought that existing tariffs already allow customers to manage their charging in response to the price of electricity at different times of the day.

Survey and choice-modelling analysis on future tariff options to support EV charging

Evoenergy commissioned the Centre for International Economics (CIE) to undertake a survey of ACT residential customers about their preferences for controlled load tariffs and flexible load tariffs to manage EV charging and other smart appliances. The survey also collected information about levels of EV ownership (or intended ownership), preferred charging times, and prevalence of fast chargers.

The survey was sent to over 20,000 ACT households during September 2023 to November 2023, and completed responses were received from 721 respondents. The sample covered a diverse mix of households, with representation from a wide range of ages, incomes, home ownership status, dwelling types, and districts within ACT. Key findings from the survey included that:

[83] In future regulatory periods, flexible load tariffs could enable Evoenergy to 'slow down' EV chargers for a short period of time during extreme network events. Customers may have the ability to override their charger but would pay a higher price when they do so.

- A high uptake of EVs is expected in the ACT during 2024−29: around 9 per cent of respondents already own an EV and, of those who don't, 32 per cent expect to buy an EV within five years.
- Around half of EV owners are already using fast-chargers at home: 49 per cent of respondents who own an EV use a fast-charger at home and, of these customers, 33 per cent reported using a high-powered fast-charger above 7.2 kW.
- Material levels of EV charging are expected to occur during the peak periods on the network: when asked what time of day respondents currently charge (or would charge) their EV, around 27 per cent said they would charge *most often* between 5pm–10pm or 7am–9am.
- A range of factors influence the times of EV charging, including convenience and the price of electricity: 68 per cent of respondents nominated 'convenience' as important or very important when choosing the time of day to charge their EV; 61 per cent nominated the 'price of electricity'; and 59 per cent nominated 'using electricity from home solar'.
- Customers can use existing solutions to schedule charging times: around 27 per cent of respondents currently program (or would program) their EV charging to occur at certain times. This includes programming their EV directly or by using an external device. The survey found that controlled load tariffs were the least popular method for scheduling EV charging.
- Customers have low awareness about tariff options to support EV charging, underscoring the importance of consumer education: 68 per cent of respondents reported being unfamiliar with controlled load tariffs prior to taking the survey, and 83 per cent had no knowledge of flexible load tariffs.
- Preferences for tariffs depend on the bill savings offered and the ability to 'override' any tariff control: 'Flexible load' tariffs were significantly more popular with respondents than 'controlled load' tariffs, but the ability for customers to 'override' network control is important for both types of tariff. When offered a saving of $50 per year, around 68 per cent of customers would agree to have their EV charger slowed down by 50% for one hour, up to four times a year. This drops to 54 per cent without an override ability.

The detailed findings from the survey are provided in an independent report prepared by the CIE, contained in Appendix 4.3 of Evoenergy's revised proposal.[84]

10.2 Cost reflective tariff reforms supporting EVs in 2024−29

A key element of Evoenergy's 2024-29 tariff strategy is ensuring that the ACT network tariff structure is ready to support future uses of the network, while balancing community expectations for tariff simplicity and fairness. In the 2024-29 period, Evoenergy has proposed to progress its residential tariffs further along the cost-reflective spectrum. This includes the proposed introduction of new demand and TOU tariffs that send customers more precise price-signals about the costs of using the network at different times and in different ways.[85]

These network price signals can help empower EV owners to make informed choices about when and how fast they charge – allowing households to weigh up their preferred balance of EV charging convenience versus cost. As shown by the customer research discussed above, greater customer choice is being enabled through technologies such as EVs with programmable charging times, and charging devices that can be set based on the price of electricity at different times of day. This means

[84] The Centre for International Economics, Demand for flexible load tariffs in the Australian Capital Territory, November 2023.
[85] Assuming the network tariff structure is passed-on by electricity retailers.

that many EV owners already have the ability to manage their charging without the need for network-level control and the associated investments in control system infrastructure.

Evoenergy's proposed residential demand and TOU tariffs provide a range of price signals to help inform customer charging choices, as shown in Table 22. EV owners can choose to respond to these price signals by using existing, widely available technologies such as programmable EVs, programmable fast chargers, or other timer devices. Alternatively, customers may also be able to manually set their EV to charge at certain times based on the price of electricity.

Table 22 Proposed residential network tariff reforms

Proposed residential tariff component for 2024–29	Options for EV owners to manage their network bill
Solar soak period (11am–3pm AEST) on the proposed TOU and Demand tariffs	The solar soak period provides a very low energy consumption charge, which can encourage EV owners to charge during 11am – 3pm AEST when solar exports on the network are typically high. For example, this could be utilised by EV owners who work from home or keep their EV at home during the day. Charging during the solar soak period could also help manage export-related network costs, as discussed in section 9.
Off-peak demand charge on the proposed residential demand tariff (9pm–9am AEST)	The off-peak demand charge ensures that customers continue to receive cost reflective price signals during the night-time, when residential EV charging may be more prevalent. The demand charge can also help signal the costs of charging at different speeds. For example, customers who use a fast-charger may pay a higher demand charge than customers who trickle-charge.
Extended evening peak period on the proposed residential demand and TOU tariffs (5pm–9pm AEST)	Evoenergy has proposed to extend the evening period by 1 hour on the new residential demand and TOU tariffs based on the latest network load data. The extended evening peak can help encourage EV owners to delay charging until later in the night-time, when other residential loads are typically lower.
Morning peak period on the proposed TOU tariff (7am–9am AEST)	The proposed residential TOU tariff includes a morning peak period, which reflects the anticipated impacts of residential heating loads transitioning from gas to electricity in the ACT. The morning peak charge can help encourage EV owners to avoid charging in the morning period (e.g. 'top-up' charging), at times when other residential loads on the network are expected to grow.

Evoenergy also acknowledges that EV charging plays a critical role in ensuring households can meet their essential transportation needs. This was evidenced by the strong customer preference to have flexibility and control over their charging, as highlighted in Evoenergy's engagement activities. One consequence is that EV owners may still choose to charge during peak times even when faced with highly cost-reflective price signals. However, even if there are no changes to charging behaviours, Evoenergy's cost reflective tariffs will still ensure that EV owners contribute an efficient and equitable share to the costs of operating the distribution network. In turn, customers' responses to tariffs (or lack thereof) provide important information to Evoenergy about customers' willingness-to-pay for network investments to meet their charging preferences.

10.3 Controlled load tariffs for residential EV charging

During the 2024–29 period, Evoenergy proposes to offer controlled load tariffs as one way to encourage efficient EV charging decisions, and to provide customers with greater tariff choices for charging their EV.

Evoenergy's existing tariff structure includes two controlled load tariffs that are available to residential customers on an opt-in basis. Evoenergy proposes to continue offering these tariffs in the 2024–29 regulatory period (see section 4). These tariffs are described below.

- The **Off-peak (1) Night Network Tariff** provides operation for a minimum of six hours and a maximum of eight hours within any one day, between 10pm–7am AEST.
- The **Off-peak (3) Day & Night Network Tariff** provides operation for a total of 13 hours in any one day. This comprises eight hours between 10pm–7am AEST and five hours between 9am–5pm AEST.

The controlled load tariffs operate by way of a timer switch that turns the installation on and off at designated times. Typically, the times are programmed into the customers' electricity meter. Energy used by controlled load installations attracts a low network charge, usually below the off-peak price on Evoenergy's TOU tariff.

Under Evoenergy's tariff assignment policy for the 2019–24 regulatory period, only the Off-peak (1) Night tariff was available to be used for EV charging (for both residential and LV commercial customers). This policy reflected the historical design of the controlled load tariffs, which were introduced before there were significant exports from residential solar PV during the middle of the day. For the 2024–29 regulatory period, Evoenergy proposes to extend eligibility for EV charging to the Off-peak (3) Day & Night tariff for residential customers.[86] That is, from 1 July 2024, Evoenergy proposes that both of the controlled load tariffs can be used for EV charging by residential customers.[87]

The proposed tariff assignment policy provides an opportunity to encourage EV charging during the middle of the day (9am–5pm AEST), allowing EV owners to take advantage of solar PV exports on the network. In this way, the controlled load tariff also supports Evoenergy's strategy for managing export-related network costs (as described in section 9).

Evoenergy notes that the off-peak periods on the controlled load tariffs continue to match the ACT network's load profile in residential areas (see section 11). Specifically, the controlled load tariffs encourage energy usage outside of 7am–9am AEST and 5pm–10pm AEST, when residential demand is typically highest.

The AER's draft decision on controlled load tariffs for EVs and other flexible loads

The AER's draft decision requires Evoenergy to investigate a controlled load tariff to incentivise owners of electric vehicles (and other flexible load) to charge in ways that minimise impacts on the network. The AER requires a controlled load tariff that is available on an opt-in basis, sends strong price signals to customers, and provides an override capability for customers.

Evoenergy notes that its existing controlled load tariffs substantially meet the requirements of the AER's draft decision. Specifically, Evoenergy's controlled load tariffs have the following features.

[86] From 1 July 2019, the Off-peak (3) Day + Night tariff was closed to LV commercial customers because it did not provide cost-reflective price signals for network loads in commercial areas (i.e. the low daytime charge was inconsistent with daytime peaks in commercial areas).
[87] The Off-peak (1) Night network tariff will continue to be available to eligible LV commercial customers for EV charging.

- Opt-in tariff assignment: the controlled load tariffs are available as a secondary tariff on an opt-in basis (all other energy must be provided under one of Evoenergy's primary network tariffs).
- Strong price incentives: Evoenergy provides a low consumption charge on its controlled load tariffs, which is below the off-peak charge on the residential TOU tariff, and encourages usage outside of peak times.
- Over-ride capability: depending on the meter configuration, a customer may be able to override or 'bypass' the controlled load element. This is typically achieved by pressing a button on the electricity meter. If this occurs, all energy used by the controlled load installation will be charged according to the customer's primary network tariff. Evoenergy notes that, following the Power of Choice reforms in 2017, metering services became the responsibility of retailers and metering coordinators. Accordingly, Evoenergy cannot guarantee that an override function will be available to customers. However, in principle, Evoenergy's tariff structure supports overrides through the implementation of controlled load tariffs as secondary tariffs.

Limitations of controlled load tariffs for EV charging

Evoenergy is committed to ensuring its network tariffs support the changing needs of ACT customers, and the growing uptake of CER on the ACT network. While Evoenergy will continue to offer controlled load tariffs for EV charging in the 2024–29 period, Evoenergy notes that these tariffs have a range of shortcomings that limit their future role in supporting EV charging on the ACT network. Accordingly, Evoenergy does not propose to introduce any new controlled load tariffs in 2024–29 to specifically target EV charging. The limitations of controlled load tariffs for EV charging are outlined below.

- The potential for new peaks on the network: controlled load tariffs offer a very low price for energy used during off-peak periods. There is a risk that future uptake of controlled load tariffs could create new peaks on the network (e.g. from EV fast charging), and enable customers to bypass the cost-reflective tariff reforms in Evoenergy's primary network tariffs.
- Static off-peak time windows: controlled times are often manually programmed into a customer's electricity meter, which creates barriers for future changes to off-peak times that may be required in response to changing network loads.
- Reduced customer flexibility for EV charging: controlled load tariffs are most often used by residential customers for hot water heating. Evoenergy's customer research and engagement showed lower levels of support for controlled load tariffs to be used for EV charging. Customers were concerned about the limited flexibility offered by controlled load tariffs and the loss of EV charging amenity. While an override functionality may be available, it typically requires manual activation on the electricity meter, which can create accessibility issues for customers.
- Technical barriers to using rooftop solar: the electrical design of controlled load installations means that EV chargers connected to a controlled load element may not be able to use energy generated from rooftop solar. This significantly limits the utility of controlled load tariffs for the growing number of ACT customers with solar PV.
- Inconsistencies with trends towards customer-led control: Many modern EVs and EV fast-chargers can already be programmed by customers to charge at specific times. Customers may also be able to purchase a relatively inexpensive timer device to control their charging times.[88] Evoenergy's customer research (described above) has shown that many EV owners

[88] Customers should seek the advice of a licensed electrician on timer options that may be suitable for their EV charger installation.

already program the times at which their EVs charge. Evoenergy also found that controlled load tariffs were the least preferred means for customers to schedule their EV charging times.

During the 2024–29 period, Evoenergy will monitor network loads and customer uptake of controlled load tariffs. At the same time, Evoenergy will continue its investigations into other, future-focussed tariff options that could be utilised to manage EV charging in the future (such as 'flexible load' tariffs, discussed below). Based on these investigations, Evoenergy will consider if controlled load tariffs remain appropriate for EV charging in the 2029–34 regulatory period, or if changes to the tariff structure or tariff assignment policy may be required.

10.4 Future investigations into 'flexible load' tariffs

The uptake of EVs on the ACT network coincides with a time of rapid innovation in the technology available to customers, distributors, and retailers to optimise EV charging and its impacts on the network. One way this could be achieved in the future is through 'flexible load' network tariffs that enable networks to regulate EV charging in response to network conditions and constraints.

Whilst they are not currently offered by Evoenergy, flexible load tariffs can allow distribution businesses to regulate the charging rate of customers' smart EV chargers (or other flexible loads) on rare occasions when the distribution network has constrained capacity. This can be operationalised via a cloud platform enabling a distributor to send signals to a customer's internet-enabled smart EV charger (or other smart device) to 'ramp down' power usage in response to network constraints. In return for subscribing to a flexible load tariff, customers can receive a lower network charge – for example, through a daily rebate to their network electricity bill. Evoenergy notes that a similar concept is being tested by SA Power Networks, through its 'Diversify' tariff trial.[89]

In principle, flexible load tariffs can offer a number of advantages over existing controlled load tariffs. First, they provide significantly improved amenity to customers because their EV charging is only slowed down on rare occasions, rather than switched off completely at regular time intervals. For this reason, Evoenergy's customer research and engagement showed that flexible load tariffs were significantly more popular than controlled load tariffs. Second, flexible load tariffs can be much more cost-reflective, because load control can be dynamically targeted at the locations and times on the network that are experiencing extreme loads.

During the 2024–29 regulatory period Evoenergy will continue its investigations into flexible load tariffs for potential future implementation. Importantly, while flexible load tariffs can offer significant benefits, they also involve costs. These costs include investments in network control systems, as well as customer-side infrastructure, such as 'smart chargers' which are typically more expensive than basic EV chargers. Further research and investigation is required to determine whether the benefits to the ACT distribution network and its customers exceed these costs. It will also be important to engage with retailers on any future tariff concepts to understand any implementation concerns and potential interactions with existing retail EV tariffs.

In light of these factors, Evoenergy considers that a tariff trial is the appropriate mechanism to initially test flexible load tariffs prior to their introduction within Evoenergy's tariff structure. A tariff trial may be considered by Evoenergy in the future subject to availability of the required CER integration and billing system capabilities. Prior to commencing a tariff trial Evoenergy will engage with customers, retailers, and the AER on the optimal features of a trial tariff and to ensure it is reasonably capable of being adopted in retail electricity tariffs. Evoenergy will also monitor the outcomes of similar trials in other jurisdictions, including SA Power Network's 'Diversify' tariff, to identify any lessons that could apply to the ACT network.

[89] SA Power Network, *Trial Tariffs 2023-24*, February 2023.

11. Proposed tariff reforms

Evoenergy's proposed network tariff reforms are targeted at more effectively signalling the future cost of providing network services while enabling the management of the network bill impacts. This section describes Evoenergy's proposed tariff reforms for each tariff class. Each section begins with a network analysis to inform the proposed tariff reforms.

11.1 Residential tariff reforms

As described in section 3, Evoenergy expects increased uptake of solar, batteries, EVs, and HEMS during the 2024–29 regulatory period. The network load associated with these technologies will differ considerably from the current network load. Evoenergy is proposing residential tariff reforms to address the times and seasons at which the network is expected to peak in the future.

Evoenergy proposes to introduce a new residential TOU tariff and a new residential demand tariff from 1 July 2024 that reflect:

- key learnings from Evoenergy's residential trial tariff during the 2019–24 regulatory period;
- forecast use of the network in the 2024–29 regulatory period; and
- extensive consumer engagement on tariff design.

Evoenergy proposes to maintain the existing residential demand (codes 025 and 026) and TOU (codes 015 and 016) tariffs to avoid unexpected changes and bill impacts for those customers already on cost-reflective tariffs. However, customers on the existing tariffs have the option to opt-in to the new residential demand and TOU tariffs during the 2024−29 period.

The structure of the proposed residential tariffs has been informed by detailed network analysis, described below.

Definition of Evoenergy's residential zone substations

This subsection describes Evoenergy's approach to defining residential zone substations for the purposes of charging window analysis.

To evaluate the load on Evoenergy's network, 2022/23 was selected as a representative year for the charging window analysis was selected.

To define zone substations as 'primarily residential', Evoenergy considers the proportion of consumption load at each zone substation that is residential and commercial. The results of this analysis for 2022/23 are presented in Table 23.

Table 23 Proportion of residential load, 2022/23

Zone substation	Residential consumption (GWh)	Commercial consumption (GWh)	Proportion residential
Belconnen	96	122	44%
City East	104	219	32%
Civic	51	212	19%
Eastlake	2	49	3%
Fyshwick	1	170	1%
Gilmore	42	145	23%
Gold Creek	137	84	62%
Latham	147	70	68%
Telopea Park	97	246	28%
Tennent	9	-67	-15%
Theodore	60	14	82%
Wanniassa	137	102	57%
Woden	138	162	46%

Note: Grey boxes are classified as primarily residential zone substations.

Evoenergy classes zone substations as follows.

- Substations with more than 50 per cent of residential load are classed as primarily residential zone substations.
- Substations with less than 50 per cent of residential load are classed as mixed or primarily commercial zone substations.

Evoenergy considers the following zone substations as residential for the purpose of the network load profile analysis, which is used to define residential tariff charging windows.

- Theodore, with 82 per cent residential load
- Latham, with 68 per cent residential load
- Gold Creek, with 62 per cent residential load
- Wanniassa, with 57 per cent residential load

Network load profile analysis

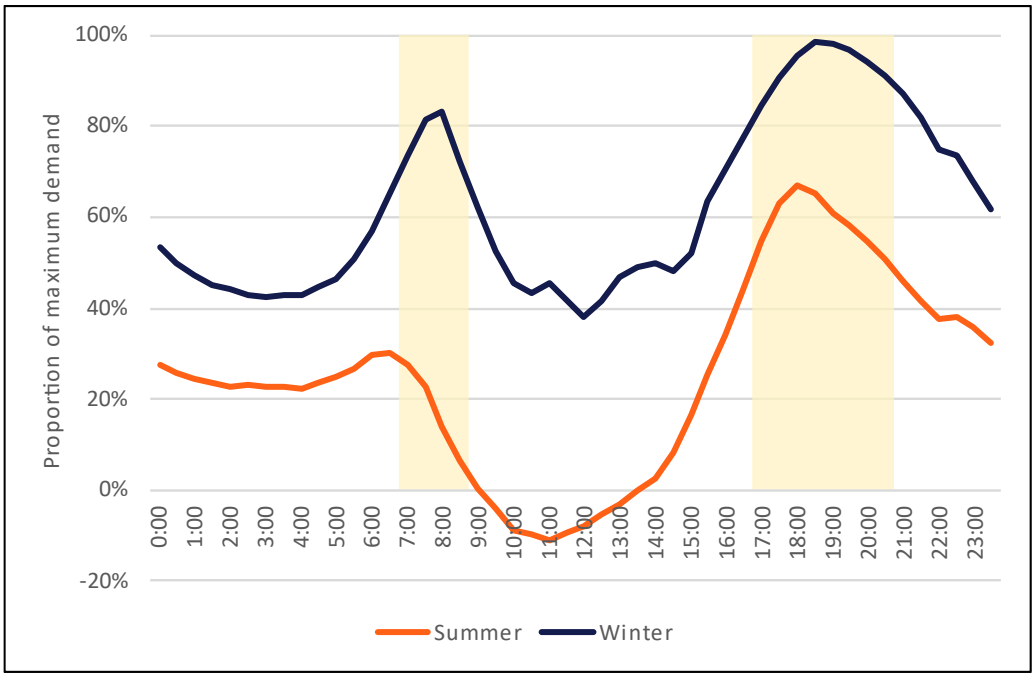
This subsection describes Evoenergy's analysis of the times at which peak demand and low load events are likely to occur. These are the periods when a change in a customer's use of the network can affect future network costs.

Seasonality

Historically, peak demand on Evoenergy's network was caused by heating or cooling load in response to particularly cold or hot weather. Annual peak demand in the ACT is generally higher and more

stable in winter, reflecting the relatively more stable weather conditions in winter – see Figure 15. In contrast, the more variable weather conditions in summer have occasionally led to annual peak demand occurring in summer. For example, Evoenergy's highest recorded network demand in recent years occurred in the summer of 2019/20 when the ACT faced extraordinarily high temperatures and significant bushfires.

