Attachment 1: Revised Proposed Tariff Structure Statement

Revised regulatory proposal for the ACT electricity distribution network 2019–24
November 2018

evoenergy

1 Table of contents

2 List of tables

1 Introduction

Evoenergy owns and operates the electricity network in the Australian Capital Territory (ACT), and gas networks in the ACT and surrounding areas in New South Wales (NSW). Within the ACT, Evoenergy operates and maintains a network of poles, wires, transformers and other equipment to distribute electricity safely and reliably to consumers. The Evoenergy network is an essential part in the process of moving electricity from where it is generated to where it is used by consumers.

This Tariff Structure Statement (TSS) provides Evoenergy consumers, and other stakeholders, with clear and accessible information about proposed reforms to Evoenergy's current network tariffs.

- Appendix 1.1 contains an explanatory statement which provides a more detailed explanation of this Revised TSS.
- Appendix 1.2 contains an indicative network pricing schedule for each year of the 2019-24 regulatory period.

The National Electricity Rules (Rules)[1] require 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.[2]

This is Evoenergy's second TSS. Once approved by the AER, the TSS will remain in place for the entire regulatory period (that is, from 1 July 2019 until 30 June 2024), unless an event occurs that is beyond the reasonable control of the distribution business and could not reasonably have been foreseen, and the AER approves a change. This second TSS continues to transition Evoenergy's network tariff structure along the cost-reflective spectrum. In preparation for this TSS, Evoenergy took into account recent changes in electricity markets and a comprehensive review of its network costs and existing tariff structures, and consulted widely with the ACT community, large consumers and retailers.

The tariff structures contained in the approved TSS will form the basis of Evoenergy's annual pricing proposals for the financial years 2019/20 to 2023/24. The AER will conduct an approval 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 distribution determination.

[1] Clause 6.18.1.

[2] The Rule changes put in place transitional provisions for the initial TSS to be effective for the last two years (2017/18 and 2018/19) of the current regulatory control period (2014/15 to 2018/19). This second TSS is being developed for the next five-year regulatory period 2019–24.

1.1 Structure of TSS

This TSS outlines Evoenergy's proposed tariff structure for the 2019-24 regulatory period as follows.

- Section 1 contains an introduction with background information (section 1.2) which includes an outline of tariff reform conducted following the first TSS, regulatory background, and national and jurisdictional context. Section 1 concludes with a compliance checklist (section 1.3).
- An explanation of network tariff classes is provided in section 2.1.
- Details of the tariff structure and charging parameters for tariffs offered to commercial and residential customers is provided in sections 2.2 and 2.3, respectively.
- Other changes related to the tariff structure are provided in section 2.4.
- A description of the way in which the tariffs comply with the pricing principles is provided in section 2.5.
- An explanation of how Evoenergy will update its tariffs annually is provided in section 2.6, while section 2.7 explains how the tariff setting process complies wit the pricing principles.
- Addendum 1.1 explains the price setting process in detail.
- Standalone and avoidable costs are presented and discussed is Addendum 1.2.

1.2 Background

1.2.1 History of tariff changes

Evoenergy has been introducing cost-reflective tariffs for over 10 years. The next phase of this journey focuses on implementing a more cost-reflective tariff structure and changing tariff levels over time. In the first TSS, Evoenergy reformed the existing network tariff structure to include more cost-reflective tariffs. A summary of the approved changes resulting from the first TSS are listed below.

- **Residential consumers—**A new peak period demand tariff was introduced from 1 December 2017 for residential consumers whose premises are fitted with type 4 meters. This start date aligned with the timeframe for metering contestability. For consumers without type 4 meters, Evoenergy improved the alignment of their tariff levels to the estimates of long-run marginal cost of supply.
- **Low voltage commercial consumers—**A new peak period demand tariff for commercial LV consumers was introduced from 1 December 2017, while continuing to offer existing cost-reflective tariffs for consumers in this tariff class.
- **High voltage commercial consumers—**Given that HV commercial consumers already have a highly cost-reflective network tariff structure, Evoenergy maintained the existing tariff structure for commercial HV commercial consumers and consolidated the number of tariffs from four to three.

In October 2010, time-of-use (TOU) tariffs became the default tariff for all new residential and low voltage commercial premises, but consumers could opt out of TOU charging by selecting an alternative tariff. Around 30,000 residential consumers are now on the

Residential TOU tariff,[3] which represents approximately 18 per cent of all residential consumers. Also, more than 4,500 commercial consumers have moved to the General TOU or the LV commercial demand tariffs,[4] representing approximately 27 per cent of all LV commercial consumers.

1.2.2 Regulatory background

As with all electricity distribution network service providers in the National Electricity Market, Evoenergy is a regulated business. As such, Evoenergy complies with the Rules and the National Electricity Law. The AEMC is responsible for setting the Rules. The AER monitors and enforces compliance with these regulatory requirements.

As stated, once approved, this TSS will remain in place from 1 July 2019 to 30 June 2024. The tariff structures contained in the approved TSS will form the basis of Evoenergy's annual pricing proposals submitted to the regulator for the financial years 2019/20 to 2023/24. As part of this TSS proposal, 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 (AAR's) standing offer electricity prices for small customers in the ACT. AAR is subject to price regulation by the ICRC for the current three year period (2017/18 – 2019/20) which covers part of this TSS reform period. The ICRC is currently undertaking a review of its pricing model and methodology (the Review) for the supply of electricity to small customers on AAR's regulated tariffs. This Review seeks to ensure that the ICRC's pricing model is accurate, reflects current market conditions and retailer practices, and is consistent with the ICRC's obligations under the Independent Competition and Regulatory Commission Act 1997 in setting prices from 1 July 2020[5] to 30 June 2023.

1.2.3 National and jurisdictional context

The development of Evoenergy's second TSS has taken place in the midst of a number of changes to the national and jurisdictional regulatory environment. A summary of these changes and jurisdictional specific context is outlined below.

- **Roll out of smart meters in the ACT:** In accordance with the Metering Rule Change,[6] smart meters became the standard electricity meter in the ACT for all new connections and for all meter replacements from 1 December 2017. Smart meters record customers' electricity usage within a defined time interval.
- **Solar panels, batteries and other distributed energy resources:** The proliferation of emerging technologies is changing the way consumers source and use electricity. According to the Clean Energy Regulator, at October 2018 in the ACT, there were around 22,000 small generation solar units, around 11,000 solar water heater and air source heat pumps, and 530 solar photovoltaic (PV) systems with concurrent battery storage capacity.[7] Solar PV up-take in the ACT is expected to rise owing to falling installation costs, continued government incentives, forecast increases in retail electricity prices, and requirements in new residential

[3] Evoenergy, Evoenergy 2018/19 Annual Pricing Proposal, p. 20.