Figure 15 Top five peak demand days at primarily residential substations 2022/23



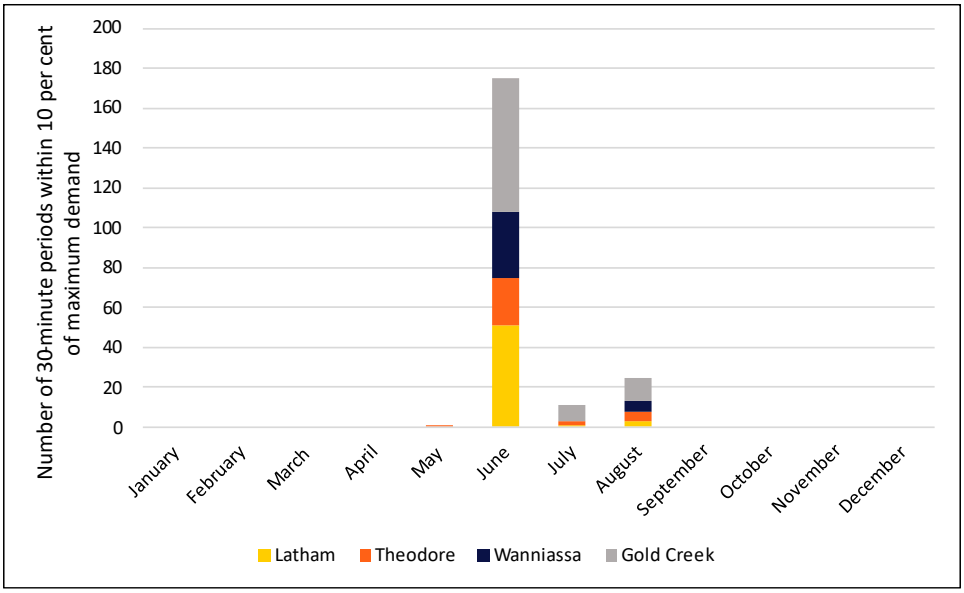
Source: Evoenergy *zone substation analysis.*

Notes: This figure shows the average of the top demand days during winter and summer at the four primarily residential zone substations (Theodore, Latham, Gold Creek, and Wanniassa). Yellow highlighted region represents the morning and evening peak periods (7am-9am and 5pm-9pm AEST).

In more recent years, the mild summers and harsh winters brought on by La Niña meant that peaks in demand occurred in the winter months, and summer demand has been falling.

Figure 16 shows that, at primarily residential zone substations, demand was most frequently at peak or near-peak levels from June to August in 2022/23. This is consistent with observations in other years.

Figure 16 Frequency of peak demand at primarily residential substations 2022/23



Source: Evoenergy zone substation data.

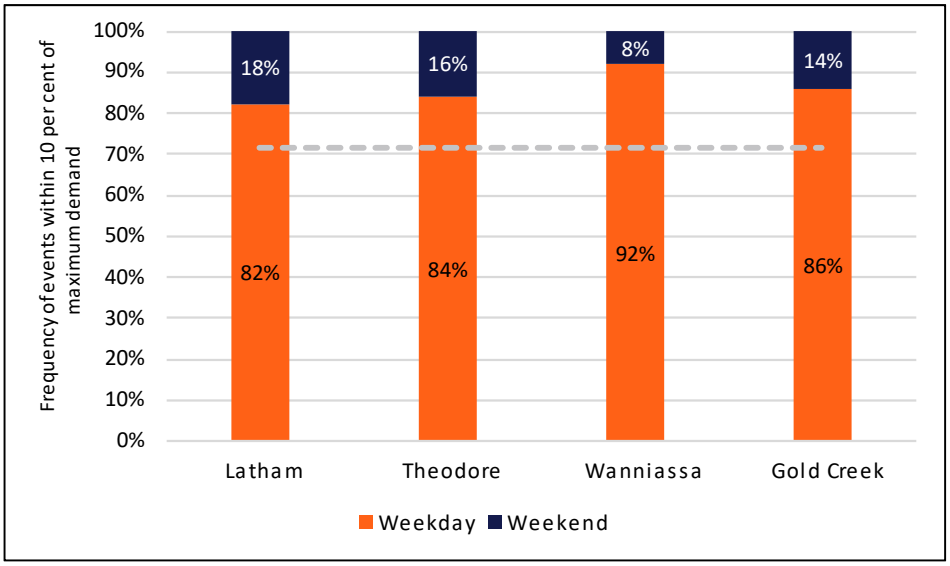
Looking forward, Evoenergy generally expects peak demand on its network and at all primarily residential zone substations to occur during winter months.

Days of the week

Evoenergy also evaluated the prevalence of peak demand on weekends and weekdays at primarily residential zone substations from 2019/20 to 2022/23. At the primarily residential zone substations, there were between 3.5 and 20 times as many peak or near-peak events on weekdays compared to weekend days. Since there are 2.2 times more weekdays than weekend days, this suggests that peak demand occurs less often on weekend days than on weekdays. However peak demand events do also occur on weekends from time to time. At mixed zone substations, there were less weekend peaks. This is likely due to the higher proportion of commercial load on these substations, which typically occurs on weekdays only.

Figure 17 shows the proportion of peak demand events within ten percent of the annual maximum demand that occurs on weekends (blue) and weekdays (orange). The grey line represents the expected proportion of weekdays within ten per cent of annual maximum demand – assuming these events had equal likelihood of occurring on weekdays and weekend days (because there are five weekdays and only two weekend days each week).

Figure 17 Days within 10 per cent of annual peak demand, residential 2019/20 to 2022/23



Source: Evoenergy data.

Note: The grey line represents the expected proportion of weekdays within 10 per cent of annual maximum demand if these events had equal likelihood of occurring on weekdays and weekend days (because there are five weekdays and only two weekend days each week). This analysis is based primarily on residential zone substations, Theodore, Latham, Gold Creek and Wanniassa.

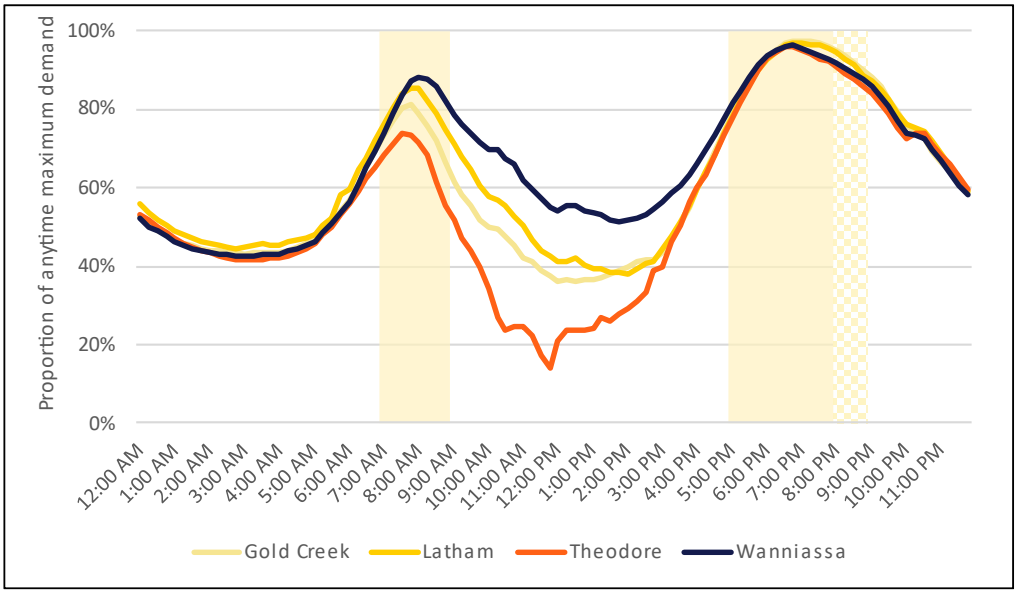
Times of the day

In contrast to some of the warmer states in the NEM, demand from residential customers is high on winter mornings when customers typically wake up and heat their homes. This leads to a pronounced peak in demand in the morning, followed by another peak in demand in the evening, which has historically been higher than the morning peak.

Figure 18 shows that demand at primarily residential zone substations:

- is higher in the evenings, in comparison to the morning; and
- peak demand consistently occurs between 5pm and 9pm AEST.

Figure 18 Average demand profile on five highest demand days, residential 2022/23



Source: Evoenergy data
Note: This analysis is based primarily on residential zone substations Theodore, Latham, Gold Creek and Wanniassa. Yellow highlighted region represents the proposed evening peak period (5pm–9pm AEST) and morning peak period (7am–9am AEST).

Figure 18 above indicates that the morning peak at some residential substations is approaching a level that rivals the evening peak. As noted in the initial TSS, the future electrification of gas heating – which often peaks in the morning – is likely to contribute to a relatively higher morning peak in electricity demand in winter.

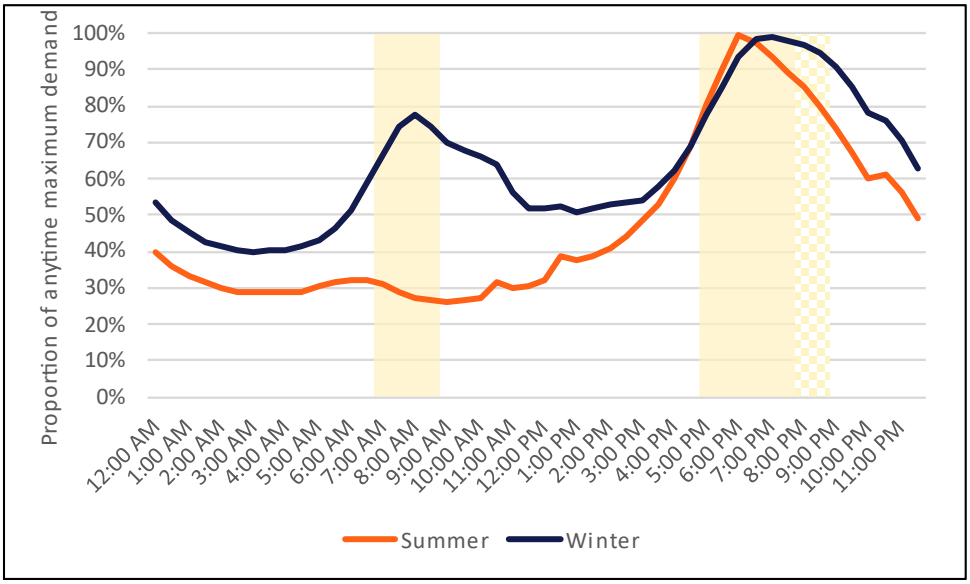
Further, in section 3, Evoenergy highlighted that the morning peak in network-wide demand has been increasing through time and, in 2022/23, was at a level that was similar to the evening peak. Evoenergy's view is that during the 2024−29 regulatory period demand at some residential substations may be at peak or near peak levels between 7am and 9am (AEST).

Another continuing trend in peak demand is an evening peak that occurs later in the evening and/or that remains at elevated levels later into the evening. Figure 18 above illustrates that in 2022/23 the evening peak remained at elevated levels between 8pm and 9pm AEST, i.e., after the end of the existing peak window on Evoenergy's residential tariffs.

Evoenergy considers that an evening peak window that finishes at 9pm AEST would better represent observed demand on the network. Extending the evening peak window until 9pm AEST, when demand is rapidly falling away, would also diminish the potential for high-powered appliances (such as EV fast-chargers) to create new peaks in demand immediately after the evening peak period.

To further verify the evening peak period, Evoenergy conducted a bottom-up analysis of approximately 10,000 randomly selected residential customers with smart meters. Figure 19 verifies that in 2022/23 peak demand was at elevated levels at 8pm and only begins to fall away at 9pm (AEST).

Figure 19 Peak demand for a sample of residential customers, 2022/23



Source: Evoenergy data.
Notes: This Figure shows the load profile for a sample of 10,000 residential customers on the highest demand day of each month, averaged over the year.

Evoenergy concludes from the analysis above that during the 2024−29 regulatory period demand from residential customers is most likely to peak between 7am and 9am and/or between 5pm and 9pm (AEST) in the months from June to August across all days of the week.

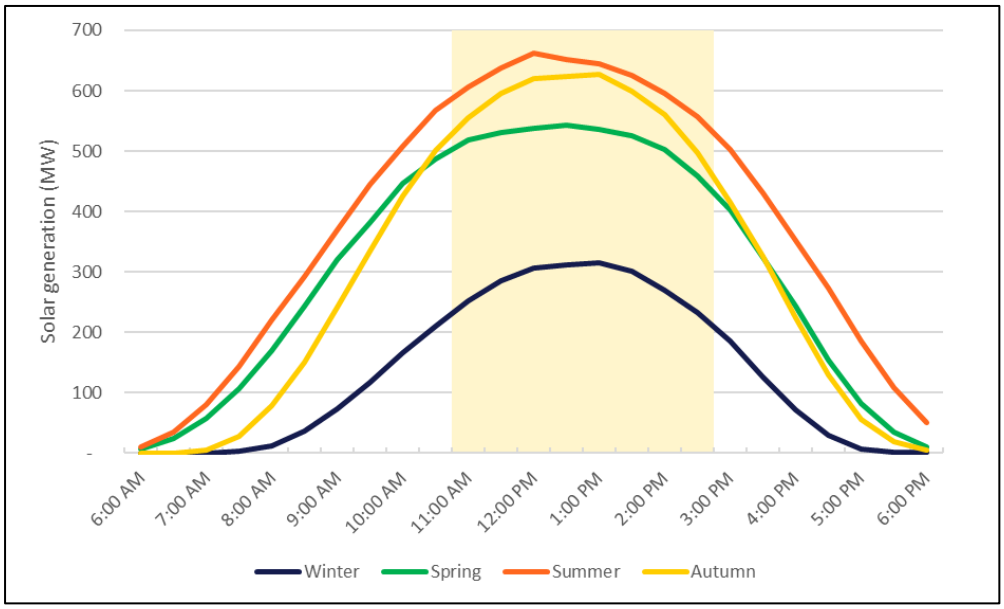
Low load events

Imbalances between low demand and high localised supply (primarily from solar generation) in particular locations can cause fluctuations in voltage on the ACT electricity network, which is costly to manage. To identify when these circumstances typically occur, Evoenergy evaluated:

- when solar PV generation is at its highest level; and
- when substations experience low load, which reflects the combination of PV generation and load.

Figure 20 shows that solar PV generation is significantly lower in winter (shown by the dark blue line), reflecting the lower levels of solar irradiance. In contrast, solar PV generation in spring, summer and autumn is high relative to winter, with solar generation in summer being the greatest due to higher levels of solar irradiance.

Figure 20 Average solar PV generation by month, 2020/21

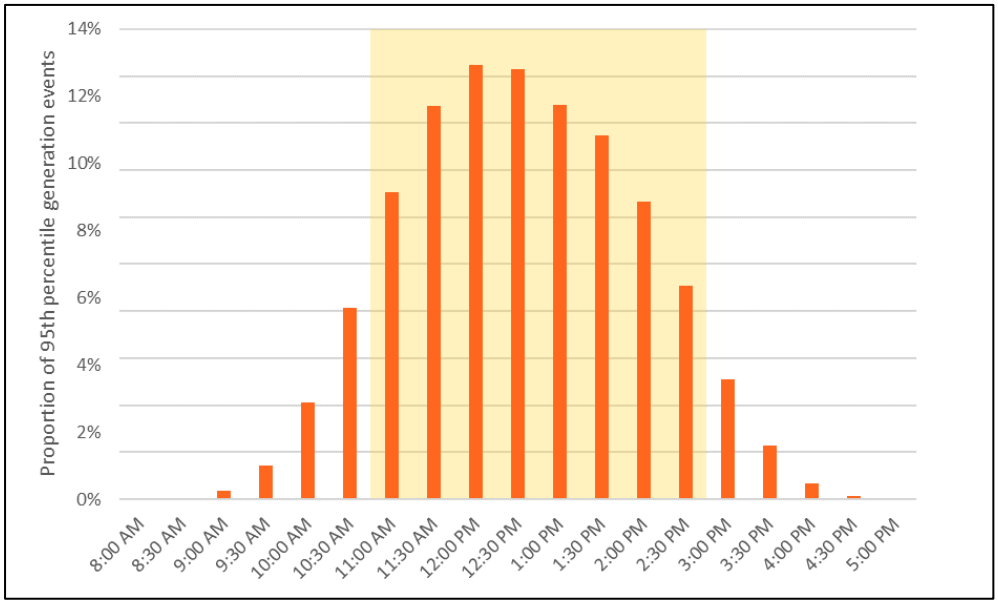


Source: Evoenergy data

Note: Yellow highlighted period represents the peak solar generation times.

The level of solar generation typically peaks around midday, when solar irradiance is highest, as illustrated in Figure 21.

Figure 21 Distribution of solar generation within 5 per cent of maximum generation, 2021/22



Source: Evoenergy solar trace data

Note: Yellow highlighted period represents the peak solar generation times.

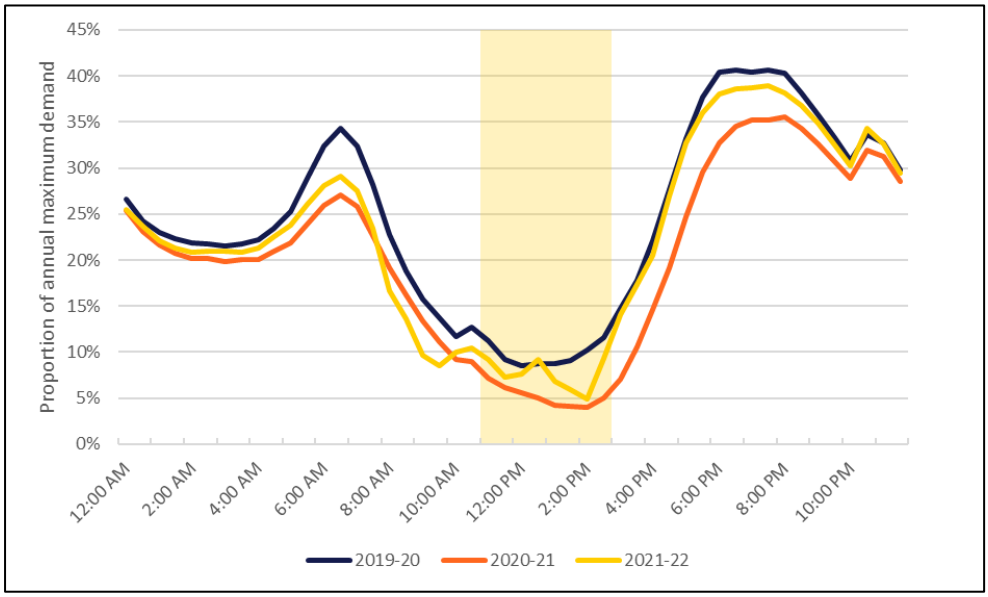
Figure 21 shows that 78 per cent of the times at which solar PV generation is at peak or near peak levels occur between 11am and 2.30pm AEST (shaded area).

The voltage fluctuations that prompt additional network investment occur because of the imbalance between load (demand) and solar generation (local supply), not solar generation alone. Evoenergy,

therefore, evaluated when the imbalance between load and solar generation was lowest during the day at primarily residential zone substations.

Figure 22 shows the minimum demand on the five lowest demand days each year between 2018/19 and 2021/22 at the Theodore and Latham zone substations. Theodore and Latham zone substations were chosen for this analysis because they serve primarily residential customers and have high degrees of solar penetration, including the recently developed suburb of Strathnairn (located in Latham), where solar PV is mandated for standalone homes.

Figure 22 Minimum demand on lowest five days at 'high solar' zone substations



Source: Evoenergy zone substation data

Notes: Analysis based on Theodore and Latham zone substations. One outlier day was removed from 2021/22 due to material fluctuations throughout the day.

In summary, Evoenergy finds the imbalance between solar generation and load is lowest between 11am and 3pm AEST.

In light of the above network analysis, combined with customer feedback, Evoenergy proposes to introduce network tariff reforms in the form of a new residential demand and new residential TOU tariff. These newly proposed tariffs include a solar soak charge in the middle of the day (11am–3pm) to help address increasing exports from residential solar on the network. Details of the proposed new tariffs are presented in the sections below. Evoenergy does not propose any changes to the existing residential demand and TOU tariffs (tariff codes 025, 026, 015, 016).

New residential demand tariff

Evoenergy proposes to introduce a new residential demand tariff based on the findings of the analysis described above, the learnings from its residential battery tariff trial during the 2019–24 regulatory period, and extensive stakeholder engagement. The new residential demand tariff includes the following key features which are then described below.

- A relatively low solar soak energy charge between 11am–3pm AEST;
- An off-peak demand charge between 9pm–9am AEST; and
- A seasonal peak demand charge between 5pm–9pm AEST which is set lower outside of winter months (June, July and August).

Solar Soak period

Evoenergy proposes to apply a solar soak period between 11am–3pm (AEST) to signal that network costs are relatively low at this time of the day and help manage exports on the network. That is, during the solar soak period, electricity is typically generated by household solar PV systems and exported into the electricity network creating a potential surplus of electricity in the network.

With the ongoing uptake of solar, Evoenergy must plan to manage increased levels of reverse power flows onto the ACT electricity network. Introducing a solar soak charge into key residential network tariffs aims to encourage the absorption of some of those reverse power flows, thereby constraining the need for additional capital and network maintenance expenditure.

The anticipated benefits of a solar soak charge are that it has the potential to:

- shift some network demand to meet the additional energy supplied by solar generation;
- help the network efficiently integrate technologies such as EVs and batteries as recharging these technologies may be shifted to the middle of the day when it is relatively cheap to use the electricity network;
- shift some consumption away from the peak evening period;
- help prevent voltage issues associated with solar-driven reverse flows on the network; and
- allow Evoenergy to initially explore the potential for more simple charges, like the solar soak, to manage exports prior to considering more complex alternatives such as export pricing for residential customers.

Off-peak demand charge

Evoenergy is aware of the potential for the uptake of renewable technologies with very peaky loads to create new import peaks outside the peak window (5pm–9pm AEST). This could, for example, materialise from concentrated fast charging of EVs overnight. Hence, Evoenergy proposes to introduce an off-peak demand charge between 9pm–9am AEST to signal that high demand levels could lead to the formation of new peak demands requiring network upgrades (to accommodate the new peak demand level). The off-peak demand charge is designed to signal the network cost associated with the potential new peak demand levels.

The proposed introduction of an off-peak demand charge will achieve the dual purpose of creating an incentive to smooth new peaky loads overnight while also providing a price signal during the morning peak period. The persistence of a demand-based price signal until 9am will help manage the relevant risks presented by the electrification of gas heating in the mornings, as discussed in the previous section.

In summary, the inclusion of an off-peak demand charge is designed to send a price signal about the network costs associated with the potential formation of new demand peaks in the future that may occur with the advent of new technology (particularly EV fast charging). The charge also aims to

encourage customers to monitor network usage throughout the day, including in the off-peak period. The proposed reform will render the new residential demand tariff more cost reflective than the existing residential demand tariff (025, 026), which sends no price signal outside the peak demand period.