[4] Evoenergy, Evoenergy 2018/19 Annual Pricing Proposal, p. 21.

[5] http://www.icrc.act.gov.au/energy/electricity/electricity-model-and-methodology-review-2018-19/

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

[7] http://www.cleanenergyregulator.gov.au/RET/Forms-and-resources/Postcode-data-for-small-scale-installations#Summary-of-postcode-data.

subdivisions. The Australian Energy Market Operator (AEMO) also notes that as capital costs decline in the medium term, together with the introduction of cost-reflective tariff structures, more residential battery storage is expected to become viable.

- **ACT Government utilities concession and other assistance to low-income households:** On 1 July 2017, the ACT government merged the Energy and Utility Concession and the Water and Sewerage Rebate into a single Utilities Concession. The maximum annual rebate for 2018–19 is $654 per household.
- **The ACT Government's 100 per cent renewable energy target:** In 2016, the ACT Government legislated a target of sourcing 100 per cent renewable electricity by 2020 from within the ACT or across the National Electricity Market. To assist this policy, the ACT Government provides feed-in tariffs (FiT) to encourage investment in the generation of renewable energy. Evoenergy pays the generator the difference between their FiT price for each megawatt hour (MWh) of renewable electricity generated and the value of that MWh in the wholesale electricity market.
- **Other ACT legislation:** Existing legislation made by the ACT Government sets out certain requirements for the recovery of particular levies and fees through network prices. This includes, and is not limited to, Energy Industry Levy,[8] Utilities Network Facilities Tax,[9] Feed-in Tariff (Large-scale)[10] and Feed-in Tariffs.[11]
- **Demand management actions:** In addition to cost-reflective network tariffs, Evoenergy has recently undertaken initiatives to reduce peak demand on its network. These initiatives include the following examples. Further information about Evoenergy's demand management programs can be found here: https://www.evoenergy.com.au/emerging-technology/demand-management
    - Trial of SMS curtailment requests: In 2017 Evoenergy undertook a two-month investigative project to determine the acceptance and effectiveness of sending direct messages to customers via SMS to request short-term load curtailment over designated times. Around six per cent of the study population responded to the SMS requests demonstrating moderate acceptance of the curtailment request, and that customers had curtailed load in some way in response to the request.
    - Virtual power plant: Between November 2017 and March 2018, Evoenergy successfully conducted seven trials of the coordinated deployment of residential battery stored power for network support. The trial demonstrated the potential for a much larger deployment of residential battery-stored power to change the way the network operates and defer or potentially avoid network augmentation.
    - Demand reduction contracts: Evoenergy has trialled contracts for demand reduction with a number of large commercial customers. Under these contracts, customers were encouraged to curtail their load from the network at designated times of network constraint. If implemented and operated correctly, these contracts have the potential to reduce overall network costs through deferral of augmentations.

[8] *Utilities (Energy Industry Levy) Amendment Bill 2007* (ACT).

[9] *The Utilities (Network Facilities Tax) Bill 2006* (ACT).

[10] *Electricity Feed-in (Large-scale Renewable Energy Generation) Bill 2011* (ACT).

[11] Electricity Feed-in (Renewable Energy Premium) Act 2008.

- **Retail response to cost-reflective tariff reform:** In the ACT, there are three active retailers—ActewAGL Retail, Origin Energy and EnergyAustralia. At the time of this submission, ActewAGL Retail has adopted the same structure as the recently introduced network demand tariffs for residential and LV commercial customers.

1.3 Compliance with Rule requirements

Table 1.1 demonstrates compliance with the TSS Rule requirements. Evoenergy's TSS contains the sections referenced to address Rule 6.18.

Table 1.1 Compliance with the TSS Rule requirements

Requirement	Rule Reference	Reference in TSS
The TSS must include **tariff classes**	6.18.1A(a)(1)	Section 2.1
The TSS must include the policies and procedures for **assigning consumers to tariffs and reassigning** from one to another	6.18.1A(a)(2)	Sections 2.2.3 and 2.3.3
The TSS must include the **structures** for each tariff	6.18.1A(a)(3)	Sections 2.2.4 and 2.3.4
The TSS must include the **charging parameters** for each tariff	6.18.1A(a)(4)	Sections 2.2.4 and 2.3.4
The TSS must include a **description of the approach to be taken in setting each tariff** in each pricing proposal during the regulatory period	6.18.1A(a)(5)	Section 2.6 and Addendum A1
The TSS must be accompanied by an **indicative pricing schedule**	6.18.1A(e), 6.8.2(d1)	Appendix 1.2
A description of how the **TSS complies with the pricing principles for direct control services**	6.18.1A (b), 6.10.3(b1)	Section 2.7. Addendum A1 sets out how tariffs are based on LRMC. Addendum A2 describes how the revenue to be recovered from each tariff class lies between stand alone and avoidable costs.

2 Proposed tariff structure

The aim of Evoenergy's tariff strategy outlined in this Revised TSS is to continue to move its tariff structure further along the cost-reflectivity spectrum.[12] In this context, cost-reflective pricing is about ensuring that network electricity charges to consumers reflect the cost of providing electricity network services to the consumer (for both usage and capacity). Customer responsiveness to cost-reflective price signals is expected to lead to better use of the existing network and more efficient augmentation of the network. That is, as customers respond to cost-reflective price signals by shifting electricity usage from peak periods when the network faces its highest demand, the requirement for network investment can potentially be deferred. These pricing reforms aim to reflect costs and create incentives for better use of the network so as to avoid or defer network expenditure and reduce network costs in the future. The changes proposed to the tariff structure are designed to enhance cost reflectivity and economic efficiency.

This section outlines Evoenergy's proposed tariff structure as follows.

- An explanation of network tariff classes is provided in section 2.1.
- Details of the tariff structure and charging parameters for tariffs offered to commercial and residential customers is provided in sections 2.2 and 2.3, respectively.
- Other changes related to the tariff structure are provided in section 2.4.
- A description of the way in which the tariffs comply with the pricing principles is provided in section 2.5.
- An explanation of how Evoenergy will update its tariffs annually is provided in section 2.6.

In this second Revised TSS, Evoenergy progresses its network tariff reforms based on three core concepts which have been used to form and validate the reforms, as explained in Section 7.2 of Appendix 1.1.

2.1 Network tariff classes

Evoenergy's approach to the classification of network tariff classes remains unchanged from the classification approved by the AER for the 2014–19 regulatory control period.[13] Consumers are currently classified into three tariff classes:

- Residential;
- Low voltage (LV) commercial; and
- High voltage (HV) commercial.

In accordance with clause 6.18.1A(a) of the Rules, these are the classes into which retail consumers for direct control services will be classified during the 2019–24 regulatory control period.

The tariff classes are set on an economically efficient basis. Consumers within each tariff class have similar load and connection profiles, which mean they impose similar costs on

[12] This strategy is dependent on metering installations, customer impacts and retailers' response to cost-reflective network tariff reforms.

[13] AER, Final Decision, Tariff Structure Statement, ActewAGL, February 2017, p. 33.

the network. Thus, setting tariffs within tariff classes enables Evoenergy to distinguish those similar costs and apply charges to each tariff class appropriately, which results in an efficient outcome.

Consistent with clause 6.18.3(d), these tariff classes also enable Evoenergy to avoid unnecessary transaction costs by treating consumers with similar profiles in a similar way. These tariff classes have proven to provide the most cost-effective way of grouping consumers together to minimise administrative costs, compared to offering additional classes and re-assigning existing consumers to different classes.

2.2 Proposed tariff structure for commercial customers

The majority of proposed network tariff reforms for the 2019–24 regulatory control period are related to the LV and HV commercial tariff classes. An outline of the proposed changes to Evoenergy's LV and HV commercial tariff structure, the commercial charging windows and the commercial connection assignment policy is discussed in sections 2.2.1, 2.2.2 and 2.2.3, respectively.

2.2.1 Proposed changes to commercial tariffs

Evoenergy proposed two changes to the existing LV commercial tariff structure which were accepted by the AER in its draft decision.[14] Hence, Evoenergy will introduce these changes into the tariff structure from 1 July 2019.

1. **101 LV TOU kVA Demand tariff:** replace the anytime kVA maximum demand charge with a peak kVA maximum demand charge.
2. **103 LV TOU Capacity tariff:** replace the anytime kVA maximum demand charge with a peak kVA maximum demand charge.

In the proposed TSS, Evoenergy also proposed shifting the flat energy charge within the LV kW demand tariff to a TOU energy charge. However, the AER draft decision did not accept this proposal. Hence, the structure of the existing LV commercial kW demand tariff will remain unchanged in the 2019-24 regulatory period. Table 2-1 presents the LV commercial tariff structure proposed for the 2019-24 regulatory period.

TABLE 2-1SUMMARY OF PROPOSED LV COMMERCIAL TARIFF STRUCTURE

	Tariff Components							
	Fixed	Flat energy	Inclining Block energy	TOU energy	kVA anytime demand	kVA peak demand	kVA capacity	Seasonal kW peak demand
General Network*	✓		✓					
General TOU	✓			✓				
LV TOU Demand	✓			✓		✓		
LV TOU Capacity	✓			✓		✓	✓	
LV KW Demand	✓	✓						✓
Streetlighting	✓	✓						
Small unmetered	✓	✓						

*

Obsolete to new customers from 1 December 2017

[14] AER, Draft Decision. Evoenergy Distribution Determination 2019 to 2024, Attachment 18, September 2018, p. 18-16

There are no proposed changes to the General Network, General TOU, Streetlighting or small unmetered tariffs, as these tariffs are sufficiently cost reflective. The General Network and General TOU tariffs are as cost reflective as they can be given the metering functionality of customers on these tariffs. Small unmetered and Streetlighting tariffs are sufficiently cost reflective given the cost associated with installing metering that would allow consumption to be more accurately recorded.

As shown in Table 2-2, Evoenergy proposed the following changes to the existing HV commercial tariff structure which were accepted by the AER in its draft decision[15]. Hence, Evoenergy will introduce these changes into the tariff structure from 1 July 2019.

1. **111 HV TOU Demand tariff:** replace the anytime kVA maximum demand charge with a peak kVA maximum demand charge.
2. **121 HV TOU Demand – Customer LV tariff:** replace the anytime kVA maximum demand charge with a peak kVA maximum demand charge.
3. **122 HV TOU Demand – Customer HV and LV tariff:** replace the anytime kVA maximum demand charge with a peak kVA maximum demand charge.

TABLE 2-2 SUMMARY OF PROPOSED HV COMMERCIAL TARIFF STRUCTURE

	Tariff Components				
	Fixed	TOU energy	kVA anytime demand	kVA peak demand	kVA capacity
HV TOU Demand	✓	✓		✓	✓
HV TOU Demand - Customer LV	✓	✓		✓	✓
HV TOU Demand - Customer LV & HV	✓	✓		✓	✓

2.2.2 Charging window analysis

Based on the detailed analysis presented in Section 7.3.2 of Appendix 1.1, the ACT commercial load peaks:

- during the day, between 7 am and 5 pm (AEST);
- on weekdays; and
- generally highest during summer and winter.

Hence, Evoenergy proposes to maintain its current peak charging window for the LV and HV commercial tariffs as the daytime (7 am to 5 pm AEST) of each weekday, all year round. This peak charging window will apply to the tariffs and tariff components shown in Table 2-3.

[15] AER, Draft Decision. Evoenergy Distribution Determination 2019 to 2024, Attachment 18, September 2018, p. 18-19

TABLE 2-3 PEAK CHARGING WINDOW APPLICATION

	Peak period consumption	Peak period maximum demand
General TOU Network	✓	
LV kW Demand Network		✓
LV TOU kVA Demand Network	✓	✓
LV TOU Capacity Network	✓	✓
HV TOU Demand Network	✓	✓
HV TOU Demand Network – Customer LV	✓	✓
HV TOU Demand Network – Customer HV and LV	✓	✓

2.2.3 Proposed assignment policy for commercial customers

The AER's draft decision for 2019-24 requires specific changes to the commercial tariff assignment policy.

1. Removal of references to assigning LV commercial customers with embedded generators to the LV Capacity tariff.[16]
2. Customers who receive a Type 4 meter as a replacement meter remain on their existing network tariff for 12 months before moving to a more cost-reflective network tariff. The AER considers[17]:

   "that including a 12 month delay for end of life meter replacements will assist retailers in managing customer impacts on users who have not initiated a change to their circumstances. This period of delay will provide retailers load profile information which will better inform them on the retail tariff options suitable for these customers."

Evoenergy accepts the AER's draft decision (for 2019-24) in relation to commercial tariff assignment. Hence, in this revised TSS, Evoenergy proposes to revise the LV commercial tariff assignment policy.

In relation to the second requirement, (to delay assignment of customers with a replacement meter to a more cost reflective tariff), feedback from internal consultation within the Evoenergy network business, and external consultation with active retailers revealed that there are concerns that this new requirement may cause confusion for customers with replacement meters. The nature of these concerns are outlined below.