Seasonal peak demand charge

Evoenergy's existing residential demand tariff has a seasonal structure. Still, Evoenergy has previously not actioned this seasonal structure and has kept the demand charge at the same level across all seasons. This has enabled ACT retailers and customers time to adjust to the concept of demand charging.

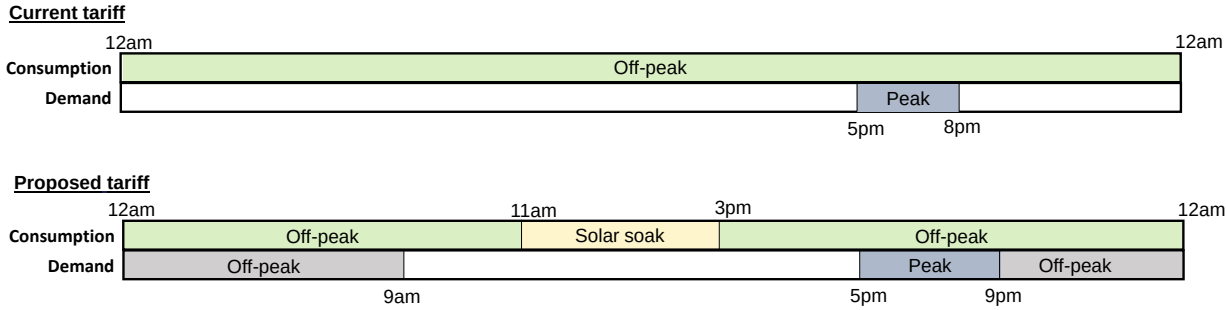
Evoenergy proposes a peak demand window of between 5pm and 9pm AEST daily, based on the charging window analysis (above) for the residential network. This is one hour longer than the evening peak period of 5pm to 8pm AEST initially proposed in Evoenergy's TSS published in January 2023.[90] The extension of the evening peak period reflects the latest available load profile analysis (discussed above), which shows the persistence of high demand between 8pm–9pm AEST. The extended evening peak also provides an important price signal to encourage customers to avoid using high-powered appliances (such as EV fast-chargers) until later in the evening (after 9pm AEST) when residential demand is typically lower.

The charging window analysis discussed above also indicates that peak demand typically occurs in June, July and August. Evoenergy, therefore, proposes to apply a relatively lower peak demand price outside of winter months (June, July and August). This will improve the efficiency of the peak demand price signal in winter months and, at the same time, benefit customers in the short term through a lower peak demand price in non-winter months.

Proposed charging windows

Figure 23 summarises the charging windows in Evoenergy's current and proposed residential demand tariffs.

Figure 23 Current and proposed residential demand tariff



The proposed charging windows are presented in Table 24 below.

[90] Evoenergy, *Regulatory proposal for the ACT electricity distribution network 2024−29 – Attachment 7: Proposed Tariff Structure Statement,* January 2023.

Table 24 Charging windows for proposed residential demand tariff

Demand tariff	Charging windows (AEST)
Peak demand	5pm to 9pm every day (The peak demand price will be lower outside of June, July and August)
Off-peak demand	9pm to 9am every day
Off-peak consumption	3pm to 11am every day
Solar soak consumption	11am to 3pm every day

New residential TOU tariff

Evoenergy proposes to introduce a new residential TOU tariff based on the findings of the analysis described above, the learnings from its residential battery tariff trial during the 2019–24 regulatory period, and extensive consumer engagement.

In comparison to the existing residential TOU tariff (015, 016), the new residential TOU tariff (017, 018) includes the following key features:

- a solar soak period between 11am–3pm AEST.
- the removal of shoulder periods between 9am–5pm, and between 8pm–10pm AEST.
- extension of the evening period by one hour, to between 5pm–9pm AEST.

Evoenergy's reasons for introducing a solar soak period are the same as the proposed residential demand tariff.

Peak period

In the proposed residential TOU tariff, Evoenergy proposes to introduce an evening peak period between 5pm and 9pm AEST daily. This is because the charging window analysis (discussed above) indicates that peak demand on the residential network extends beyond 8pm, and typically occurs between 5pm and 9pm AEST daily. This is also consistent with the peak period applied in the proposed residential demand tariff.

Like with the existing TOU tariff (015, 016), a morning peak period is also proposed to apply between 7am and 9am AEST. Evoenergy's proposed TSS, published in January 2023, did not include a morning peak period on the new residential TOU tariff. However, updated charging window analysis indicates growth in morning peak demand, in part driven by the transition of residential heating loads from gas to electricity. Therefore, Evoenergy's revised TSS now proposes to include a peak period between 7am–9am AEST to signal to customers the costs of using the network during the morning peak.

Evoenergy is not proposing to introduce seasonality in the peak period for the 2024–29 regulatory period to retain the simplicity of the TOU tariff and its role as an opt-out 'protection' mechanism for customers who prefer simpler tariffs. However, Evoenergy will consider introducing seasonality in the residential TOU tariff in the 2029–34 regulatory period if it is necessary by reference to the latest network load data and has support from customers and retailers.

Removing shoulder period

A key theme of the feedback Evoenergy received from customers was their preference for simple network tariffs. Evoenergy, therefore, proposes to remove the two existing shoulder periods[91] in the proposed TOU tariff.

A higher price is no longer appropriate in the middle of the day because the residential demand is often very low during that time, enabling capacity for additional load on the network. Furthermore, generation from solar PV during the middle of the day adds to the capacity available on the network. It creates an important opportunity to encourage customers to 'soak up' solar energy to manage export-related network costs. Hence, removing shoulder periods aims to encourage (rather than discourage) usage during the middle of the day.

Further, the extension of the evening peak period to 9pm mitigates the need for the existing evening shoulder period from 8pm to 10pm (AEST).

Removal of inclining block (or tiered) off-peak charges

Evoenergy's proposed TSS, published in January 2023, included an inclining block tariff structure as part of the proposed residential TOU tariff. This involved applying a low off-peak energy charge when hourly consumption is below 6 kWh and a higher off-peak charge when hourly consumption is above 6 kWh.

In response to feedback received on the proposed TSS, as well as further residential load profile analysis (described above), Evoenergy has removed the inclining block charges from this revised TSS. As explained in section 5, feedback from customers and retailers indicated:

- A preference for simple tariffs, which are easier for customers to understand and respond to.
- Uncertainty over retailers passing through the inclining block charges to retail customers due to high implementation complexity and cost.
- That the overnight inclining block charges were not yet needed, since network peaks almost exclusively occur during the morning and evening periods.

Evoenergy's initial proposal for off-peak inclining block charges was motivated by future-proofing the tariff structure to meet increasing overnight loads from EV recharging (especially fast-charging). Evoenergy still believes this to be a real consideration as the uptake of EVs accelerates in the ACT. Indeed, Evoenergy's research on EV charging preferences (section 10) found that most current and future EV owners prefer to charge during the overnight period. However, analysis of loads on the residential network currently shows a strong persistence of peak demand in the morning (7am–9am) and evening (5pm–9pm) periods, which is substantially higher than demand overnight (9pm–7am). Given the magnitude of the difference, Evoenergy considers it unlikely that a new demand peak will emerge in the overnight period in the 2024−29 regulatory period.

Accordingly, Evoenergy proposes to remove the inclining block charges from its revised proposal. Removing the inclining block structure in these circumstances better aligns the proposed residential TOU tariff with its role as a relatively simpler, opt-out tariff for customers and retailers that do not want to engage with the more advanced residential demand tariff. The removal also avoids increasing tariff complexity and implementation costs in the 2024-29 period, at a time when the inclining block charges may not yet be needed based on current residential demand profiles.

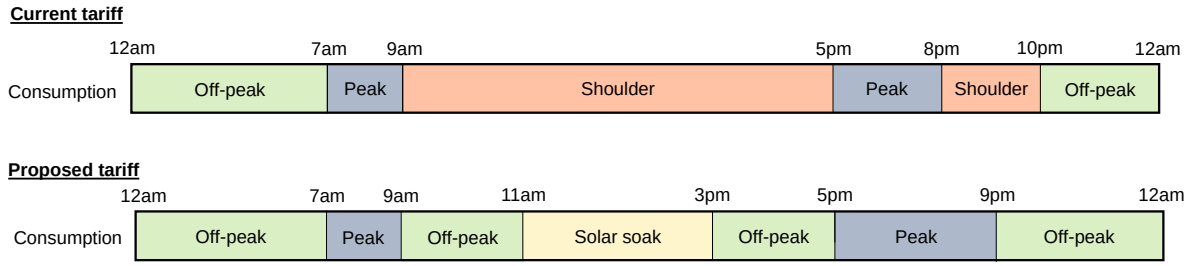
Evoenergy intends to monitor the response to the proposed demand and proposed TOU tariffs during the 2024–29 regulatory period and will provide further analysis on overnight residential loads in its proposed TSS for the 2029–34 regulatory period.

[91] Shoulder periods in the current TOU tariff are 9am to 5pm and 8pm to 10pm.

Proposed TOU tariff structure

Figure 24 below summarises the charging windows in Evoenergy's current residential TOU tariff, and the charging windows for the proposed TOU tariff, as described above.

Figure 24 Current and proposed residential TOU tariff



Importantly, the proposed residential TOU tariff charging windows are designed to align with the charging windows in the proposed demand tariff, as summarised in Table 25 below.

Table 25 Charging windows for proposed residential TOU tariff

TOU tariff	Charging windows (AEST)
Peak	7am to 9am 5pm to 9pm every day
Off-peak	9am to 11am 3pm to 5pm 9pm to 7am every day
Solar soak	11am to 3pm every day

Alignment between proposed residential demand and TOU tariff structures

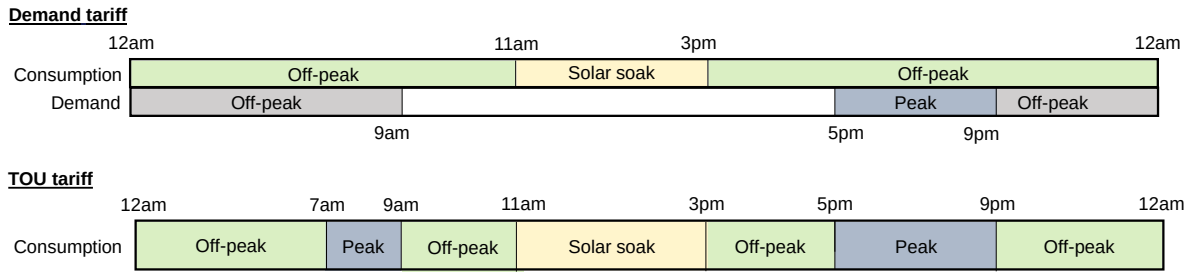
In response to customer and retailer feedback about simplifying the network tariff structure, Evoenergy has, as much as possible, aligned the charging windows on the proposed residential demand and TOU tariffs. That is, Evoenergy has deliberately set these key residential tariffs as follows.

- **Evening peak period**: both tariffs have an evening peak set at 5pm − 9pm AEST daily.
- **Solar soak period**: both tariffs are set at 11am − 3pm AEST daily.
- **Tariff components designed to encourage network use**: both tariffs have the same structure between 9am − 5pm AEST daily.

This alignment between the tariffs is shown in Figure 25.

Retailers of eligible ACT residential customers will have the opportunity to receive consistent network price signals when/if they choose to switch between the proposed residential demand and proposed TOU network tariffs,[92] thereby improving the simplicity of the network tariff structure.

Figure 25 Proposed residential TOU and demand tariffs



11.2 Commercial tariff reforms

Evoenergy focussed on progressing the cost reflectivity of commercial tariffs with significant reforms introduced in the 2019–24 regulatory period. Since Evoenergy's LV and HV commercial tariffs are now highly cost-reflective, with most tariffs including TOU consumption charges, peak demand charges, and (in some cases) capacity charges, Evoenergy is proposing relatively minor amendments to the existing commercial tariff structure in the 2024–29 regulatory period. This aligns with the feedback received from commercial customers, where Evoenergy heard they are not seeking changes to the existing tariff structure.

Notably, the major key change to Evoenergy's commercial structure is the proposed introduction of a new tariff structure for new HV customers seeking to connect directly to Evoenergy's sub-transmission network in the 2024−29 regulatory period. This proposed new tariff structure is described in section 11.

The remainder of this section describes Evoenergy's proposed commercial tariff reforms applying to all other commercial customers.

Reforms to existing commercial tariffs

The commercial tariff reforms proposed for the 2024–29 regulatory period continue refining the cost reflectivity of ACT network tariffs. The commercial tariffs that Evoenergy proposes to change structurally are the Streetlighting and Small unmetered tariffs. Minor amendments are also proposed for commercial tariffs containing a capacity charge. The reforms also aim to address emerging renewable technology trends, including the anticipated introduction of stand-alone, grid-scale batteries, including community batteries. Hence, Evoenergy is proposing the introduction of a new tariff targeted at large-scale batteries (and other large-scale storage technologies) that connect to the ACT distribution LV or HV network. The proposed changes reflect:

- key learnings from Evoenergy's large-scale battery trial tariff during the 2019–24 regulatory period;
- forecast use of the network in the 2024–29 regulatory period; and
- consumer engagement on tariff design.

[92] Residential customers are only eligible to switch to an alternative residential tariff once in a 12-month period.

The sections below describe Evoenergy's analysis of commercial loads on the network, and the structure of the proposed commercial tariffs.

Timing of commercial peak demand

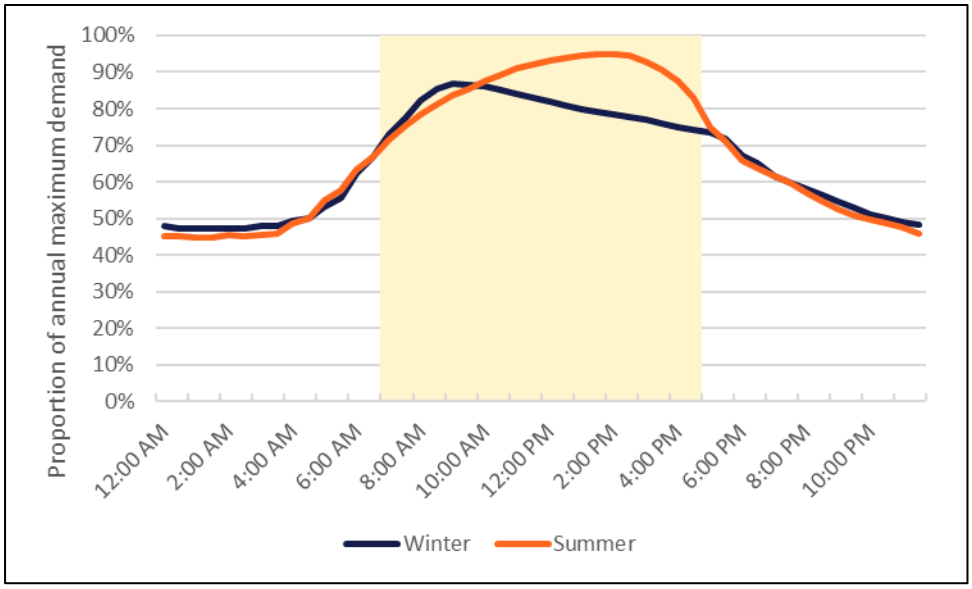
Evoenergy evaluated the timing of peak demand from commercial customers based on a sample of LV commercial and HV commercial customers, while also having regard to load data from network feeders that are dedicated to commercial customers.

Evoenergy concluded that zone substation data is less reliable for evaluating peak demand from commercial customers because the timing of peak demand from commercial customers, with relatively flat loads, is distorted by the much peakier demand from residential customers. This circumstance applies even at zone substations where the overwhelming majority of load is from commercial customers.

Seasonality

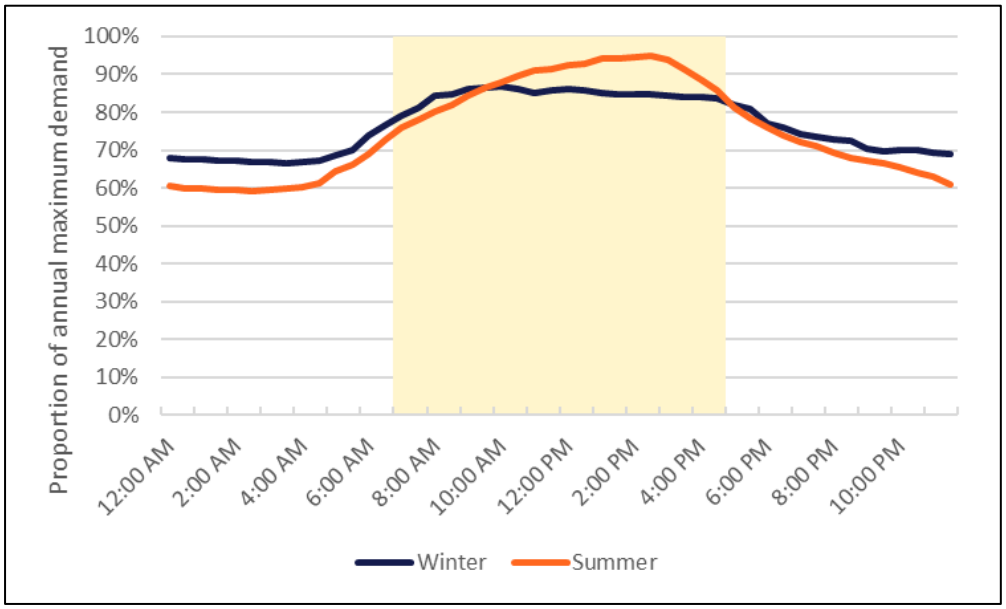
Commercial load on Evoenergy's network is relatively consistent across the year. As illustrated in Figure 26 to Figure 27, the average maximum demand from LV and HV commercial customers on the top five days in summer and winter was reasonably similar, reaching 85 per cent of the annual maximum load during the peak window.

Figure 26 Top five summer and winter peak demand days – LV commercial customers, 2020/21



Source: Evoenergy data.
Note: Based on a sample of 3,001 LV commercial customers. Yellow highlighted period represents the commercial peak period (7am to 5pm AEST)

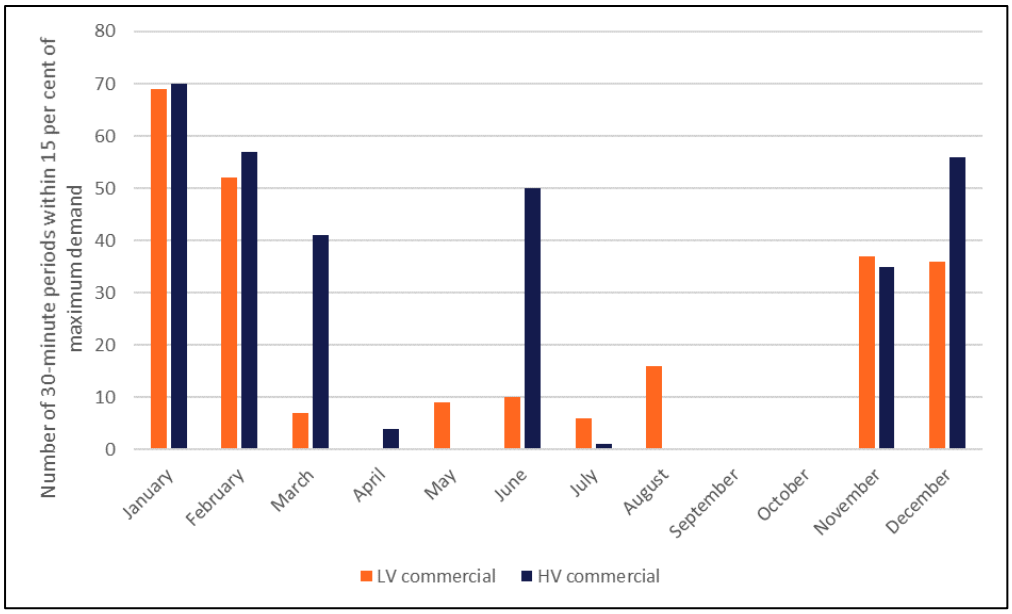
Figure 27 Top five summer and winter peak demand days – HV commercial customers, 2020/21



Source: Evoenergy data.
Note: Based on analysis of all HV commercial customers on Evoenergy's network. Yellow highlighted period represents the commercial peak period (7am to 5pm AEST)

In contrast to residential loads, although commercial customer demand gets close to maximum demand more frequently in summer, demand in other months often reaches 85 per cent of annual maximum demand, as illustrated in Figure 28.

Figure 28 Frequency of demand within 15 per cent of annual maximum demand, sample of LV and HV commercial customers, 2020/21

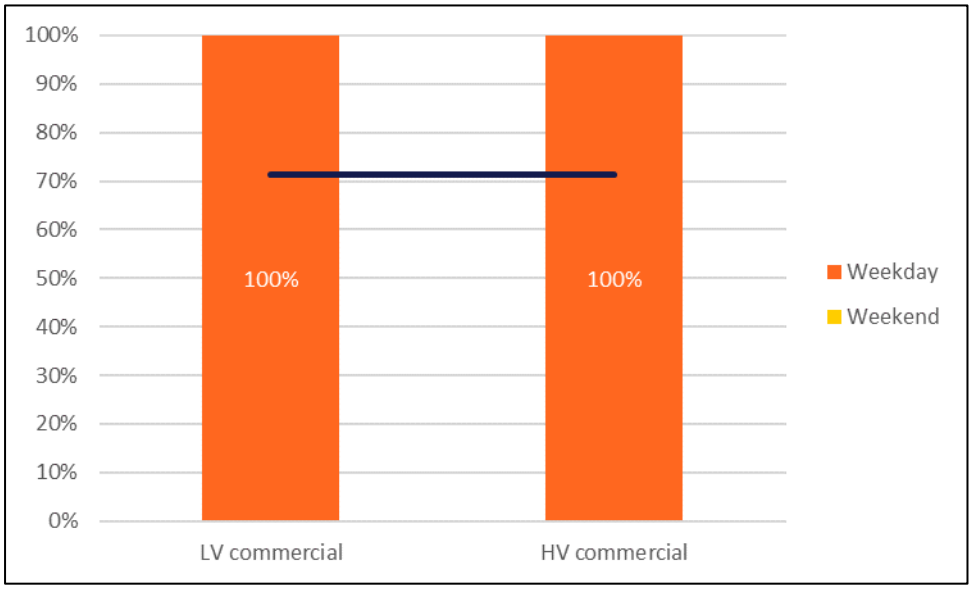


Source: Evoenergy data.
Note: This analysis is based on a sample of 3,001 LV commercial customers and all of Evoenergy's HV commercial customers.