[16] AER, Draft Decision. Evoenergy Distribution Determination 2019 to 2024, Attachment 18, September 2018, p. 18-9.

[17] AER, Draft Decision. Evoenergy Distribution Determination 2019 to 2024, Attachment 18, September 2018, p. 18-17 to 18-18.

- Inconsistent outcomes for customers: Tariff assignment for customers with a type 4 meter differs depending on the circumstances in which the meter was installed (i.e. new connection, customer initiated or meter replacement).
- Delay in realising the full benefit of type 4 meters: Customers may be frustrated that they have had advanced metering technology in place for 12 months, yet may not be aware of the capability of that technology or able to benefit from it (in regard to tariff choice).
- Customer confusion: This change requires retailers, particularly those who align their retail tariffs with network tariffs, to contact replacement meter customers 12 months after their meter is replaced to notify them of a change in tariff. This added complexity to the network tariff assignment may lead to greater customer confusion about electricity tariffs.

To partially address these concerns, Evoenergy proposes that a customer with a replacement meter be allowed to opt-in to more cost reflective LV commercial tariffs within the first 12 months that the type 4 meter is installed.

In addition to these required changes, Evoenergy proposes to further refine the LV commercial tariff assignment policy. Specifically, customers with Current Transformer (CT) meters will be assigned by default to the LV kVA TOU demand tariff, while customers without a CT meter will be assigned by default to the LV kW demand tariff. This is a variation from Evoenergy's proposed TSS. Both customer types (those with and without CT meters) will have cost reflective opt-out tariff options consistent with the AER's draft decision[18], as shown in Table 2.4 below.

The LV kW demand tariff is designed for smaller commercial customers (i.e. customers who generally don't have 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 commercial customers.

LV commercial customers without Type 4 meters will remain on their existing tariff until at least 12 months after their meter is changed to a Type 4 meter. The General Network tariff is closed to new connections from 1 December 2017 and will eventually become obsolete as customers receive Type 4 meters and are placed onto more cost-reflective tariffs.

For completeness, Table 2-4 below shows Evoenergy's commercial tariff assignment policy for 2019-24.

[18] AER, Draft Decision. Evoenergy Distribution Determination 2019 to 2024, Attachment 18, September 2018, p. 18-18

TABLE 2-4 COMMERCIAL TARIFF ASSIGNMENT POLICY

	Default	Opt-out
LV commercial without a CT meter	LV kW Demand*	1. LV kVA TOU Demand 2. LV kVA TOU Capacity 3. General TOU
LV commercial with a CT meter	LV kVA TOU Demand	1. LV TOU kVA Capacity 2. General TOU
HV commercial	HV TOU Demand (code 122)	Not applicable (mandatory default)

Notes: From 1 July 2019, LV commercial customers with a replacement meter will remain on their existing network tariff until 12 months after their smart meter is installed, however they can opt-in to a cost reflective LV commercial tariffs according to the assignment policy shown in the table above.

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 currently offers to backdate a demand tariff to TOU tariff once per site in a 12 month period. Evoenergy reverses and reissues the bill (NUoS) for no more than 40 calendar days for commercial sites. This process currently applies to the LV kW demand tariff (network code 106 and 107).

Evoenergy proposed to revise its HV assignment policy to mandatorily assign all new HV customers to the 122 tariff from 1 July 2019. Tariff code 122 is designed for customers who own and operate their own LV and HV assets. As a result of this change in assignment policy, tariff codes 111 and 121 are proposed to be closed to new connections. Existing customers on tariff codes 111 and 121 may remain on these tariffs, or switch to tariff code 122 following consultation with Evoenergy.

2.2.4 Proposed commercial tariff structure changes

Evoenergy's proposed commercial tariff structure, tariffs and eligibility are summarised in Table 2-5. In summary, each of the tariffs has been reviewed to base the tariff on LRMC (as per Rule 6.18.5(f)) and the changes to the commercial tariff structure have been included.

TABLE 2-5 EVOENERGY'S PROPOSED COMMERCIAL TARIFF STRUCTURE AND ELIGIBILITY CRITERIA

Tariff class	Tariff	Consumer eligibility	Component	Unit	Charging parameter
Commercial Low Voltage	General Network	Available to existing commercial low voltage consumers without Type 4 meters.	*Fixed network access charge (per connection point)*	¢/day	
			Inclining block tariff energy consumption charge with 2 tiers	¢/kWh	*Tier break is set at 330 kWh per day*
	General TOU Network	Available to all commercial low voltage consumers with a TOU meter.	*Fixed network access charge (per connection point)*	¢/day	
			Energy consumption charge based on time of use	¢/kWh	**Business Times:** 7 am – 5 pm every weekday **Evening Times:** 5 pm – 10 pm every weekday **Off-Peak Times:** All other times
	TOU kVA Demand Network	Available to all low voltage consumers with a TOU meter.	*Fixed network access charge (per connection point)*	¢/day	
			Peak period demand charge	¢/kVA/day	*Maximum Demand charge applied to the maximum demand in the billing period* *Peak period for demand charge is 7am – 5pm Mon – Fri*
			Energy consumption charge based on time of use	¢/kWh	*Energy charges:* **Business Times:** 7 am – 5 pm every weekday **Evening Times:** 5 pm – 10 pm every weekday ***Off-Peak Times:*** *All other times*

Tariff class	Tariff	Consumer eligibility	Component	Unit	Charging parameter
	TOU kVA Capacity Network	Open to all low voltage consumers with a TOU meter.	*Fixed network access charge (per connection point)*	*¢/day*	
			Peak period demand charge	*¢/kVA/day*	*Peak period for demand charge is 7am – 5pm Mon - Fri*
			Capacity charge	*¢/kVA/day*	*Capacity charge applied to the maximum demand in the previous 13 months inclusive of the current billing month.*
			Energy consumption charge based on time of use	*¢/kWh*	*Energy charges:* **Business Times:** 7 am – 5 pm every weekday **Evening Times:** 5 pm – 10 pm every weekday ***Off-Peak Times:*** *All other times*
	LV kW Demand Network	Available to all commercial low voltage consumers with a Type 4 meter. Closed to new customers with CT meters from 1 July 2019	*Fixed network access charge (per connection point)*	*¢/day*	
			Peak period demand charge	*¢/kW/day*	*Peak period for demand charge is 7am – 5pm Mon - Fri*
			Anytime energy consumption charge	*¢/kWh*	
	Street Lighting Network	Applies to the night-time lighting of streets and public ways and places.	*Fixed network access charge* *Energy consumption charge*	*¢/day* *¢/kWh*	
	Small Unmetered Loads Network	Applies to eligible installations as determined by Evoenergy, including: telephone boxes, telecommunication devices.	*Fixed network access charge* *Energy consumption charge*	*¢/day* *¢/kWh*	
Commercial High Voltage	TOU Demand Network (111)	Large consumers taking supply at high voltage with a low voltage network owned and maintained by Evoenergy. Closed to new customers from 1 July 2019			

Tariff class	Tariff	Consumer eligibility	Component	Unit	Charging parameter
	TOU Demand Network – Consumer LV (121)	Large consumers taking supply at high voltage where the consumer owns and is fully responsible for its own low voltage network. Closed to new customers from 1 July 2019	*All three tariffs have the following components:* • *Fixed network access charge (per connection point)* • *Peak period demand charge* • *Capacity charge* • *Energy consumption charge based on time of use*	*$/day* *¢/kVA/day* *¢/kVA/day* *¢/kWh*	*Peak period for demand charge is 7 am – 5 pm Mon - Fri* *Capacity charge applied to the maximum demand in the previous 13 months inclusive of the current billing month.* *Energy charges:* **Business Times:** 7 am – 5 pm every weekday **Evening Times:** 5 pm – 10 pm every weekday **Off-Peak Times:** All other times
	TOU Demand Network – Consumer HV and LV (122)	Large consumers taking supply at high voltage where the consumer owns and is fully responsible for their own low voltage network and where the consumer owns and is responsible for their high voltage assets.			

All times refer to Australian Eastern Standard Time.

2.2.5 Indicative bill impacts for commercial customers

The indicative pricing schedule (Appendix 1.2) for commercial tariffs has been set such that the average commercial customer would:

- be better off on the LV kW Demand tariff than the General Network tariff;
- be indifferent or better off on the proposed structure of the LV TOU kVA Demand and LV TOU Capacity tariffs (i.e. with peak demand charges) compared to the current structure (i.e. with anytime demand charges); and
- be indifferent or better off on the proposed structure of the HV commercial tariffs (i.e. with peak demand charges) compared to the current structure (i.e. with anytime demand charges).

In section 7.3.5 of Appendix 1.1, indicative commercial customer impacts are separately analysed using theoretical and actual customer demand and consumption profiles to determine how usage patterns affect network electricity bills.

2.3 Proposed tariff structure for residential consumers

An outline of Evoenergy's residential tariff structure, charging windows and assignment policy is discussed in sections 2.3.1, 2.3.2 and 2.3.3, respectively.

2.3.1 Residential tariff structure

In Evoenergy's proposed TSS submitted in January 2018, one residential tariff reform was proposed. The structural change that was proposed was the application of a TOU energy charge structure rather than a flat energy charge in the Residential kW Demand tariff. This proposed change was not accepted in the AER's 2019-24 draft decision[19] hence Evoenergy will not apply the proposed change in the 2019-24 regulatory period. Instead, the residential tariff structure in 2019-24 will remain the same as it is currently (2018/19). A summary of the residential tariff structure is shown in Table 2-6.

TABLE 2-6 SUMMARY OF PROPOSED RESIDENTIAL TARIFF STRUCTURE

	Tariff Components				
	Fixed	Flat energy	Inclining Block energy	TOU energy	Seasonal kW peak demand
Residential Basic*	✓	✓			
Residential TOU	✓			✓	
Residential 5000*	✓		✓		
Residential Heat Pump*	✓		✓		
Off Peak Night		✓			
Off Peak Night & Day		✓			
Peak Demand	✓	✓			✓

* Obsolete to new customers from 1 December 2017

The Residential Basic, Residential 5000, and Residential Heat Pump tariffs were closed to new connections from 1 December 2017 and will eventually become obsolete as customers receive Type 4 meters and are placed onto the more cost-reflective residential demand and TOU tariffs. Evoenergy does not propose to make any changes to these obsolete tariff structures.

2.3.2 Charging Window Analysis

Based on the detailed analysis presented in Section 7.4.2 of Appendix 1.1, the ACT residential load peaks:

- during the evening, between 5 pm and 8 pm AEST;
- across all days of the week; and
- is generally highest during summer and winter.

[19] AER, Draft Decision. Evoenergy Distribution Determination 2019 to 2024, Attachment 18, September 2018, p. 18-9

Hence, Evoenergy does not propose to change the current residential TOU consumption or residential demand charging windows. A summary of the peak charging window to apply to the tariffs and tariff components is shown in Table 2-7.

TABLE 2-7 SUMMARY OF RESIDENTIAL TOU TARIFF CHARGING WINDOWS

TOU charge	Charging parameter
Peak consumption	7 am to 9 am; 5 pm to 8 pm every day
Shoulder consumption	9 am to 5 pm; 8 pm to 10 pm every day
Off-peak consumption	All other times

Note: all times refer to Australian Eastern Standard Time

2.3.3 Proposed assignment policy for residential customers

Evoenergy changed the residential customer assignment policy on 1 December 2017 in line with the introduction of the Residential kW Demand tariff. Under this assignment policy, residential customers whose premises are fitted with Type 4 meters are assigned by default to the Residential kW Demand tariff, but have the ability to opt out to the Residential TOU tariff only. This assignment policy emphasises placing residential customers onto cost-reflective tariffs as soon as they have the necessary metering equipment installed (Type 4 meters). This residential assignment policy was approved by the AER in its Final Decision on the first TSS[20].

In its Draft Decision for 2019-24, the AER requires that customers who receive a Type 4 meter as a replacement for a Type 5 or 6 meter remain on their existing network tariff for 12 months before moving to a more cost-reflective network tariff[21]. The AER considers[22]:

> *"that including a 12 month delay for end of life meter replacements will assist retailers in managing customer impacts on users who have not initiated a change to their circumstances. This period of delay will provide retailers load profile information which will better inform them on the retail tariff options suitable for these customers."*

Under this requirement, customers with new connections or customer initiated meter replacements will continue to be assigned to the cost-reflective Residential kW demand tariff when their type 4 meter is installed (with the option to opt-out to the Residential TOU tariff).

Evoenergy will incorporate this required change into its tariff assignment policy. However, feedback from internal consultation within the Evoenergy network business, and external consultation with active retailers revealed that there are concerns that this new requirement may cause confusion for customers with replacement meters. The nature of these concerns are outlined below.

- Inconsistent outcomes for customers: Tariff assignment for customers with a type 4 meter differs depending on the circumstances in which the meter was installed (i.e. new connection, customer initiated or meter replacement).