Days of the week

Unlike residential demand, commercial load is concentrated on weekdays. Figure 29 shows that no weekend days had any 30-minute periods with demand within 15 per cent of annual peak demand in Evoenergy's sample of commercial customers. As a consequence, Evoenergy proposes to retain its current off-peak period at all times on weekends.

Figure 29 Days with one or more 30-minute periods within 15 per cent of annual peak demand, commercial, 2020/21

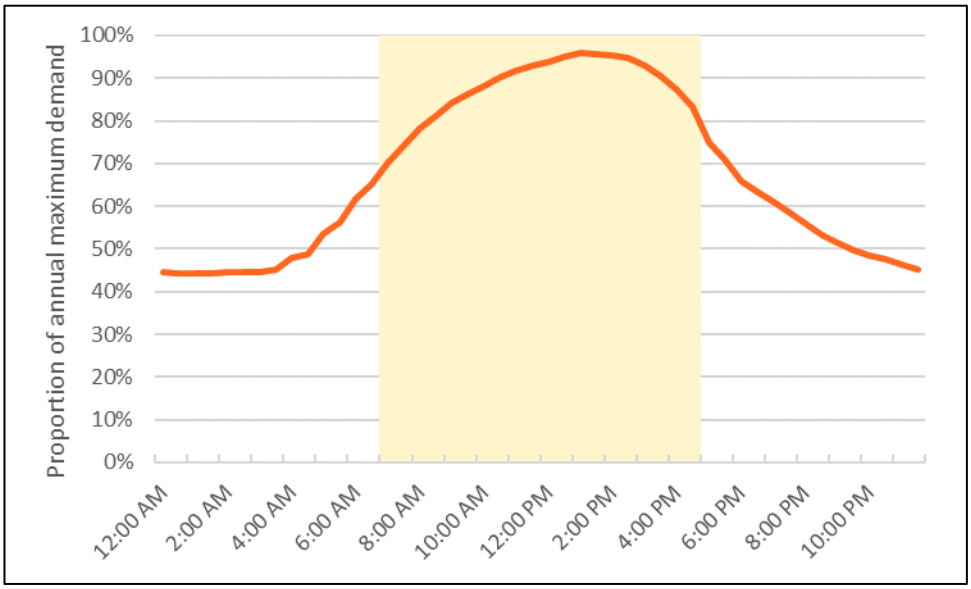


Source: Evoenergy data.
Notes: The blue line represents the expected proportion of weekdays within 15 per cent of annual maximum demand if these events had equal likelihood of occurring on weekdays and weekend days, considering there are five weekdays and two weekend days each week. This analysis is based on a sample of 3,001 LV commercial customers and all of Evoenergy's HV commercial customers.

Times of the day

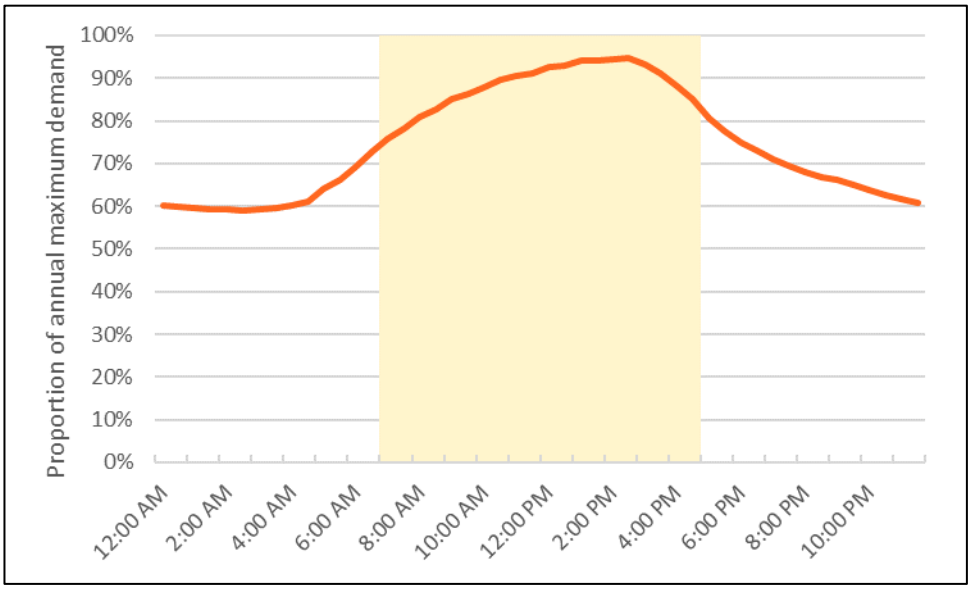
Evoenergy has undertaken a bottom-up analysis of peak demand for a sample of LV commercial and HV commercial customers, which is presented in Figure 30 and Figure 31, respectively. The analysis demonstrates that commercial load is highest during business hours and remains close to the annual maximum demand throughout the middle of the day.

Figure 30 Average demand profile on five highest demand days, LV commercial 2020/21



Source: Evoenergy data.
Notes: Yellow highlighted period represents the commercial peak period (7am to 5pm AEST). This analysis is based on a sample of 3,001 LV commercial customers.

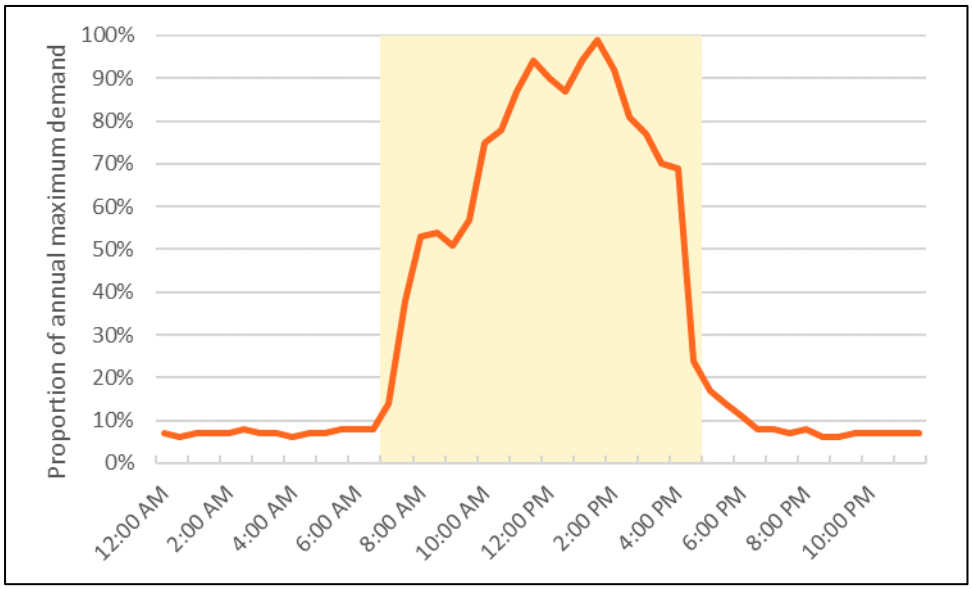
Figure 31 Average demand profile on five highest demand days, HV commercial 2020/21



Source: Evoenergy data.
Notes: Yellow highlighted period represents the commercial peak period (7am to 5pm AEST, weekdays). This analysis is based on data from all HV commercial customers.

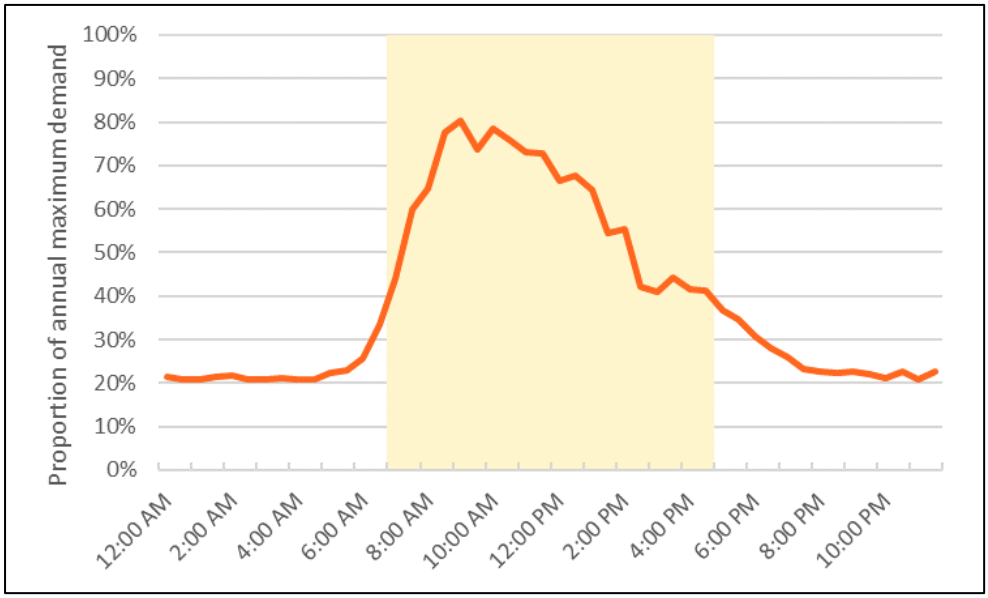
To verify the above analysis (based on customer data), Evoenergy analysed data from two dedicated commercial distribution substations. The average demand at these commercial substations is presented in Figure 32 and Figure 33 below.

Figure 32 Average demand on top five days in a dedicated commercial ACT area in Fyshwick, 2020/21



Source: Evoenergy data.
Note: This analysis is based on a distribution substation serving commercial customers with smart meters in Fyshwick. Yellow highlighted period represents the commercial peak period (7am to 5pm AEST)

Figure 33 Average demand on top five days in a dedicated commercial ACT area in East Lake, 2020/21



Source: Evoenergy data.
Note: This analysis is based on a distribution substation serving commercial customers with smart meters in East Lake. Yellow highlighted period represents the commercial peak period (7am to 5pm AEST)

Based on the analysis above, Evoenergy concluded that commercial demand on the ACT electricity network typically occurs between 7am and 5pm (AEST) on weekdays, which aligns with typical business operating hours. Owing to the prevalence of load in the middle of the day, in contrast to areas with primarily residential load, low load events are not a significant issue in areas of the network with predominantly commercial customers.

Evoenergy therefore proposes to retain its existing charging windows for LV and HV commercial tariffs. The peak period for LV and HV commercial tariffs will remain from 7am to 5pm (AEST) on weekdays.

Evoenergy's proposed tariff reforms for commercial customers are explained in more detail below.

New tariffs targeted at large-scale batteries and other large-scale storage

A variety of large-scale batteries are expected to connect to the ACT electricity network in the coming years, especially in respect of the ACT Government committing to 250 MW of batteries.[93] Evoenergy, therefore, trialled a tariff designed for large-scale batteries during the 2019–24 regulatory period, which provided Evoenergy with the opportunity to test customer responses to the highly cost reflective price signals and refine the tariff in a trial setting. The trial was particularly important given that large-scale batteries generally respond to a range of price signals (including wholesale prices and FCAS), not only network price signals. Evoenergy engaged significantly with large-scale battery operators and other stakeholders throughout the trial period to ensure the learnings from the trial were fully incorporated into the network tariff which is now proposed for introduction in the 2024–29 regulatory period.

Evoenergy proposes to introduce four ~~large scale battery~~ tariffs applicable to large-scale batteries (and other large-scale storage technologies) to refine the price signals according to customers' network connection (i.e. low or high voltage) and location (i.e. primarily residential or commercial). The tariff codes associated with these proposed tariffs are outlined in Table 26 below.

Table 26 Tariff codes for new tariffs targeted at large-scale storage

	Residential areas	Commercial area
LV connection	108	109
HV connection	123	124

The structure of these tariffs will be identical, except for the application of different charging windows depending on whether the connection is in a predominantly residential or commercial area (as determined by Evoenergy). Further, the price level of each tariff will differ depending on whether the ~~battery~~ customer is connected to the LV or HV network.

The structure of these new tariffs is summarised in Table 27, and then described in more detail in the remainder of this subsection. It is also relevant to note that customers assigned to this tariff may be eligible for a reimbursement of avoided TUOS costs and/or subject to a payment of incurred TUOS costs. The avoided/incurred TUOS will be settled, between Evoenergy and the ~~battery operator~~customer, externally to the tariff structure.

[93] ABC, *ACT Labor promise Canberra-wide network of renewable energy batteries if elected*, https://www.abc.net.au/news/2020-09-30/biggest-renewable-battery-promised-act-labor-election/12715314?nw=0

*Table 27 Proposed tariff structure targeted at large-scale batteries **and other large-scale storage technologies***

Tariff component	Description
Seasonal peak demand charge	Based on a customer's maximum demand (kVA) in a 30 minute interval in the billing period (typically one calendar month) between: • 5pm and 8pm daily AEST for connections in primarily residential areas • 7am and 5pm weekdays AEST for connections in primarily commercial areas. This charge has the following seasonal element: • Lower charge applies during the 'low season' of winter and autumn months • Higher charge applies during the 'high season' of summer and spring months
Net consumption charge	Applied to total electricity imported less total electricity exported
Capacity charge	This is based on a customer's maximum half-hourly demand (kVA) over the previous 13 months, including the current billing month.
Critical export rebate	Applied to exports during a critical peak export rebate event. Evoenergy will notify customers of up to six critical peak rebate events in a financial year, and at least 48 hours before one commences. The maximum duration of each critical peak event is three hours. Customers who export during the critical peak event will receive a rebate based on the level of electricity exported (measured in kVAh) within the critical peak rebate event.
Critical export charge (only in predominantly residential areas)	Only ~~batteries~~ storage customers that connect in predominantly residential areas are subject to a critical export charge. Applied to exports during a critical peak event. Evoenergy will notify customers of up to six peak charge events in a financial year, and at least 48 hours before one commences. The maximum duration of each critical peak event is three hours. Customers who export during the critical peak event will pay the critical peak export charge based on the level of electricity exported (measured in kVAh) within the critical peak period, with a Basic Export Level of 2 kVAh per critical export event.

Seasonal peak demand charge

The seasonal peak demand charge signals the cost of importing electricity during peak periods when additional imports can contribute to the need to expand the network. Given that network expansions increase network costs, the peak demand charge is designed to reflect the cost associated with future network upgrades. Specifically, the peak demand charge is based on the LRMC of providing import services at the level of the network to which the ~~battery~~ storage customer connects (i.e., LV or HV). The demand charges also recover a portion of residual costs, which are relevant because batteries and storage technologies utilise the network when they import during peak demand periods.

The demand charge is applied to the customers' maximum half-hourly demand (measured in kVA) during the peak period in each calendar month. The definition of the peak period depends on whether the ~~battery~~ storage customer is connected in a primarily residential or commercial area of Evoenergy's network as follows.

- If the customer is located in a primarily residential area, the peak period is 5pm to 8pm AEST daily all year-round.
- If the customer is located in a primarily commercial area, the peak period is 7am to 5pm AEST on weekdays all year-round.

The demand charge varies with the season, reflecting the different costs imposed on the network at different times of year.

This ensures that Evoenergy signals its costs to large-scale batteries (and other large-scale storage technologies) at times that coincide with the periods when additional demand is expected to cause additional costs in the relevant area of the network.

Net consumption charge

Due to energy losses, large-scale ~~batteries~~ storage operates with a round-trip efficiency of less than 100 per cent. A ~~battery~~ storage customer will export (to the grid) less electricity than it imports (from the grid). From the perspective of the distribution network, the energy losses represent 'net consumption' of electricity by the ~~battery~~ storage customer (electricity imported minus electricity exported). This net consumption incurs only a jurisdictional scheme charge, and there is no distribution or transmission charge because these network costs are reflected in the other tariff components.

Under ACT legislation, Evoenergy is obligated to make various jurisdictional scheme payments, which it recovers from customers through network tariffs.[94] Evoenergy applies jurisdictional scheme charges within the electricity consumption charges on its network tariffs. Since energy is lost during the process of a ~~battery~~ storage customer importing and then exporting electricity, it is appropriate for storage customers~~a battery~~ to pay for the jurisdictional scheme charges, that would otherwise have been recovered, from the consumption of the lost electricity.

Failing to recover these costs from large-scale batteries (and other large-scale storage technologies) would create a cross-subsidy between ~~large-scale batteries~~storage customers and other customers. Therefore, the tariff for large-scale batteries (and other large-scale storage technologies)~~y~~ ~~tariff~~ includes a net consumption charge to recover jurisdictional scheme charges.

Export critical peak rebate/charge

The export critical peak rebate and charge are designed to send a price signal to ~~battery~~ storage operators about the costs and benefits of exporting during nominated critical peak events. This charge/rebate recognises the ability of a large-scale ~~battery~~ storage customers to assist the distribution network by either reducing its export loads on the network at times of high solar output, or increasing exports when the network is experiencing high demand. The ~~battery~~ storage customer can also assist the network during times when there are generation shortages. However, such events are rare.

[94] At the time of writing, the jurisdictional schemes include an Energy Industry Levy, Utilities Network Facilities Tax, and Feed-in Tariffs for small, medium, and large scale generators.

Under this arrangement, a large-scale ~~battery~~ storage operator will be notified of the timing of a 'critical peak' (CP) event up to 48 hours in advance. Depending on the type of critical peak event, the large-scale ~~battery~~ storage customer may receive a notification for either of the following.

- A **critical peak export charge (only in predominantly residential areas)** – designed to discourage exports during critical peak events. This can help address rising voltage issues due to increased solar exports in residential areas and is expected to apply primarily during the middle of the day in spring and summer. During the critical peak charge event window, the ~~battery~~ storage customer will pay a charge for any exports (measured in kVAh) above a basic export level of 2 kVAh per critical export event. If the ~~battery~~ storage customer does not export above the basic export level during this period, then the export charge will be zero and therefore avoided.
- A **critical peak rebate** – designed to encourage exports during critical peak events. This can help address periods of high network demand and is expected to apply primarily during the morning and evening periods in summer. During the nominated period, the ~~battery~~ storage customer will receive a rebate from Evoenergy for any exports (measured in kVAh). If the ~~battery~~ storage customer does not export during this period, it will not receive any rebate.

The number of critical peak events will be limited to a maximum of six export charge events and six rebate events per financial year. The duration of any event will be limited to a maximum of three hours. This helps provide greater operational certainty to ~~battery~~ storage operators and more fairly share critical peak risk between the ~~battery~~ storage operator and Evoenergy.

Basic export level for the critical peak export charge

A basic export level reflects the network's capacity to accept supply from distribution customers with minimal or no further network investment,[95] and is the threshold under which customers are not charged for exports.

A critical peak event is triggered when there is a significant imbalance between demand and supply on the network, such that all additional exports contribute to the need for further network investment.

A critical peak event therefore reflects the circumstances in which a BEL is intended to allow DNSPs to signal their costs to customers using export charges (i.e. when accepting supply contributes to further network investment).

As a matter of principle, Evoenergy's view is that the basic export level should therefore be equal to zero during the critical export events, such that critical export charges apply to all exports during a critical peak events. The off-setting benefit for customers facing critical export charges would be that, outside of critical peak events, they never face export charges.

The AER did not approve Evoenergy's initially proposed BEL of zero for the critical export charge because it was not consistent with the expectation set out in the AER's export tariff guideline that 'a basic export level must always be greater than zero'.[96]

Evoenergy therefore proposes to adopt a nominally low BEL that is equal to 2 kVAh per critical export event.[97]

[95] NER, 11.141.13(b)(1)(i)

[96] AER, *Export Tariff Guideline*, May 2022, p 17.

[97] A critical peak event may range in duration between one and three hours long. To maintain simplicity of the tariff structure, Evoenergy therefore specified a BEL by reference to the mid-point duration of a peak event (two hours), and based on a nominally low BEL equal to 1 kVAh per hour.

This is consistent with the approach that the AER accepted as reasonable for the BEL that applies to critical peak export events for Ausgrid's low voltage utility scale storage tariff.[98] Ausgrid similarly explained that an efficient BEL would be equal to zero for critical export events, but proposed the lowest BEL that it could practically apply (i.e., 1 kWh for each hour during a peak event).[99]

Capacity charge

The capacity charge within Evoenergy's tariff for ~~the~~ large-scale batteries (and other large-scale storage technologies) ~~y tariff~~ is applied to a ~~battery's~~ storage customer's highest demand (measured in kVA), at any time of day, during the previous 13 months.

It is an efficient and equitable way of recovering Evoenergy's residual costs and also avoids the need for a fixed charge.

It is efficient because a ~~battery's~~ storage customer's highest anytime demand over the previous 13 month is likely to be relatively constant (i.e. around its maximum rate of charging). This means that the capacity charge is relatively constant through time, which minimises any distortion to Evoenergy's efficient, LRMC-based price signals, consistent with the requirements of the NER.

The capacity charge is more equitable than a fixed charge because it scales the recovery of Evoenergy's residual costs to reflect the ~~battery's~~ storage customer's size/capacity, rather than having a flat, size-invariant fixed-charge. Further, if it was not for the capacity charge, Evoenergy would still need to recover the resulting shortfall in residual costs, for example by applying a fixed charge to ~~batteries~~storage customers.