[20] AER, Final Decision, ActewAGL Tariff Structure Statement, February 2017, p. 42.

[21] AER, Draft Decision. Evoenergy Distribution Determination 2019 to 2024, Attachment 18, September 2018, p. 18-17 to 18-18.

[22] Ibid.

- Delay in realising the full benefit of smart meters: Customers may be frustrated that they have had advanced metering technology in place for 12 months, yet may not be aware of the capability of that technology or able to benefit from it (in regard to tariff choice).
- Customer confusion: This change requires retailers, who align their retail tariffs with network tariffs, to contact replacement meter customers 12 months after their meter is replaced to notify them of a change in tariff. This added complexity to the network tariff assignment may lead to greater customer confusion about electricity tariffs.

To partially address these concerns, Evoenergy proposes that a customer with a replacement meter be allowed to opt in to the Residential kW Demand or Residential TOU tariffs within the first 12 months that the type 4 meter is installed. For example, if a customer is on the Residential Basic tariff when they receive a replacement smart meter, they can opt into either the Residential kW demand or Residential TOU tariff (switching tariffs once within a 12 month period). For completeness, Table 2-8 below shows Evoenergy's residential tariff assignment policy for 2019-24.

TABLE 2-8 RESIDENTIAL TARIFF ASSIGNMENT POLICY

	Default	Opt-out	Opt-in
Residential (new connection or customer initiated)	Residential kW demand *	Residential Time-of-Use	
Residential: replacement meter	Residential kW demand tariff 12 months after type 4 meter is installed	Residential Time-of-Use	Residential kW demand or Residential Time-of-Use tariff (anytime after type 4 meter is installed)

Note: 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 currently offers to backdate a demand tariff to TOU tariff once per site in a 12 month period. Evoenergy reverses and reissues the bill (NUoS) for no more than 120 calendar days for residential sites. This process currently applies to the Residential kW demand tariff (network codes 025 and 026).

For residential customers without Type 4 meters, customers will remain on their existing tariff until their meter is changed to a Type 4 meter. The Residential Basic, Residential 5000 and Residential Heat Pump tariffs closed to new connections from 1 December 2017 and will eventually become obsolete as customers receive Type 4 meters and are placed onto more cost-reflective tariffs.

2.3.4 Proposed residential tariff structure

Our proposed residential tariff structure, tariffs and eligibility of consumers to tariffs is summarised in Table 2-9. In summary, each of the tariffs has been reviewed to base the tariff on LRMC (as per Rule 6.18.5(f)).

TABLE 2-9 EVOENERGY'S PROPOSED RESIDENTIAL TARIFF STRUCTURE AND ELIGIBILITY CRITERIA

Tariff class	Tariff	Consumer eligibility	Component	Unit	Charging parameter
Residential	Residential Basic Network	A residential consumers has installations at private dwellings, excluding serviced apartments, but including: • living quarters for members and staff of religious orders; • living quarters on farms; • charitable homes; • retirement villages; • residential sections of nursing homes and hospitals; • churches, buildings or premises which are primarily used for public worship; and approved caravan sites Residential consumers (as defined above) without Type 4 meters are eligible for this tariff.	*Fixed network access charge* *Energy consumption charge*	*¢/day* *¢/kWh*	
	Residential TOU Network	Residential consumers (as defined above) with a TOU or type 4meter.	*Fixed network access charge* *Energy consumption charge based on (TOU)*	*¢/day* *¢/kWh*	**Max Times:** 7 am – 9 am and 5 pm – 8 pm every day **Mid Times:** 9 am – 5 pm and 8 pm – 10 pm every day **Economy Times:** All other times
	Residential 5000	Residential consumers who have large continuous (rather than time controlled) loads, such as electric hot water systems, and consume over 5,000 kWh per annum.	*Fixed network access charge* *Inclining block tariff energy consumption charge with 2 tiers*	*¢/day* *¢/kWh*	*Tier break set at 60 kWh per day*
	Residential with Heat Pump	Only available to residential consumers with a reverse cycle air conditioner.	*Fixed network access charge* *Inclining block tariff energy consumption charge with 2 tiers*	*¢/day* *¢/kWh*	*Tier break set at 165 kWh per day*

Tariff class	Tariff	Consumer eligibility	Component	Unit	Charging parameter
	Residential kW Demand	Residential consumers (as defined above) with a Type 4 meter	*Fixed network access charge* *Anytime energy consumption charge* *Peak period demand charge*	*¢/day* *¢/kWh* *¢/kW/day*	*Peak period for demand charge is 5 pm – 8 pm every day.*
	Off-Peak (1) Night Network	Available only to consumers utilising a controlled load element — it is applicable water heating storage units, permanent heat (or cold) storage, residential electric vehicle recharge, and CNG vehicle gas compression installations.	*Energy consumption charge*	*¢/kWh*	*Within controlled period: 10 pm – 7 am only*
	Off-Peak (3) Day & Night Network	Available only to residential consumers utilising a controlled load element — it is applicable water heating storage units, storage space heating or cooling, swimming or spa pool heating.	*Energy consumption charge)*	*¢/kWh*	*Within controlled period: 10 pm – 7 am and 9 am – 5 pm only*
	Renewable Energy Generation	Consumers with grid connected solar or wind energy generation systems.	*Energy consumption/generation*	*¢/kWh*	

All times refer to Australian Eastern Standard Time.

2.3.5 Indicative residential customer impacts

Indicative residential customer impacts are analysed in section 7.4.5 of Appendix 1.1 to determine how usage patterns affect residential customers' network electricity bills. The Indicative NUOS Pricing Schedule[23] on which these customer impacts are based, has been set such that an average residential customer:

- has a similar network bill on the Residential TOU tariff compared to the Residential kW Demand tariff; and
- is better off on the Residential kW Demand tariff than the Residential Basic tariff.

The analysis finds that, consistent with how the Residential kW Demand tariff ought to work in principle, the indicative effect of the Residential kW Demand tariff on a consumer's network bill depends on their demand profile during the peak charging window.

2.4 Further Considerations

While the customer impacts have been modelled using a sample of actual customer data, this analysis assumes that retailers mirror the network tariff structure. That is, it assumes that the pricing signals designed to be passed through to customers in the network tariffs *are* passed through to customers in their retail electricity bill.

Further, the network component of a typical retail electricity bill is around 30–40 per cent.[24] Given this proportion, and assuming that retailers mirror the network tariff structure, the relative effect of the proposed changes on customer's retail bills becomes less significant. If the retailer chooses not to mirror the network tariff structure, then the proposed cost-reflective network tariff changes are potentially not seen by the retail customer which erodes the aim of improving efficient use of the network.

During the consumer engagement program (particularly by the ECRC) concern was expressed about the possibility of retailers not passing through cost-reflective network tariffs, as this would not only reduce the benefits to customers, but also reduce the ability of customer's to provide feedback to influence future network tariff reforms.

2.5 Other Tariff Structure Changes

Evoenergy proposes to make two adjustments to the network tariff structure to improve consistency and enhance simplicity. These proposed changes are explained in detail in sections 2.5.1 and 2.5.2.

2.5.1 Controlled load network tariffs

Controlled load network tariffs are applicable to installations which use a major proportion of their energy during restricted times, but which may be boosted at the principal charge at other times. These installations include:

- water heating storage units where electricity is used to supplement other forms of energy (for example, solar hot water);
- permanent heat (or cold) storage installations;
- storage space heating or cooling, including under-floor, concrete-slab heating systems;

[23] Appendix 1.2

[24] Refer to Figure 3.1 in Appendix 1.1.

- swimming or spa pool heating, and associated auxiliaries, but not to spa baths;
- recharging electric vehicles at residential sites; and
- compressing natural gas for CNG vehicles.

Evoenergy currently offers two controlled load tariffs as follows.

1. The **Off-peak (1) Night Network charge** provides operation for a minimum of six hours and a maximum of eight hours within any one day, between 2200 hours (10 pm) and 0700 hours (7 am) AEST.

2. The **Off-peak (3) Day & Night Network charge** provides operation for a total of 13 hours in any one day. The said 13 hours shall be comprised of eight hours between 2200 hours (10 pm) and 0700 hours (7 am) and five hours between 0900 hours (9 am) and 1700 hours (5 pm) AEST.

Evoenergy nominates the time settings for Off-peak (1) and Off-peak (3) charges. These two tariffs are currently available to both residential and commercial customers.

With the implementation of the Metering Rule Change from 1 December 2017,[25] customers with Type 4 meters are assigned to a demand tariff with the option to opt out to TOU tariffs. Both of these tariffs have peak demand or consumption charges based on a peak charging window, to send a price signal to customers about when it is more costly to use the network.

Offering commercial customers the Off-peak (3) Day and Night tariff enables commercial customers (for whom the peak charging window in their primary tariff is between 7 am and 5 pm AEST weekdays) to access an off-peak rate of consumption (via a controlled load tariff) during their peak charging window. This signalling provides a contradictory signal to commercial customers about the time of the day at which it is more costly to use the network. Specifically, the General TOU, LV kW Demand, LV TOU kVA Demand and LV TOU kVA Capacity tariffs all include a peak consumption and/or peak demand charge which is applicable between 7 am and 5 pm AEST on weekdays. Currently, the Off-peak (3) tariff enables LV commercial customers to access electricity at an off-peak rate during the same charging window. To eliminate this contradictory signalling, Evoenergy proposes to make the Off-peak (3) tariff obsolete to new commercial connections from 1 July 2019.

Evoenergy expects this proposed change to have a minimal impact on customers as there were approximately 20 commercial customers on this tariff as at July 2017 (compared to approximately 25,000 residential customers).

2.5.2 XMC Tariffs

Evoenergy currently offers two versions of each residential and LV commercial tariff: an XMC (Excludes Metering Capital) version and a non-XMC version. This approach was adopted from 1 July 2015 when the AER Final Decision stated that new regulated meters were to be paid upfront rather than via an ongoing annual charge (as before 1 July 2015).

For **existing regulated meters** installed before 30 June 2015, Evoenergy paid upfront for the capital costs of the meters which were then added to the asset base and recovered gradually, over the life of the meter, through annual charges. These customers (with a regulated Type 5 or Type 6 meter), continue to pay the following charges:

- a capital component of regulated annual metering charge; and
- a non-capital component of the regulated annual metering charge.

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

To facilitate these metering arrangements, Evoenergy currently includes the metering capital charge in non-XMC network tariffs.

For **regulated meter** connections installed between 1 July 2015 and 30 November 2017, the capital cost has been paid upfront by the customer. Therefore, they pay only the non-capital component of the regulated annual metering charge. These customers are assigned to a network tariff that excludes metering capital charges (XMC tariffs). These two versions of tariffs ensured that Evoenergy and retailers were able to clearly identify, through the network billing system, which customers had paid for their meters upfront and were therefore not liable for the metering capital charge.

Now that this change has been in place for a few years, Evoenergy proposes to simplify the tariff structure by offering one version of each tariff from 1 July 2019. This version of tariffs would be consistent with the current XMC tariffs, which comprises network use of system (NUOS) charges and excludes any metering (capital or non-capital) charges. From 1 July 2019, Evoenergy proposes to separately add metering charges to the network bill, depending on customers' circumstances. The table below shows the way in which metering charges will be applied, depending on customer's circumstances.

TABLE 2-10 APPLICATION OF METERING CHARGES

=TYPE OF CUSTOMER	Pays Evoenergy ongoing metering capital charge	Paid Evoenergy upfront metering capital charge	Eligible for XMC tariffs	Pays Evoenergy ongoing metering non-capital charges
- Meter installed before 1 July 2015 - Evoenergy continues to provide metering services	Yes	No	No	Yes
• Meter installed before 1 July 2015 • Customer requested new meter (e.g. for PV system) • Evoenergy installed new meter (before 1 December 2017) • Evoenergy continues to provide metering services	Yes	Yes	No	Yes
- Meter installed before 1 July 2015 - Customer requested new meter (e.g. for PV system) - Evoenergy installed new meter (before 1 December 2017) - Customer switches to another metering provider after 1 December 2017	Yes	Yes	No	No
• New meter (not a replacement) installed between 1 July 2015 and 1 December 2017 • Evoenergy continues to provide metering services	No	Yes	Yes	Yes
- Meter is replaced (in accordance with law) between 1 July 2015 and 1 December 2017 - Evoenergy continues to provide metering services	Yes	No	No	Yes
• New connection from 1 December 2017 • Evoenergy does not install the new meter • Evoenergy does not provide metering services	No	No	Yes	No
- Meter installed before 1 July 2015 - Meter is replaced (in accordance with law) after 1 December 2017 by Metering Coordinator - Evoenergy does not provide metering services after meter is replaced	Yes	No	No	No
• New meter installed between 1 July 2015 and 1 December 2017 • Meter is replaced (in accordance with the law) after 1 December 2017 by Metering Coordinator (not Evoenergy) • Evoenergy does not provide metering services after meter is replaced	No	Yes	Yes	No

This approach to metering charges is similar to the way in which most other DNSPs charge for metering, and will not vary customers' bills in any way. That is, neither the network bill level nor structure will change. The change will be visible to customers who view the network schedule of charges, as it will contain fewer tariffs. Offering one version of each tariff rather than two will reduce the length and complexity of the network schedule of charges. This change will also impact the network and retail billing process. Evoenergy has consulted with both the network billing team and retailers. Both generally indicated they would be comfortable with the proposed approach.