Evoenergy's capacity charge does not disincentivise batteries (and other storage technologies) from charging on days when solar exports are peaking because it applies to maximum anytime demand *over the previous 13 months*. This means that, in the likely case that a battery (or other storage technology) has already charged at its maximum rate over some time during the previous 13 months, a decision to charge during an upcoming period of peak solar exports will have no marginal effect on the capacity charge that it pays. This is an example of why charges that do not vary with customers network use are an efficient means of recovering residual costs. That is, capacity charges have almost no effect on customer's marginal use the network.

Avoided/incurred TUOS charge

Evoenergy is required to pay TUOS fees to transmission network operators.

Under the NER, Evoenergy is required to make avoided TUOS payments to certain embedded generators over 5MW. This tariff extends avoided TUOS payments to all eligible large-scale batteries (and other large-scale storage technologies), even below the 5MW threshold. Evoenergy is proposing a symmetric arrangement where large-scale batteries (and other large-scale storage technologies) also pay for incurred TUOS costs. This is because, unlike traditional embedded generators (such as solar and wind farms), large-scale batteries (and other large-scale storage technologies) typically import and export electricity and can therefore increase or decrease Evoenergy's TUOS costs.

Under Evoenergy's existing suite of network tariffs, TUOS charges are recovered by spreading the costs across the customer base rather than charging each customer based on their actual incurred TUOS. This is because Evoenergy's customer base is relatively diversified, meaning it is difficult to identify when or if a particular customer contributes to Evoenergy's highest transmission demand.

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[98] AER, *Draft Decision - Ausgrid Electricity Distribution Determination 2024 to 2029 (1 July 2024 to 30 June 2029) Attachment 19 Tariff structure statement,* September 2023, p 38.

[99] Ausgrid, *Tariff Structure Statement Compliance Document*, January 2023, p 17 and footnote 29.

This also allows for a simpler charging structure that is easier for customers to understand and provides greater predictability of network bills.

Large-scale batteries and other large-scale storage technologies have a significantly different relationship with the distribution network. They respond to market price signals to optimise energy imports and exports and actively participate in the wholesale electricity market. This allows large-scale batteries (and other large-scale storage technologies) to be highly responsive to price signals and contribute to improving network efficiency. Their relatively large size and active participation in energy markets mean that large-scale batteries (and other large-scale storage technologies) can increase or decrease maximum transmission demand, thereby directly impacting Evoenergy's TUOS bill. Therefore, ~~large-scale batteries~~these customers will be charged based on their actual incurred or avoided TUOS costs as follows.

- If the ~~battery~~ storage customer reduces maximum transmission demand, Evoenergy passes the TUOS saving to the ~~battery~~ storage customer via an avoided TUOS payment.
- If the ~~battery~~ storage customer increases maximum transmission demand, the ~~battery~~ storage customer is charged based on the incremental increase in TUOS payments made by Evoenergy.

If the ~~battery~~ storage customer does not contribute to peak transmission demand in a given month, it will not pay the incurred TUOS charge. Similarly, if the ~~battery~~ storage customer does not reduce transmission demand, it will not receive an avoided TUOS payment. The accumulated monthly avoided/incurred TUOS payments will be reconciled and paid/received annually.

To account for uncertainty as to the effects of the ~~battery's~~ storage customer's operation on Evoenergy's TUOS bill, the avoided/incurred TUOS charges will be calculated retrospectively at the end of each calendar month. This is because it is not possible to determine, at any point in time, whether ~~the~~ a battery (or other storage technology) is contributing to an increase or decrease in the monthly maximum transmission demand. This also helps to ensure an equitable outcome for ~~battery~~ large-scale storage operators, who will be billed based on actual TUOS incurred or avoided. This approach is the most cost-reflective way to account for TUOS charges and rebates and avoids potential cross subsidies between batteries and other customers.

Capacity charge review mechanism

Evoenergy's commercial tariffs for HV connections and the TOU kVA Capacity tariff (code 103) for LV commercial customers include a capacity charge used to recover residual network costs. The capacity charge is specified in cents per kVA per day and is applied to a customer's maximum demand over the previous 13 months (inclusive of the current month). The capacity charge promotes the equitable recovery of Evoenergy's residual costs by scaling a customer's contribution to the recovery of those costs (up or down) based on its maximum use of the network. That is, relatively more residual costs are recovered from customers with relatively higher maximum demand.

There are select instances in which a customer has a rare, one-off, spike in demand. For example, an unusual spike in demand may be due to the testing of new equipment that is not representative of their typical network use. The affected customer has historically paid a higher capacity charge within their network bill, potentially for the next 13 months. While the capacity charge reflects the customers' actual use of the network, it does not reflect their typical use of the network.

Evoenergy, therefore, proposes to introduce a capacity charge review mechanism that customers can use in extenuating circumstances to mitigate the effect of the capacity charge on their network bill. Evoenergy has carefully designed this review mechanism to ensure its application is limited to extenuating circumstances rather than being routinely used by a customer to reduce their network bill.

A 'capacity charge review event' will only be triggered if Evoenergy approves the customer's written application. The application must be provided at least six weeks before the commencement of the

capacity review window, allowing Evoenergy four weeks to review the application and notify the customer. This will allow two weeks between the final decision and commencement of the capacity review period. The application criteria and eligibility criteria are set out in Table 28 below.

Table 28 Application and eligibility criteria for capacity charge review

Application criteria	Eligibility criteria
The length of the nominated capacity review event period.	The nominated capacity charge review event period must be no longer than two weeks.
Description of the extenuating circumstance that has led to the application.	Must be deemed by Evoenergy to be a reasonable motivation for the application.
The nominated maximum demand during the capacity review period.	Nominated maximum demand during the review period must be less than their maximum allowable capacity included in the customer's connection agreement.
Inclusion of previous applications for capacity charge review.	Customer must not have been the subject of a capacity review event in the previous 24 months.
Application must be submitted to Evoenergy at least 6 weeks before commencement of the capacity charge review period.	Customer has submitted completed application at least 6 weeks before the commencement of capacity charge review event.

Notwithstanding these four criteria, Evoenergy retains absolute discretion to accept or reject a capacity charge review. However, provided a customer meets the above criteria, Evoenergy will endeavour to approve the capacity charge review event.

Further, Evoenergy will endeavour to confirm whether a customer has met the criteria for a 'capacity charge review' in advance of the event to provide certainty to the customer and, if necessary, to work together to arrange a different capacity review window.

Charging arrangements

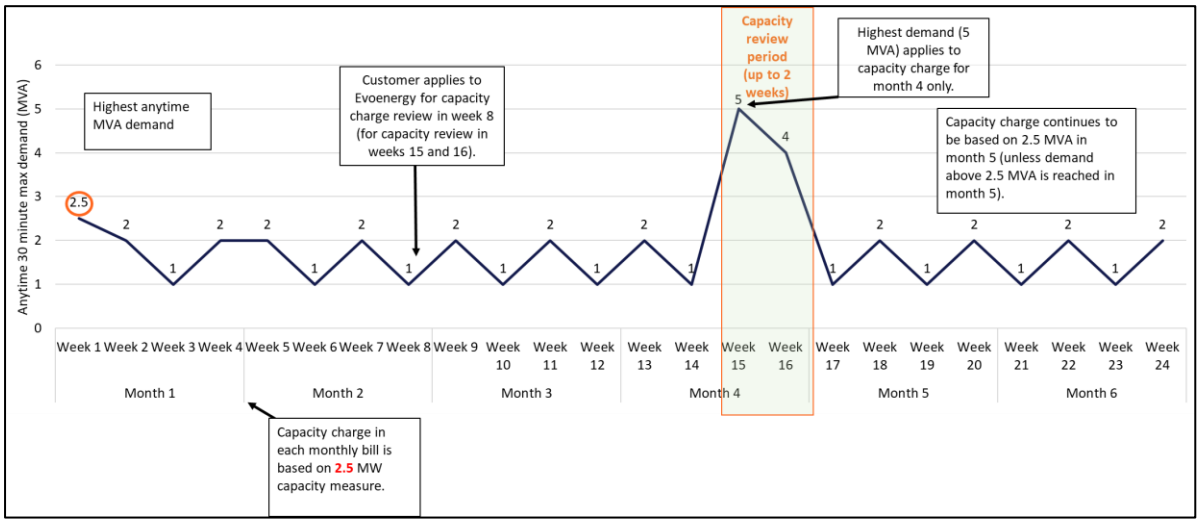
If Evoenergy approves an application for a capacity charge review, the capacity charge that applies to the customer during the review period will be based on the customer's highest half-hourly demand recorded (by the customer) during the review period. In the month following the capacity review period, the customers' capacity charge will revert to their maximum demand in the previous 13 month period, *including* the month following the review period and *excluding* the review period. In this way, the maximum demand level that is reached during the review period only applies to the capacity charge during the month of the review period. It does not continue to apply for the following 13 months (as per the current arrangements).

Figure 34 shows an illustration of how the capacity charge mechanism could work, for a hypothetical customer. In this example, a customer reaches a maximum demand of 2.5 MVA in week one, so their capacity charge is based on this level of demand in months one, two, and three. This customer intends to test new equipment in month 4, which will cause a spike in their demand; hence, they apply to Evoenergy for a capacity charge review. Evoenergy reviews the customer's application against the eligibility criteria (see Table 28) and approves the application.

In the approved capacity review period (shaded in weeks 15 and 16), the hypothetical customer's maximum demand reaches 5 MVA. In month four, the customers' capacity charge is based on 5 MVA.

After the review period (from month five), this customer's capacity charge reverts to being based on 2.5 MVA until a higher peak demand occurs.

Figure 34 Capacity charge review example



It is possible that the two-week review period will occur across two calendar months. In this case, the date on which the highest demand occurs (within the review period) will determine which month the capacity charge review is based on. In the example above, if the capacity review period occurred during weeks 16 and 17 (rather than weeks 15 and 16), the capacity charge in month four would be based on 5 MVA, and the capacity charge in month five would be based on 2.5 MVA.

Notifying customers about the capacity charge review mechanism

Prior to the commencement of the 2024−29 regulatory period, Evoenergy will provide written notification to relevant HV and LV customers about the capacity charge review mechanism, the eligibility criteria, and instructions for how customers can lodge an application with Evoenergy. Details of the mechanism will also be published on Evoenergy's website. From time-to-time, Evoenergy may provide further updates and information through its 'Energy Matters' forum and newsletter for large-customers.

Removing network access charge for streetlighting and small unmetered loads

The Streetlighting tariff (code 080) and Small unmetered loads tariff (code 135) both currently include a network access charge and anytime energy consumption charge. For both tariffs, Evoenergy proposes to remove the network access charge from 1 July 2024.

The network access charges are applied per National Metering Identifier (NMI). Each streetlighting and small unmetered load NMI may have multiple (possibly thousands) connection points. The number of connection points varies significantly for each NMI. Hence, applying a network access charge does not capture the true connection costs. For example, one unmetered load NMI may have 10 connection points, while another may have 10,000 connection points. Yet, all NMIs on these tariffs currently pay the same network access charge, resulting in an inequitable tariff outcome. Assigning all revenue recovery to the energy consumption charge will resolve this.

Evoenergy has reviewed the network revenue recovered from these tariffs (Table 29) and finds the network access charge is less than one percent of the total revenue recovered from these tariffs. In light of this revenue analysis, Evoenergy expects the customer impact associated with the removal of the network access charge to be trivial. Furthermore, Evoenergy has discussed this proposal with retailers and consulted via the draft EN24 plan and has not received any negative feedback about this proposal.

Table 29 Revenue forecast analysis, 2022/23

Tariff	Forecast revenue from fixed charge	Forecast revenue from consumption charge	Fixed charge as a percentage of total tariff revenue
Streetlighting tariff (080)	$2,737	$2,413,309	0.1%
Small unmetered loads tariff (135)	$4,187	$767,364	0.5%

Source: Evoenergy 2022/23 annual pricing proposal.

New individually calculated tariffs for sub-transmission customers

Evoenergy proposes to introduce new individually calculated customer (ICC) tariffs for new customers that connect to its 132kV sub-transmission network. These ICC tariffs will be available for new customers with a network connection at 66kV or above.

Their introduction reflects Evoenergy's recent engagement with very large, relatively unique customers that are seeking to connect to Evoenergy's sub-transmission assets, but for whom Evoenergy's existing HV tariffs would be inefficient and prohibitively expensive.

Evoenergy's existing HV tariffs reflect the efficient cost of using both HV and sub-transmission assets. Therefore, the HV tariffs reflect more than the efficient cost of providing network services to customers using only sub-transmission assets. It is for this reason that Evoenergy proposes to develop new tariffs for these customers.

Customers that connect to Evoenergy's sub-transmission network will inevitably be very large, sophisticated network users with unique characteristics. For instance, a data centre may have a large flat load, whereas a large battery is likely to have a very peaky load. They may connect in different areas of the network, with different implications for our network costs, and they may or not export to the network. There is also likely to be significant variation in the extent to which these customers own and operate dedicated connection assets, and therefore use the shared network.

In light of these considerations, Evoenergy's view is that a one-size-fits-all approach will not promote efficient connection decisions and the efficient use of the network by sub-transmission customers. Consequently, Evoenergy proposes to apply ICC tariffs for sub-transmission customers.

Evoenergy's ICC tariffs for sub-transmission customers will be highly efficient, reflecting that these customers are very sophisticated network users and are able to accept advanced, cost-reflective price signals.

These ICC tariffs will comprise the tariff components described in Table 30.

Table 30 Proposed tariff structure for sub-transmission customers

Tariff component	Description
Peak demand charge	The peak demand charge will be based on the import LRMC of providing network services to the particular customer. It will apply to a customer's maximum demand (kVA) in a 30 minute interval in the billing period (typically one calendar month). The peak period for the peak demand charge (i.e. the times it will apply) will depend on the nature of peak demand in the specific location that the customer connects to the network. The peak demand charge may apply during critical peak events or during pre-defined time windows, dependent on the customer's preferences and the need for a strong price signal in that location (i.e. if the network is approaching constraint).
Capacity charge	The capacity charge will be used to recover residual costs in a way that is both efficient and equitable. It will be applied to a customer's maximum half-hourly demand (kVA) over the previous 13 months, including the current billing month.
Net consumption charge	Applied to total electricity imported less total electricity exported
Peak export rebate	This rebate will be based on import LRMC and will apply to a customer's exports, measured in kVAh, within the peak demand period described above.
Peak export charge	Evoenergy expects that exports from sub-transmission customers will generally not impose costs on the shared sub-transmission network, owing to the prevalence of load and the corresponding absence of low load events. However, if a particular customer's exports are expected to impose costs on the sub-transmission network, Evoenergy will apply a LRMC-based peak export charge, measured in kVAh. The export charge will apply to exports within the periods when peak export events are expected to occur in that particular location. Consistent with the storage tariffs, Evoenergy will apply a BEL that is equivalent to 1 kVAh per hour of the applicable peak export charging period.
Peak import rebate	If imports from a customer connected to the sub-transmission network can help to avoid future costs, Evoenergy will provide a customer with a peak import rebate, measured in kVAh, for imports during low load events. This rebate will be based on the applicable export LRMC.

Evoenergy will allocate residual costs to ICC tariffs, for recovery using the capacity charge, by reference to:

- the shared sub-transmission assets used by the customer, while accounting for the connection assets that the customer will own, operate and maintain, and any upgrades to shared network assets that the customer has already funded;
- the efficient cost of providing network services using those sub-transmission assets; and
- a customer's relative use of those sub-transmission assets, in comparison to other customers.

11.3 Evoenergy's proposed tariffs and structure

The two tables below summarise Evoenergy's current and proposed tariffs for residential and commercial customers, along with the structure applying to each tariff. The shaded rows shown the new tariffs Evoenergy proposes for the 2024−29 regulatory period.

Table 31 Proposed residential tariffs and structures

				Consumption charges (kWh)							Demand charges (kW)	
Tariff class	Tariff	Tariff code	Fixed	Any time	Block tariff	Peak	Shoulder	Off-peak	Solar Soak	Controlled load off-peak	Peak demand	Off-peak demand
Residential	Basic*	010	✓	✓								
	TOU	015	✓			✓	✓	✓				
	Demand	025	✓	✓							✓	
	New TOU	017	✓			✓		✓	✓			
	New Demand	023	✓					✓	✓		✓	✓
	Res 5000*	020	✓		✓							
	Res heat pump*	030	✓		✓							
	Off-peak (1) Night^	060								✓		
	Off-peak (3) Day & Night	070								✓		

*Closed to new customers.
^ The Off-peak (1) night network tariff is also available to LV commercial customers on the General, General TOU, or LV kW demand tariffs.
Table does not show metering capital and non-capital charges.

Table 32 Proposed LV and HV commercial tariffs and structures

				Consumption charges (kWh)									
Tariff class	Tariff	Tariff code	Fixed	Any time	Block tariff	Peak	Shoulder	Off-peak	Net consumption	Demand (kW)	Demand (kVA)	Capacity (kVA)	Export reward and/or charge (kVAh)
LV commercial	General*	040	✓		✓								
	General TOU	090	✓			✓	✓	✓					
	LV TOU kVA demand	101	✓			✓	✓	✓			✓		
	LV TOU kVA capacity	103	✓			✓	✓	✓			✓	✓	
	LV kW demand	106	✓	✓						✓			
	Streetlighting	080	✓	✓									
	Small unmetered loads	135	✓	✓									
	*LV Battery (Residential area)^*	108							✓		✓	✓	✓
	*LV Battery (Commercial area)^*	109							✓		✓	✓	✓
HV Commercial	HV TOU demand	111*	✓			✓	✓	✓			✓	✓	
	HV TOU demand network – Customer LV	121*	✓			✓	✓	✓			✓	✓	
	HV TOU demand network – Customer LV & HV	122	✓			✓	✓	✓			✓	✓	
	*HV Battery (Residential area)^*	123							✓		✓	✓	✓
	*HV Battery (Commercial area)^*	124							✓		✓	✓	✓
	Individually calculated tariffs								✓		✓	✓	✓

*Closed to new customers.
^ For the avoidance of doubt, these tariffs apply to large-scale, stand-alone batteries and other large-scale, stand-alone storage technologies.
Table does not show metering capital and non-capital charges

12. Proposed tariff assignment

This section outlines the proposed tariff assignment policy for Evoenergy's network tariffs in the 2024–29 regulatory period. The proposed policy for residential customers is followed by the proposed policy for LV and HV commercial connections.

12.1 Residential

Primary tariff assignment

In the 2019–24 regulatory control period, residential ACT customers with a smart meter were assigned by default to the residential demand tariff and can opt-out to the residential TOU tariff.

In the 2024–29 regulatory period, Evoenergy proposes to continue the theme of this assignment policy with the proposed residential demand and proposed TOU tariffs, as described in section 11. Specifically, residential customers with smart meters will be assigned by default to the proposed residential demand tariff (023, 024), with the choice to opt-out to the proposed residential TOU tariff (017, 018).

From 1 December 2017, the Residential Basic, Residential 5000, and Residential with Heat Pump tariffs have been closed to new Evoenergy customers because these tariffs are not sufficiently cost reflective. Customers assigned to these tariffs can remain on them until they have a smart meter installed.[100]

From 1 July 2024, the existing residential demand tariff (025, 026) and TOU tariff (015, 016) will also be closed to new Evoenergy customers. Customers assigned to these tariffs can remain on them, or can opt-in to the newly proposed residential demand (023, 024) or TOU tariff (017, 018). Given the AEMC's proposed roll out of smart meters, all Evoenergy residential customers will eventually be assigned to a residential demand tariff or TOU tariff.

Secondary tariff assignment

In the 2024–29 regulatory period, residential customers can continue to opt-in to one of the two controlled load ('off-peak') network tariffs. The Off-peak tariffs (codes 060 and 070) apply to controlled loads to encourage electricity usage at off-peak times.

Summary for residential tariffs

Table 33 outlines Evoenergy's proposed residential tariff assignment policy for the 2024–29 regulatory period.

[100] Customers who receive a smart (Type 4) meter in circumstances where this was not customer-initiated (e.g. replacement due to meter failure) can wait up to 12 months before being assigned to the proposed residential demand tariff. This initiative was introduced through the AER's final determination for Evoenergy in the 2019–24 regulatory period.

Table 33 Residential tariff assignment policy

	Default	Opt-out options	Opt-in options
Residential – primary tariff			
New connection Customer initiated meter replacement Replacement meter customers (e.g., due to meter failure)*	Proposed residential demand tariff (codes 023, 024)	Proposed residential TOU tariff (codes 017, 018)	
Residential – secondary tariff			
All residential customers			Off-peak 1 and 3 (codes 060, 070)

Notes: Customers are ineligible to switch to one of these tariffs if they have been on the tariff in the previous 12 months.

When requested by retailers, under specific scenarios, Evoenergy offers to backdate a proposed demand tariff to a proposed TOU tariff once per connection in a 12-month period. Evoenergy reverses and reissues the network bill for no more than 120 calendar days for residential sites. This process applies to the proposed residential demand tariff only.

**Customers who receive a smart (Type 4) meter in circumstances where this was not customer-initiated (e.g. replacement due to a meter failure) can wait up to 12 months before being assigned to the proposed residential demand tariff. This initiative was introduced through the AER's final determination for Evoenergy in the 2019–24 regulatory period.*

Consistent with the AER's decision for Evoenergy in the 2019–24 regulatory period,[101] customers who receive a smart meter as a replacement for a Type 5 or 6 meter can remain on their existing tariff for 12 months before moving to a more cost-reflective network tariff.[102]

Under this arrangement, customers with new connections or customer-initiated meter replacements will be assigned to the proposed residential demand tariff when their smart meter is installed (with the option to opt-out to the proposed residential TOU tariff). However, when a smart meter is installed for any other reason, the shift to a more cost reflective tariff (i.e., the proposed residential demand tariff) will be delayed by 12 months. These customers are able to opt-in to the proposed demand or proposed TOU residential tariffs within the first 12 months of their smart meter installation.

12.2 LV Commercial

Evoenergy implemented refinements to the LV commercial tariff assignment policy in 1 July 2019. Specifically, customers with CT meters[103] are assigned by default to the LV kVA TOU demand tariff, while customers without a CT meter (i.e., with a whole current meter) are assigned by default to the

[101] AER, *Draft Decision – Evoenergy Distribution Determination 2019 to 2024, Attachment 18*, September 2018, pp 18-17 to 18-18.

[102] After the 12-month period, customers will default to the proposed demand tariff with the option to opt-out to the proposed TOU tariff.

[103] CT meters are used to measure a proportion of the current passing through a connection. A multiplier is then applied to estimate the total kWh. Connections to Evoenergy's network that are rated at 100Amps or greater have CTs and the appropriate compliant metering installed.

LV kW demand tariff. Both customer types (those with and without CT meters) have cost-reflective opt-out options, as shown in Table 34.

The LV kW demand tariff is designed for smaller commercial customers (i.e., generally customers without CT meters) who share common assets. These customers tend to have peakier loads than large commercial customers, but because of the diversity of their peaks, these customers are expected to have a lower demand charge. The LV kW demand tariff is better suited to small-medium commercial customers.

LV commercial customers without smart meters can remain on their existing tariff until their meter is replaced with a smart meter. The General Network tariff closed to new connections from 1 December 2017 and will eventually become obsolete as customers receive smart meters and are placed onto more cost-reflective tariffs.

The exception to the above assignment policy is for small unmetered loads (code 135) and streetlighting (code 080). Customers on these tariffs generally have very stable and flat loads, and therefore there is no need to transition these loads onto a more cost-reflective tariff as the customers are unlikely to respond.

For the 2024–29 regulatory period, Evoenergy proposes removing the provision for LV commercial customers with a CT meter to opt-out to the General TOU tariff. This is because it is not designed for large LV commercial customers. The provision to opt-out to the General TOU tariff was a transitionary measure in the 2019–24 period because all LV commercial customers were assigned by default to the General TOU tariff before the commencement of that regulatory period. Hence, the option to return to the General TOU tariff was still available during the 2019–24 regulatory period. Evoenergy now proposes to close the General TOU tariff to new LV commercial customers with a CT meter in the 2024–29 regulatory period.

Large-scale, stand-alone batteries (and other large-scale, stand-alone storage technologies) connected to Evoenergy's distribution LV network will be assigned to tariff code 108 or 109 based on where they are located as follows.

- ~~Large-scale batteries~~Customers located in predominantly residential areas will be assigned to tariff code 108.
- ~~Large-scale batteries~~ Customers located in predominantly commercial areas will be assigned to tariff code 109.

Evoenergy will determine whether the ~~battery's~~ location is defined as residential or commercial on a case-by-case basis. This will ensure that the price signals faced by the large-scale ~~battery~~ storage customer reflect the circumstances that apply in the particular area of the network to which it connects. For example, an area covered by a zone substation that serves primarily residential customers may include pockets of the network with commercial customers and commercial load characteristics.

To be eligible for an LV large-scale battery tariff (codes 108, 109), a customer must:

- be an LV commercial customer;[104]
- have a stand-alone grid-connected battery or other energy storage technology; and
- have a minimum ~~battery~~ storage size of 200kVA.

For completeness, Table 34 shows Evoenergy's proposed LV commercial tariff assignment policy for the 2024–29 regulatory period.

[104] As defined under Evoenergy's Statement of Tariff Classes and Tariffs.

Table 34 LV commercial tariff assignment policy

	Default	Opt-out
LV commercial without a CT meter	LV kW Demand (106, 107)	LV kVA TOU Demand (101, 104) LV kVA TOU Capacity (103, 105) General TOU (090, 091)
LV commercial with a CT meter	LV kVA TOU Demand (101, 104)	LV TOU kVA Capacity (103, 105)
LV commercial operating a large-scale battery (or other storage technology) in a residential area*	Large-scale battery – residential area (108)	None – mandatory default
LV commercial operating a large-scale battery (or other storage technology) in a commercial area*	Large-scale battery – commercial area (109)	None – mandatory default

Notes: Customers are ineligible to switch to one of these tariffs if they have been on the tariff in the previous 12 months.
LV commercial customers with a replacement smart meter can remain on their existing network tariff until 12 months after their smart meter is installed; however, they can opt-out to a cost-reflective LV commercial tariff according to the assignment policy shown in Table 34 above.
*Residential and commercial areas are determined by Evoenergy.

Consistent with the approach for residential customers, customers who have their Type 5 or 6 meter replaced by a smart (Type 4) meter may remain on their existing tariff for 12 months before moving to a more cost-reflective network tariff.[105]

Under this arrangement, customers with new connections or customer-initiated meter replacements continue to be assigned to their existing tariff. These customers are able to opt-in to more cost reflective LV commercial tariffs within the first 12 months of their Type 4 meter being installed. When a smart meter is installed for any other reason, the customer is assigned to the default tariff, as per Table 34.

[105] AER, *Draft Decision – Evoenergy Distribution Determination 2019 to 2024, Attachment 18*, September 2018, pp 18-17 to 18-18.

12.3 HV commercial

Evoenergy proposes to assign all new HV commercial connections – with the exception of large-scale stand-alone batteries or storage ~~-~~and new customers that connect at or above 66kV – to the HV TOU demand network tariff (code 122) by default.[106] On this tariff, the customer owns and is responsible for the LV and HV assets at their premises, which are on the customer side of the connection point to the network.

Tariff 111 and tariff 121 have been closed to new connections since 1 July 2019. Existing customers assigned to those tariffs can remain on them or switch to tariff 122 following consultation with Evoenergy.

Large-scale, stand-alone batteries (and other large-scale, stand-alone storage technologies) connected to Evoenergy's distribution HV network will be assigned by default to tariff code 123 or 124 based on where they are located, as follows:

- Customers located in predominantly residential areas will be assigned to tariff code 123.
- Customers located in predominantly commercial areas will be assigned to tariff code 124.

Evoenergy will determine whether the ~~battery~~ customer is located in a residential or commercial area.

To be eligible for an HV large-scale battery tariff (codes 123, 124), a customer must:

- be an HV commercial customer;[107]
- have a stand-alone grid-connected battery or other energy storage technology; and
- have a minimum ~~battery~~ storage size of 200kVA.

New customers with a network connection at 66kV or above will be assigned by default to a new ICC tariff, as described in section 11, and may opt-out to the HV TOU demand tariff (122) or ~~, for batteries,~~ to the applicable tariff for large~~-~~scale batteries and other storage technologies ~~y tariff~~ (123 or 124).

Table 35 HV commercial tariff assignment policy

	Default	Opt-out
HV commercial	HV TOU demand network – Customer HV and LV (122)	None – mandatory default
HV commercial operating a large-scale battery (or other storage technology) in a residential area*	Large-scale battery – residential area (123)	None – mandatory default
HV commercial operating a large-scale battery (or other storage technology) in a commercial area*	Large-scale battery – commercial area (124)	None – mandatory default
New customers with a network connection at 66kV or above	Individually calculated customer (ICC) tariffs	Opt-out to tariff 122 or, for battery/~~batteries~~storage customers, to tariffs 123 or 124

*Residential and commercial areas are determined by Evoenergy.

[106] HV TOU Demand Network – Customer LV & HV (Code 122)
[107] As defined under Evoenergy's Statement of Tariff Classes and Tariffs.

12.4 Tariff assignment summary

Table 36 below summarises the assignment criteria that applies to each of Evoenergy's tariffs, with default tariffs shaded blue.

Table 36 Summary of tariff assignment criteria

Tariff class	Tariff	Tariff code	Assignment Criteria for customers in each tariff class
Residential	Basic	010	Closed to new customers*
	TOU	015	Closed to new customers*
	Residential 5000	020	Closed to new customers
	Residential heat pump	030	Closed to new customers
	Demand	025	Closed to new customers*
	New TOU	017	Opt-out from tariff 023
	New Demand	023	Default for customers with a type 4 meter
	Off-peak (1) Night	060	Secondary tariff, opt-in for residential and commercial customers (tariff 040, 090 and 106 only) with a controlled load element.
	Off-peak (3) Day & Night	070	Secondary tariff, opt-in for residential customers with a controlled load element.
LV Commercial	General	040	Closed to new customers
	General TOU	090	Opt-in from any tariff, except battery / storage tariffs
	LV TOU kVA demand	101	Default for customer with a type 4 meter and a current transformer meter
	LV TOU kVA capacity	103	Opt-in from tariff 101
	LV kW demand	106	Default for customer with a type 4 meter
	Streetlighting	080	Eligibility determined by Evoenergy
	Small unmetered loads	135	Eligibility determined by Evoenergy
	New LV Battery (Residential area)	108	Default for LV battery / storage customers in residential areas
	New LV Battery (Commercial area)	109	Default for LV battery / storage customers in commercial areas
HV Commercial	HV TOU Demand	111	Closed to new customers
	HV TOU Demand – Customer LV	121	Closed to new customers
	HV TOU Demand – Customer LV & HV	122	Default for new customers, except for batteries and connections at 66kV or above
	New Battery (Residential area)	123	Default for HV battery / storage customers in residential areas
	New Battery (Commercial area)	124	Default for HV battery / storage customers in commercial areas
	New Individually calculated tariffs, as required		Default for customers that connect at 66 kV or above. (can opt-out to 122, 123 or 124 as applicable)

*Assigned to tariff 023 twelve months after a type 4 meter installation.

13. Consideration of contingent tariff adjustments

Evoenergy's proposed TSS, published in January 2023, included a contingent tariff adjustment mechanism. The mechanism was a response to the uncertainty faced over the 2024−29 period in relation to the ACT's energy transition and the impacts on the electricity network. Under the proposed mechanism, Evoenergy would retain the ability to change certain aspects of its tariff structure if a demand-related trigger event occurred within the regulatory period. This is in contrast to the typical regulatory treatment of network tariffs, whereby the tariff structure is 'locked' for the entire five-year regulatory period.[108]

Evoenergy no longer proposes to implement the contingent tariff adjustment mechanism in the 2024−29 period. This follows other tariff changes outlined in this revised TSS, along with updated load profile analysis as described in section 11. Instead, the tariff changes initially contemplated as contingent adjustments have been addressed through other aspects of Evoenergy's revised TSS, as outlined in Table 37.

Table 37 Removal of contingent tariff changes in Evoenergy's revised TSS.

Contingent tariff changes (Proposed TSS, January 2023)	Why it is no longer required in the revised TSS
Extending the evening peak period on the residential demand and TOU tariffs to 5pm–9pm AEST	Evoenergy's revised TSS incorporates an extended evening peak within the proposed new residential and demand tariffs. Based on updated load profile analysis, the new tariffs already include an evening peak of 5pm–9pm AEST to apply from 1 July 2024. This is one hour longer than the initial proposal of 5pm–8pm AEST in Evoenergy's proposed TSS. Evoenergy's revised TSS also adds a morning peak period (7am–9am AEST) within the proposed residential TOU tariff. The morning peak responds to recent demand trends showing the impacts of customers transitioning from gas to electric heating.
Mandatory assignment of EV owners to cost reflective tariffs.	The AER draft decision did not accept Evoenergy's proposed contingent adjustment to mandatorily assign EV owners to cost-reflective tariffs. The AER noted this was inconsistent with NER requirements. Evoenergy has accepted the position in the AER's draft decision.
Reducing the inclining block threshold on the proposed residential TOU tariff	Evoenergy has simplified its proposed residential TOU tariff, which no longer includes inclining block charges in the off-peak period (section 11). Therefore, this contingent tariff adjustment no longer applies in Evoenergy's revised TSS.

Removing the contingent tariff adjustments is also an opportunity to respond to feedback from customers and retailers about the need to avoid unnecessary tariff complexity (see section 5). Following the publication of Evoenergy's initial TSS proposal in January 2023, retailers provided feedback that mid-period changes to network tariffs were undesirable because they created additional administrative complexity and cost.

Evoenergy also heard feedback from customers which expressed the desire for greater transparency and customer education around network tariffs. The removal of the contingent tariff adjustments provides customers with more simple and stable tariffs over the 2024−29 period. This will allow

[108] While the structure of tariffs is typically unchanged during the regulatory period, the price levels are updated each year to account for up-to-date data including inflation, demand, jurisdictional costs and transmission costs.

customers and retailers to become familiar with Evoenergy's new network tariffs during 2024−29, while avoiding the uncertainty and complexity associated with mid-period tariff changes.

Notwithstanding the removal of the contingent tariff adjustments, Evoenergy notes the operation of NER clause 6.18.1B(b) which allows a TSS to be amended with the AER's approval. A request to amend a TSS can be made in response to an event that was beyond the reasonable control of a distribution business and could not reasonably have been foreseen. If it becomes necessary to utilise this clause during 2024−29, Evoenergy will notify the AER and engage with relevant stakeholders in accordance with the requirements of the NER.

14. Indicative network bill impacts

This section presents indicative network bill impacts based on the prices presented in the Indicative Pricing Schedule.[109] All indicative network bill impacts in this section are based on a network bill that includes distribution use of system (DUOS) charges, transmission use of system (TUOS) charges and costs related to jurisdictional scheme (JS) charges. The combined result of these network bill components is often referred to as the network use of system (NUOS) bill.

NUOS costs make up around half of ACT customers' retail bills, as shown in Figure 7 in section 3. The analysis described in this section presents only the NUOS bill component paid by retailers. The ultimate effect on customers depends significantly on the extent to which retailers pass on the network tariff structure and prices within their retail tariffs.

14.1 Residential indicative bill impacts

The effect of tariff reform on customers' network bills varies depending on the timing and level of their network use. Evoenergy therefore presents residential bill impacts for different levels of network use which are representative of different types of customers on the network.

Another important consideration for the 2024–29 regulatory period is the expected replacement of basic accumulation meters with smart meters. This will increase the number of ACT customers that can be transitioned to cost-reflective tariffs using the approach described in section 12.

The discussion below presents indicative network bill impacts for customers moving to more cost reflective tariffs in a particular year. This is followed by additional analysis of the likely customer bill impacts over the course of the 2024–29 regulatory period.

Network bill impacts from moving to more cost reflective tariffs

Evoenergy has set network prices so that most customers will benefit from moving to more cost-reflective tariff options, in recognition of the long-term benefits associated with more efficient network pricing. In practice, this involved Evoenergy setting prices so that residential customers are typically:

- better off on the proposed residential demand tariff – being the default tariff for new customers; and
- better off on either of the proposed residential demand or TOU tariffs, compared to the existing residential basic, TOU, or demand tariffs.

Evoenergy's analysis indicates that the proposed residential demand tariff would provide a lower overall network bill for a range of different customer types, as summarised in Table 38. This includes a typical residential customer with no solar PV; a typical residential customer with solar PV; and a typical working family.

[109] Evoenergy, *Appendix 4.2 - Indicative Pricing Schedule,* November 2023.

Table 38 Indicative bill impacts for different residential customer profiles (2024/25)

			Annual network bill		
	Energy consumption (kWh)	Maximum demand (kW)	Residential Basic tariff	Proposed TOU tariff	Proposed demand tariff
Typical customer with no solar	7,139	4.49	$634	$595	$569
Typical customer with solar installation (net metered)	6,663	4.48	$600	$564	$556
Working family	7,606	4.08	$667	$626	$582

Figure 35 illustrates a similar outcome for a typical ACT customer across a range of different network tariffs and for different levels of energy use. It shows that a representative residential customer would pay a slightly lower average NUOS price by moving from the basic tariff (yellow line) to the proposed TOU tariff (orange line), irrespective of their annual consumption. Further, it shows that, if they were an 'average peaking' customer, they would be even better-off if they moved to Evoenergy's proposed demand tariff (blue line).

Figure 35 also shows that high peaking customers can expect to incur a higher average NUOS price than average or low peaking customers on the proposed demand tariff. This is because the proposed demand tariff is designed to more accurately reflect network costs imposed by customers. Given that high peaking customers typically impose higher network costs than low peaking customers, the demand tariff bill reflects the network cost differential.

Figure 35 Average NUOS price for basic, current and proposed TOU and demand tariffs (2024/25)

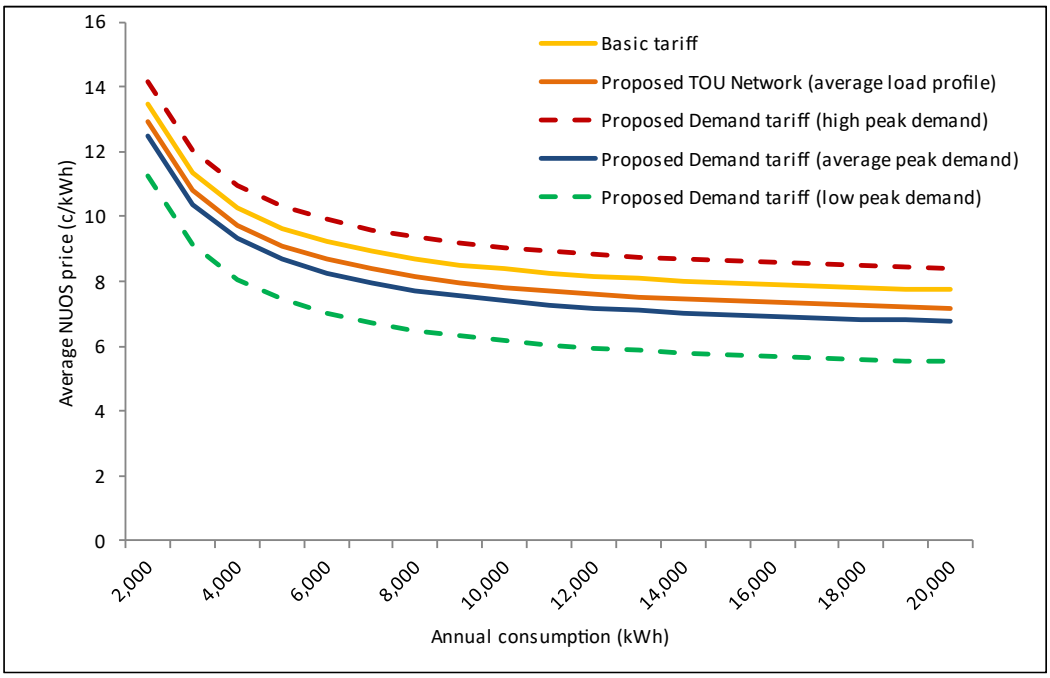


Figure 36 below shows a similar outcome, but by reference to Evoenergy's existing and proposed TOU and demand tariffs. It indicates that a representative (average peaking) residential customer would be:

- no worse off on a demand tariff than a TOU tariff; and
- better off[110] on either of the two proposed TOU or demand tariffs, compared to the existing TOU and demand tariffs.

Figure 36 Average NUOS price for current and proposed TOU and demand tariffs (2024/25)

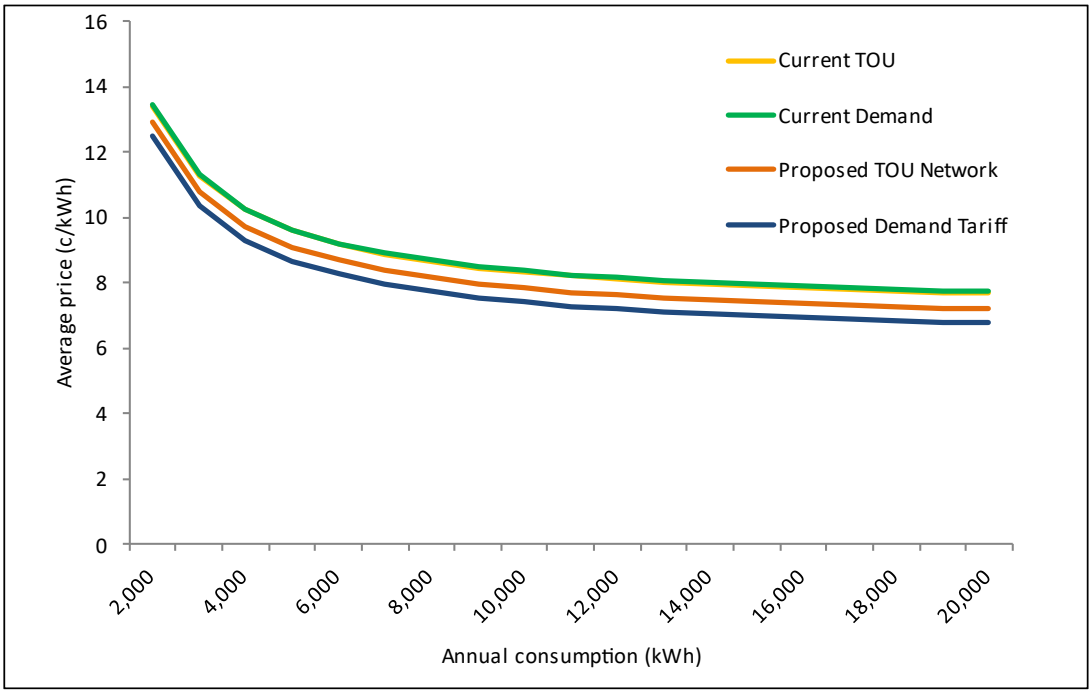


Figure 36 demonstrates that the average customer would be better off on the new demand and TOU tariffs compared to the existing offerings, even after accounting for the extended peak window associated with the proposed tariffs.

Table 39 below illustrates the indicative network bill in 2024/25 for representative ACT residential customers with different levels of consumption and peak demand on the residential basic, proposed TOU, and proposed demand tariffs. The right-hand side of the table shows the absolute change in their network bill after moving from the residential basic tariff.

Table 39 indicates that an average residential customer consuming 7,000kWh per annum with average peak demand would be better-off by $68 in 2024/25 if they switched from the basic tariff to the proposed demand tariff.

Table 39 also shows that moving to the proposed residential demand tariff is likely to:

- benefit customers with average or low levels of demand, regardless of whether they have low, average, or high levels of consumption; and
- slightly increase the network bill for customers with unusually high levels of demand.

The increase in network bills for customers with unusually high levels of demand reflects:

- the higher level of costs these customers impose on the network; and

[110] 'Better off' in this context refers to a lower average NUOS price.

- a higher incentive for these customers to manage their peak demand.

Table 39 Estimated change in network bills (indicative 2024/25)

	Total annual network bill ($ pa)			Difference from Basic tariff (negative values are savings) ($ pa)		
Annual consumption (kWh)	**4,000 (low)**	**7,000 (avg)**	**10,000 (high)**	**4,000 (low)**	**7,000 (avg)**	**10,000 (high)**
Residential Basic tariff	$411	$624	$837	N/A	N/A	N/A
Proposed Residential TOU tariff (average profile)	$389	$586	$782	-$22	-$38	-$55
Proposed Residential kW Demand tariff (low demand)	$323	$469	$616	-$88	-$155	-$221
Proposed Residential kW Demand tariff (average demand)	**$372**	**$556**	**$740**	**-$39**	**-$68**	**-$97**
Proposed Residential kW Demand tariff (high demand)	$438	$672	$905	$27	$47	$68

Network bill impacts over time

Evoenergy expects that customers will experience unusual levels of volatility in the network component of their electricity bill over the 2024−29 regulatory period. A key reason for this volatility is the significant change in the cost of jurisdictional schemes that Evoenergy is required to recover from ACT customers.

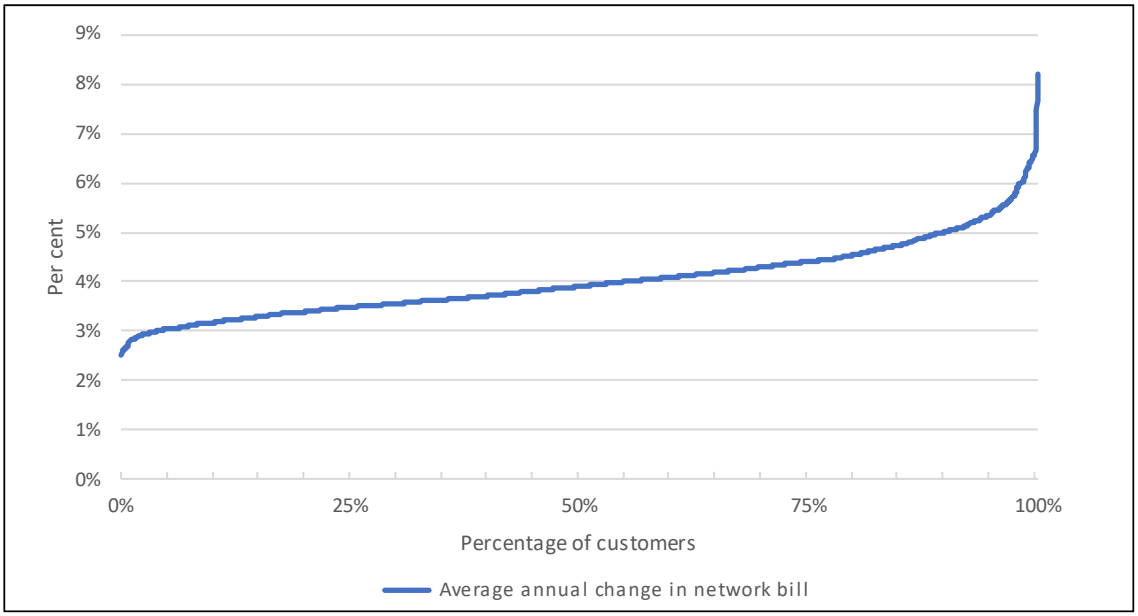
Since this volatility in network bills is not caused by Evoenergy's proposed tariff reforms, the year-on-year network bill impacts for residential tariffs are assessed over the period:

- starting in 2023/24, being the penultimate year of the 2019−24 regulatory period; and
- ending in 2028/29, being the final year of the 2024−29 regulatory period.

Figure 37 to Figure 39 below present the distribution of network bill impacts, as measured on the vertical axis which shows the average annual bill increase over the period. Further, the markings on the horizontal axis indicate the lower quartile, median and upper quartile bill impacts.

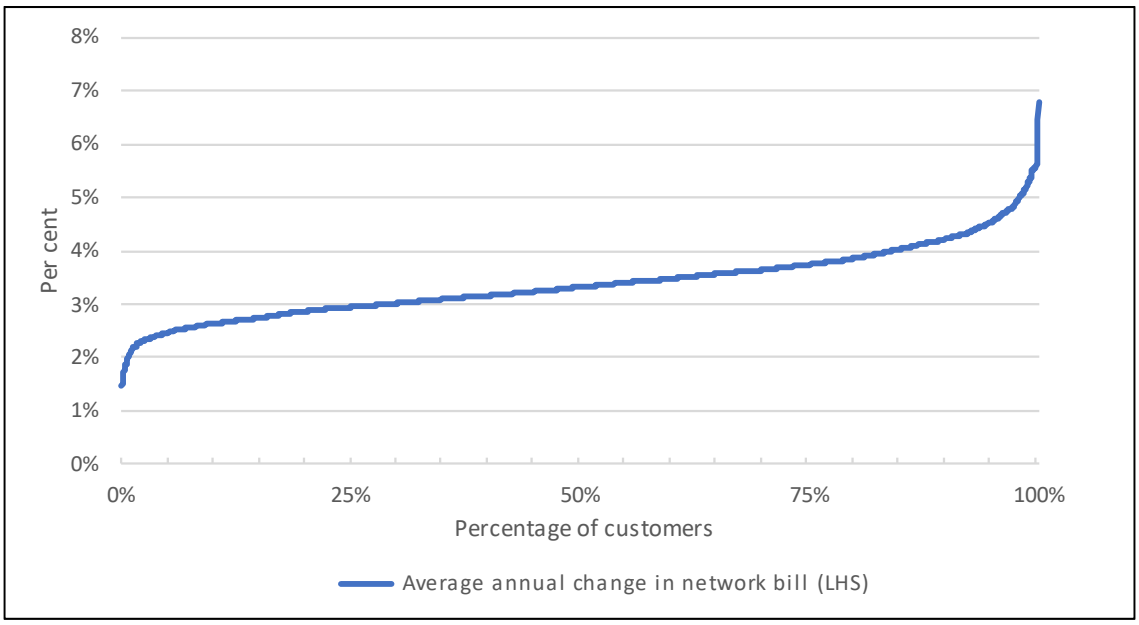
Figure 37 to Figure 39 indicates that over the period from 2022/24 to 2028/29, the median annual bill impact for residential customers is between 3 to 4 per cent per annum for customers on the residential basic tariff, the existing TOU tariff and the existing demand tariff.

Figure 37 Network bill impact – Basic tariff (2023/24 to 2028/29)



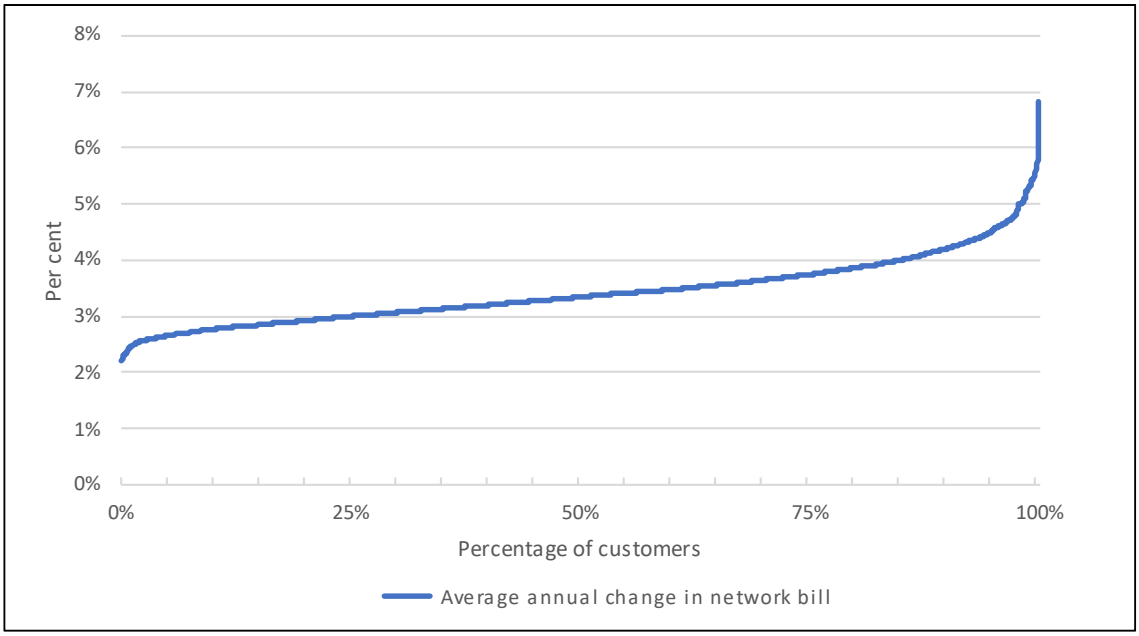
Source: Evoenergy sample of 1,989 residential customers.

Figure 38 Network bill impact – existing TOU tariff (2023/24 to 2028/29)



Source: Evoenergy sample of 1,989 residential customers.

Figure 39 Network bill impact – existing demand tariff (2023/24 to 2028/29)



Source: Evoenergy sample of 1,989 residential customers.

It is not possible to apply this analysis to the proposed demand or proposed TOU tariffs, since these tariffs did not apply in the 2019-24 regulatory period, which is the starting point for the above analysis. However, Evoenergy expects that the network bill impacts from year-to-year for the proposed demand and TOU tariffs will closely mirror the existing demand and TOU tariffs (as illustrated above). This is because Evoenergy's approach to pricing retains the relativities between the proposed and existing tariffs, as shown in Figure 35 and Figure 36 at the start of this section.

14.2 Low voltage commercial indicative bill impacts

Consistent with its approach in previous years, Evoenergy has designed its LV commercial tariffs so that customers are typically:

- better-off on the General TOU tariff (090) or LV kW Demand tariff (106), compared to the General network tariff (040);
- even better-off (or indifferent) on the LV TOU kVA Demand (101) or LV TOU Capacity (103) tariffs; and
- large scale batteries (and other large-scale storage technologies) face efficient price signals, while being supported through their initial connection period with a lower contribution to the recovery of Evoenergy's residual costs.

Figure 40 shows that LV commercial customers on the General network tariff would be better-off on either the LV kW demand tariff or General TOU tariff, which provides incentives to opt-in to relatively more efficient tariffs. It also shows that LV commercial customers with high maximum demand are likely to receive a higher network bill on the LV kW demand tariff, in comparison to the General network tariff, which reflects the additional costs they impose on the network.

Figure 40 Average NUOS prices for general, general TOU and LV kW demand tariffs (2024/25)

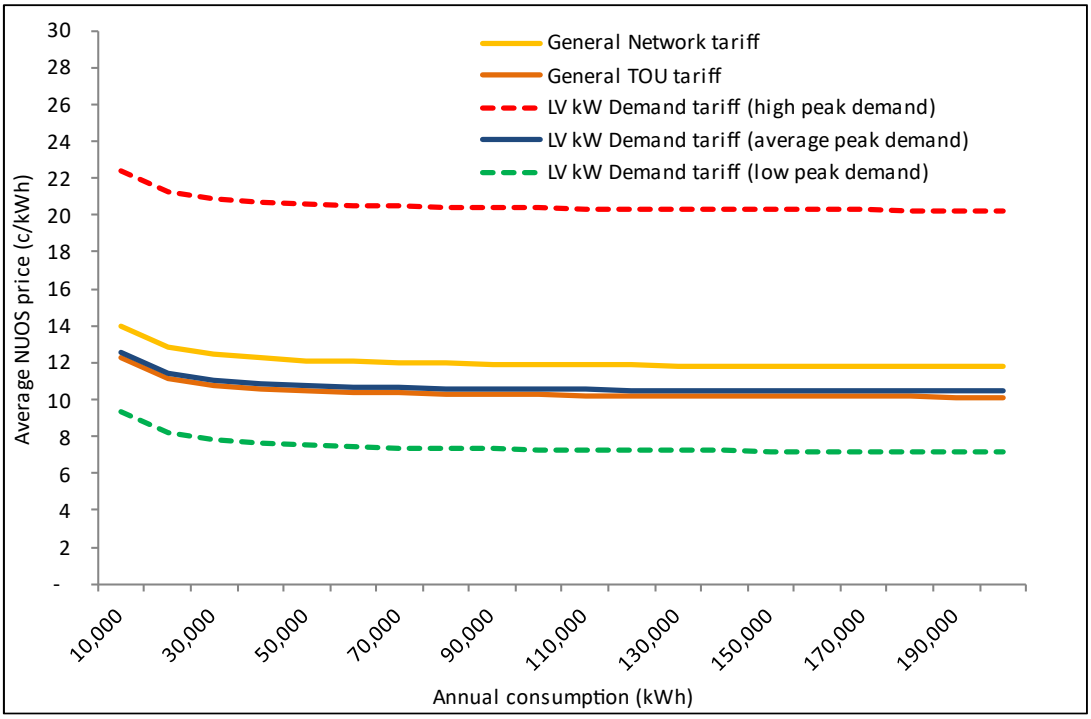


Figure 41 presents a comparison of the average NUOS price for customers with different levels of energy use and demand profiles on the LV TOU kVA demand tariff (solid lines) and the LV TOU capacity tariff (dotted lines).

It shows that regardless of how much energy a customer uses and their demand profile, customers will generally be slightly better-off on the LV TOU capacity tariff, in comparison to the LV TOU kVA demand tariff. It also shows that, under either tariff, a customer's network bill increases with the peakiness of their demand, which reflects the costs they impose on the network.

The average NUOS prices faced by customers on the LV TOU capacity tariff and LV TOU kVA demand tariff (Figure 41) are also lower than the average NUOS price paid by similar customers on the LV kW demand tariff, as illustrated in Figure 40 above. This provides an incentive for customers to opt-in to the more cost reflective LV TOU capacity tariff and LV TOU kVA demand tariffs.

Figure 41 Average NUOS prices for LV TOU kVA and LV TOU capacity tariffs (2024/25)

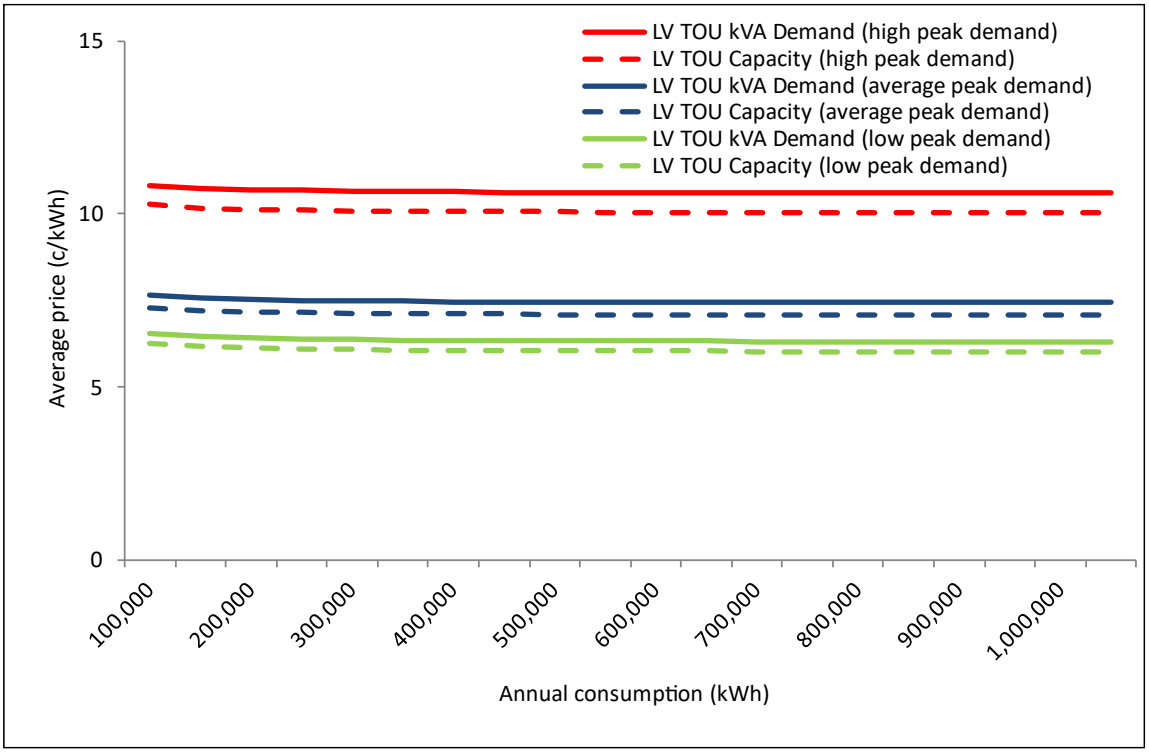
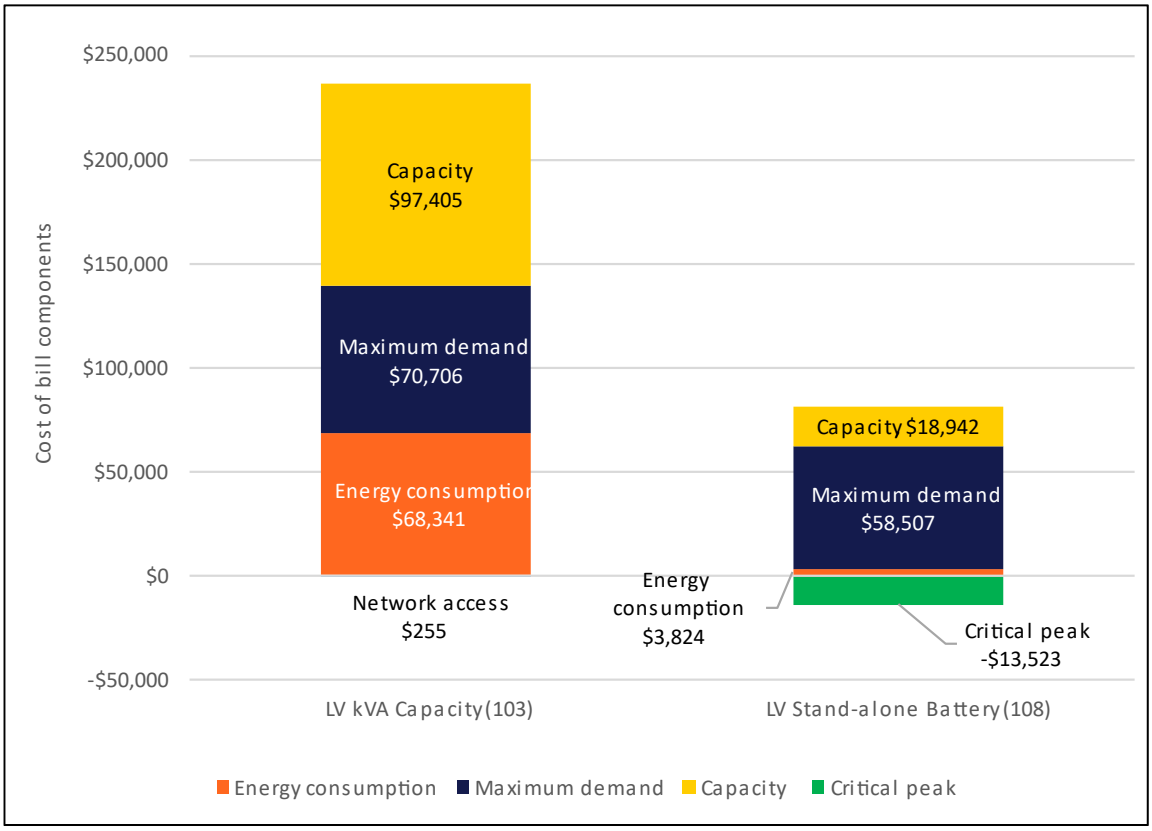


Figure 42 compares the average NUOS bill for a ~~large-scale battery operator~~customer on the new LV large scale battery tariff (in a residential area of the network), compared to their NUOS bill on the LV kVA capacity tariff.

Evoenergy's proposed LV large scale battery tariff retains the efficient features of the LV kVA capacity tariff, with similar costs signalled through the maximum demand charge, while supporting the uptake of large-scale batteries and other large-scale storage technologies through the remaining charges.

Figure 42 LV large scale battery tariff annual bill comparison, 2024/25



14.3 High voltage commercial tariffs

Figure 43 to Figure 45 present the average NUOS prices for customers on each of Evoenergy's three HV commercial tariffs.

- HV TOU Demand Network tariff (111)
- HV TOU Demand Network tariff – customer LV (121)
- HV TOU Demand Network tariff – Customer HV and LV (122)

Figure 43 to Figure 45 show that on each of the three HV commercial tariffs, customers with higher demand face a higher average NUOS price. A comparison of the three figures shows that customers typically face a lower average network price on tariff 122 compared to the 121 and 111 tariffs. This is because customers on tariff 122 own and are responsible for their own HV assets (including transformers and switching gear).

Figure 43 Average NUOS price for HV tariff code 111, 2024/25

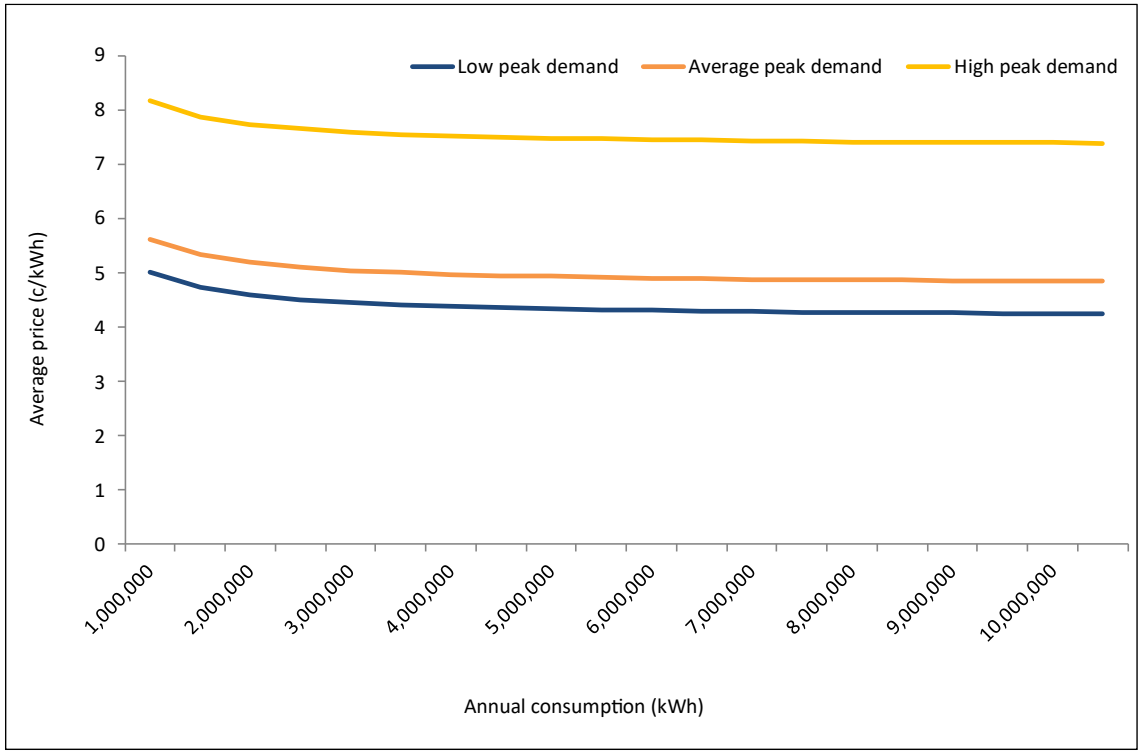


Figure 44 Average NUOS price for HV tariff code 121, 2024/25

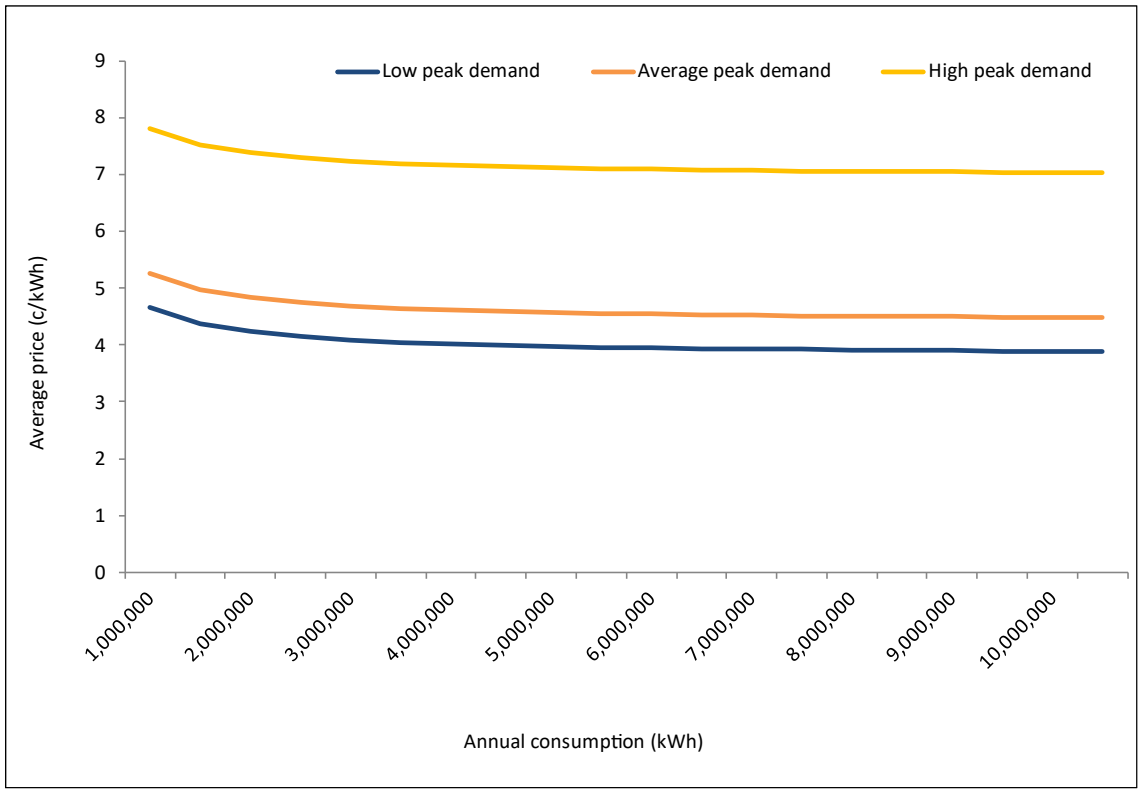


Figure 45 Average NUOS price for HV tariff code 122, 2024/25

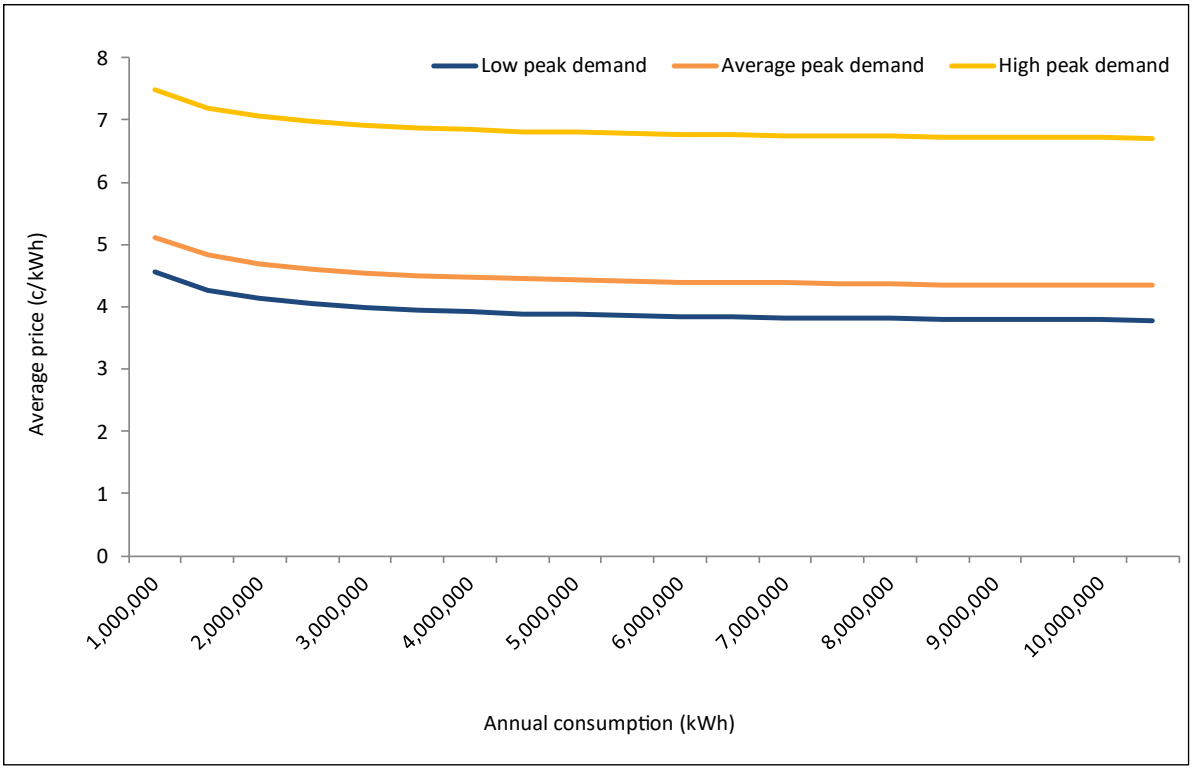
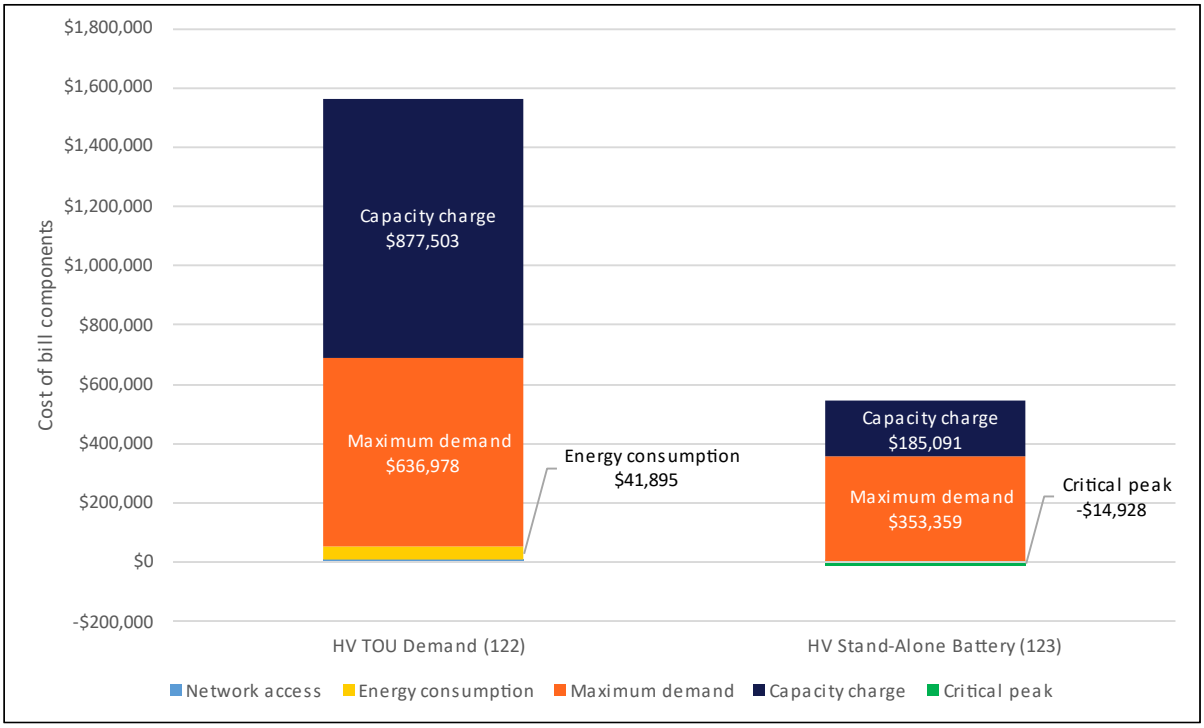


Figure 46 presents a comparison of the average NUOS bill for a ~~large-scale battery operator~~customer on the proposed HV large-scale battery tariff (~~for batteries located~~ in a residential area of the networks~~s~~), compared to their NUOS bill on the HV TOU demand tariff, code 122.

The proposed HV large-scale battery tariff retains the efficient features of the HV TOU demand tariff structure, with similar costs signalled through the maximum demand charge, while supporting the uptake of large-scale batteries and other large-scale storage technologies through the remaining charges.

Figure 46 HV large scale battery annual bill comparison, 2024/25



15. Alternative control services

The AER has classified Evoenergy's Network Ancillary Services, Type 5 and Type 6 metering services,[111] Public Lighting Service,[112] Enhanced connection service, and Connection and application management services as Alternative Control Services (ACS) for the 2024–29 regulatory period.[113] Evoenergy has continued with this classification for its revised regulatory proposal.

The form of control mechanism applied to ACS under the NER must have a basis stated in the distribution determination and may (but need not) use elements of Part C of clause 6.26 of the NER (with or without modification).

Evoenergy's ACS proposal will benefit customers through cost-reflective prices, set transparently and subject to a defined price path over the regulatory period. Customers will only bear the costs of these services if and when they are required. ACS are often customer specific or requested services, that are billed on a per service basis to individual customers.

Evoenergy accepts the AER's determination in its framework and approach paper that the form of control mechanism for ACS will be price caps on individual services. Clause 6.2.6(b) of the NER provides that the control mechanism must have a basis stated in the distribution determination.

Evoenergy proposes the following basis for the control mechanisms.

- for metering services, a limited building block approach, consistent with the approach in the 2019–24 regulatory period; and
- for network ancillary services, a cost build-up approach, consistent with the approach in the 2019–24 regulatory period.

Evoenergy considers this to be the most appropriate basis when assessed against the criteria set out in clause 6.2.5(d) of the NER (discussed further below).

A detailed explanation of ACS is included in section 8.8 of Evoenergy's revised regulatory proposal.[114]

15.1 Metering services (Types 5 and 6)

For the 2024–29 regulatory period, Evoenergy proposes to retain the ACS classification and the individual price cap form of control for metering services. Evoenergy proposes classification of the following metering services as ACS:

- Types 5 and 6 metering data services, which includes collection, processing, storage, and delivery
- scheduled meter reads
- maintaining and repairing meters and load-control equipment
- meter testing during business hours (refunded to customer if meter proves faulty); and
- special meter reading or check (refunded to customer if original reading was incorrect).

[111] The AER's draft decision found the AEMC's Final Report for its review of the regulatory framework for metering service constituted a material change in circumstances, and that Type 5 and Type 6 metering services may be better classified as a Standard Control Service. Evoenergy's revised proposal seeks to maintain the ACS classification for Type 5 and Type 6 metering services but to classify any new obligations that may arise from the review and subsequent rule change as Standard Control Services.

[112] Note, Evoenergy doesn't provide a public lighting service.

[113] AER, *Framework and Approach for Evoenergy*, July 2022, p. 6

[114] Evoenergy, Revised regulatory proposal, ACT electricity distribution network 2024−29, 30 November 2023.

Evoenergy proposes to apply a building block approach to determine the price caps for all metering services. Evoenergy's proposed approach to metering is effectively a continuation of the approach used in the 2019–24 control period, with the same post-tax revenue model (PTRM), roll-forward model (RFM), and tax asset base in place. These have been updated to reflect the AER's inflation review final position[115] and the AER's regulatory tax approach review findings[116] .

Under clause 6.8.2(c)(3)) of the NER, Evoenergy is required to include in its regulatory proposal "for direct control services classified under the proposal as alternative control services – a demonstration of the application of the control mechanism, as set out in the framework and approach paper, and the necessary supporting information". The formula for metering services, as set out in the Framework and Approach paper, is set out in Box 2 below.

Box 2 - Formula for metering services

$\bar{p}_t^i \geq p_t^i$ i=1,...,n and t=1, 2, … ,5

$\bar{p}_t^i = \bar{p}_{t-1}^i \times (1 + \Delta CPI_t) \times (1 - X_t^i) + A_t^i$

where:

$\bar{p}_t^i$ is the cap on the price of service i in year t.

p_t^i is the price of service i in year t. The initial value is to be decided in the distribution determination.

$\bar{p}_{t-1}^i$ is the cap on the price of service i in year t–1.

t is the regulatory year with t = 1 being the 2024/25 financial year.

ΔCPI_t is the annual percentage change in the Australian Bureau of Statistics (ABS) Consumer Price Index (CPI) All Groups, Weighted Average of Eight Capital Cities from the December in year t–2 to the December in year t–1. For example, for the 2024/25 year, t-2 is December 2022 and t-1 is December 2023. If the ABS do not or ceases to publish the index, then CPI will mean an index which the AER considers is the best available alternative index.

X_t^i is the X-factor for service i in year t. The X-factors are to be decided in the distribution determination.

A_t^i is the sum of any adjustments for service i in year t and is to be decided in the distribution determination.

Source: AER, *Final framework and approach for Evoenergy, July 2022*, Figure 3.2, page 34.

Evoenergy will demonstrate compliance with the control mechanism by multiplying the price for each service in the previous year by CPI–X (rounded to the same number of decimal places as currently applied) and comparing that to the proposed price. Prices equal to or less than equal to the calculated price are compliant. Evoenergy will demonstrate this compliance in its annual network pricing proposals to be submitted to the AER in each year of the 2024−29 regulatory period.

15.2 Ancillary services

In the Framework and Approach paper, the AER classified Evoenergy's ancillary services as ACS for the 2024–29 regulatory period. It determined that the control mechanism would be price caps on

[115] AER, *Final position paper: Regulatory treatment of inflation*, December 2020.
[116] AER, *Final report: Review of regulatory tax approach*, December 2018.

individual services. Evoenergy accepts this classification and proposes to adopt a cost build-up approach to determining the price caps for individual ancillary services.

In most cases, the cost of ancillary services largely comprises labour, with limited use of materials, equipment, and vehicles. Evoenergy proposes increasing the labour rates per the escalation rates sourced from BIS Oxford Economics.

Evoenergy proposes to set the prices for quoted services using the formula in Box 3.

Box 3 – Formula for quoted services

Price = Labour + Contractor services + Materials + Margin + Tax

Where:

- **Labour** (including on-costs and overheads) – consists of all labour costs directly incurred in the provision of the service which may include but is not limited to labour on-costs, fleet on-costs and overheads, and other associated delivery costs including overheads. The labour cost for each service is dependent on the skill level and experience of the employees involved, time of day the service is undertaken, travel time, number of site visits, and crew size required to complete the service.
- **Contractor services** – reflect all costs associated with the use of external labour including overheads and any direct costs incurred. The contracted service charge applies the rates under existing contractual arrangements. Direct costs are passed on to the customer.
- **Materials** (including overheads) – reflects the cost of materials directly incurred in the provision of the service, material storage, and logistics on-costs and overheads.
- **Margin** – reflects a return commensurate with the regulatory and commercial risks involved in the provision of a service.
- **Tax** – reflects taxation costs arising from the provision of services that are capitalised for accounting purposes.

Source: AER, Final framework and approach for Evoenergy, July 2022, Figure 3.3, page 35.

Price caps apply to the labour rates used in this formula. Evoenergy will demonstrate compliance with the formula by providing its annual calculation of labour rates to the AER in its annual pricing proposals. The AER will review the rates as part of the annual network pricing approval process each year.

Price caps only apply to labour costs, rather than all cost inputs, which helps reduce administrative costs, as Evoenergy will not be required to identify for AER approval, every input cost that may be required to perform a quoted service. This approach will also result in cost-reflective charges.

Inclusion of a margin component in the quoted services price cap formula

Evoenergy proposes to include a margin component in the quoted services price cap formula for the 2024–29 regulatory period. The inclusion of a margin is consistent with the principle of competitive neutrality, as margins are included in prices that would be observed for similar services in a competitive market.

The AER's final Framework and Approach paper included a margin component for quoted services, which has been accepted in recent regulatory determinations for other jurisdictions.[117]

[117] AER, *Framework and approach for Evoenergy*, July 2022, p. 36.

Including a margin is consistent with the revenue and pricing principles in the NEL, where 'a price or change for the provision of a direct control network service should allow for a return commensurate with the regulatory and commercial risks involved in providing the direct control network services to which that price or change relates'.[118]

Inclusion of a tax component in the quoted services price cap formula

Evoenergy proposes to include a tax component in the quoted services price cap formula for the 2024–29 regulatory period. Including a tax component will allow quoted services to be more cost-reflective and is consistent with the approach outlined by the AER in its Framework and Approach paper.[119]

When providing quoted services, Evoenergy often incurs tax obligations arising from the capital-intensive nature of the work undertaken for customers. Costs to cover these tax obligations have not been recovered from customers because they have not been included in the quoted services pricing formula approved by the AER. Evoenergy proposes to estimate the tax component in the same way it is estimated for standard control services. That is, the tax component reflects an estimate of the tax payable based on revenue less expenses and applying the company tax rate. Currently, the company tax rate applied to Evoenergy is 30 per cent.

Itemised quotes for customers

Evoenergy supports greater transparency of quoted services. As is current practice, Evoenergy will continue to provide customers with itemised quotes showing each cost component to demonstrate compliance with the control mechanism formula.

This approach will allow customers to compare price offerings across providers over time and provide transparency in the pricing of quoted services.

[118] NEL section 7A (5)
[119] AER, *Framework and approach for Evoenergy*, July 2022, p. 37.

Glossary

Term	Meaning
ABS	Australian Bureau of Statistics
ACS	Alternative Control Services
ACT	Australian Capital Territory
ACTCOSS	Australian Capital Territory Council of Social Services
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
AEST	Australian Eastern Standard Time
AIC	Average Incremental Cost
BEL	Basic Export Level
c	Cents
Capex	Capital Expenditure
CP	Critical Peak
CPI	Consumer Price Inflation
CT	Current Transformer
DER	Distributed Energy Resources
DNSP	Distribution Network Service Provider
DSO	Distribution System Operator

Term	Meaning
DUOS	Distribution Use of System Charges
ECRC	Energy Consumer Reference Council
EN24	Electricity Distribution Network Determination 2024-29
EV(s)	Electric Vehicle(s)
FCAS	Frequency Control Ancillary Services
GW	Giga Watt
GWh	Giga Watt hour
HEMS	Home Energy Management Systems
HV	High Voltage
IAP2	International Association for Public Participation
ICRC	Independent Competition and Regulatory Commission
ICT	Information Communication Technology
JS	Jurisdictional Scheme Charges
kVA	Kilo Volt Ampere
kVAh	Kilo Volt Ampere hour
kW	Kilo Watt
kWh	Kilo Watt Hour
LRMC	Long Run Marginal Cost

Term	Meaning
LV	Low Voltage
MVA	Mega Volt Ampere
MW	Mega Watt
MWh	Mega Watt Hour
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Rules
NMI	National Metering Identifier
NSW	New South Wales
NUOS	Network Use of System charges
NZ45	Net Zero 2045
Opex	Operating Expenditure
PV	Photovoltaic
QoS	Quality of Supply
TOU	Time of Use
TSES	Tariff Structure Explanatory Statement
TSS	Tariff Structure Statement
TUOS	Transmission Use of System