2.6 Setting price levels

Evoenergy sets price levels in two steps. First, costs are allocated to individual tariffs and, second, the structure of charges within each individual tariff is determined.

Evoenergy allocates costs to individual tariffs by:

- allocating every tariff the LRMC of the distribution network[26], consistent with clause 6.18.5(f) of the Rules; then
- allocating the residual costs to individual tariffs by taking into account the previous years' allocation of residual costs and the current year's forecast consumption. In Evoenergy's view, this approach appropriately takes into consideration the impact on retail customers of changes in tariffs from the previous regulatory year consistent with clause 6.18.5(h) of the Rules.

The costs allocated to each tariff are then converted to a charging structure, which may include a fixed charge, consumption charge and/or demand charge. The structure of charges within each tariff are determined on the following basis:

- For demand tariffs and TOU tariffs, Evoenergy proposes to signal to customers the LRMC of providing network services at times of greatest utilisation using the demand charging parameter in demand tariffs and the peak energy charge in TOU tariffs. The demand/peak consumption charge was selected because it provides a signal to customers that more closely reflects the driver of network costs (i.e. peak demand).
- Costs not recovered from demand charges or peak energy charges are recovered from either fixed charges or consumption charges (kWh charges). In the absence of reliable information on the price elasticity of demand, this allocation is guided by a rebalancing of the recovery of costs towards fixed charges and away from distortionary consumption-based charges, subject to the extent this rebalancing can be achieved without unacceptable network bill impacts for our customers.

The extent to which Evoenergy can move towards LRMC-based charging and higher fixed charges is constrained by prioritising the management of customer bill impacts.

This approach to estimating LRMC and converting those estimates into network prices, then allocating residual costs is discussed in more detail in Addendum A.1.

[26] The AER draft decision notes the AER is "satisfied that Evoenergy's approach to estimating long run marginal cost (LRMC) contributes to compliance with the distribution pricing principles and to the achievement of the network pricing objective" AER, Draft Decision, Evoenergy Distribution Determination 2019 to 2024, Attachment 18, September 2018, p. 18-22.

2.7 Tariff setting to comply with pricing principles

In this section, Evoenergy sets out how tariffs have been set, and how they comply with each of the pricing principles in the Rules.

2.7.1 Tariffs to be based on the LRMC

In order to be consistent with clause 6.18.5(f) of the Rules, Evoenergy's network tariffs are based on the LRMC of providing electricity network services. To guide the development of Evoenergy's tariffs, the Average Incremental Cost (AIC) approach is used to calculate LRMC. Evoenergy's approach to basing tariffs on LRMC is outlined in detail in Addendum A.1.

2.7.2 There are no cross subsidies between tariff classes

The Rules include a pricing principle that is designed to avoid cross subsidies between different tariff classes (i.e. residential and LV commercial consumers). This principle requires the revenues recovered from each tariff class to be between the avoidable cost of not providing the service and the stand-alone cost of providing the service to the relevant consumers. This safeguards against large cross subsidies between tariff classes, consistent with clause 6.18.5(e). The existing side constraints, which limit annual price movements within a tariff class, are also retained. Addendum A.2 sets out how Evoenergy calculated stand-alone and avoidable costs.

2.7.3 Tariffs recover total efficient costs

The revenue to be recovered from each network tariff must recover the 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 consumers. This principle has three parts:

1. to enable the recovery of total efficient costs;
2. that the revenue from each tariff reflects the total efficient cost of providing services to those consumers; and
3. that revenue is recovered in a way that minimises distortions to consumers' 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 is in accordance with the AER's distribution determination. Evoenergy will also ensure that tariffs reflect the total efficient costs of serving each consumer assigned to each tariff by basing tariffs on LRMC (see Addendum A.1).

2.7.4 Consideration of consumer impacts

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

Evoenergy has considered the consumer impacts of changing network tariffs in determining how to allocate residual costs and how to transition consumers to cost-reflective prices over time (see Sections 7.3.5 and 7.4.5 of Appendix 1.1). Evoenergy agrees with the AEMC that clear, understandable and stable network prices, in accordance with the principles in the network pricing Rules, will facilitate the ability of consumers to receive and respond to future

price signals.[27] Evoenergy's ability to move to more cost-reflective tariffs is dependent on constraints (discussed in section 6 of Appendix 1.1).

2.7.5 Capable of being understood

Evoenergy has designed tariffs to ensure they are reasonably capable of being understood by consumers, in accordance with clause 6.18.5(i).

Over time, as many network businesses across Australia move towards more cost-reflective tariff structures, consumer 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 2019-24 regulatory control period, Evoenergy has carefully assessed the ability of consumers to understand changes to the tariff structure. Through Evoenergy's continuing consumer engagement process, it will monitor understanding of tariffs by consumers—particularly the recently introduced kW demand tariffs and assignment policy—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.

2.7.6 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. In line with ACT Government requirements, Evoenergy recovers the following jurisdictional schemes in the ACT (based on 2018/19).

- Energy Industry Levy $1.6m;
- Utilities Network Facilities Tax $7.9m;
- Feed-in Tariff (small and medium scale) $15.5m; and
- Feed-in Tariff (large schemes) $44.1m.[28]

These jurisdictional schemes are recovered in Evoenergy's NUOS tariffs.

2.7.7 Approach to updating tariffs annually

The AER is required to make a final determination on Evoenergy's TSS in early 2019. The AER's TSS determination will apply for each of the five years between 1 July 2019 and 30 June 2024.[29]

Evoenergy's annual pricing proposal[30] will apply the methodology detailed in Addendum A.1 and will:

- incorporate use of updated cost or 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

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

[28] Evoenergy, 2018/19 Network Pricing Proposal, p. 27.

[29] After this, Evoenergy will be required to submit another TSS proposal together with a regulatory proposal for the regulatory control period 1 July 2024 to 30 June 2029.

[30] Consistent with the contents of the pricing proposal specified in Rule 6.18.2(b).

- demonstrate compliance with the AER's TSS final determination.

The Rules do not permit Evoenergy to amend the approved TSS in its first year.[31] 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 Rule 6.18.1B(b). Otherwise, as part of on-going consumer engagement, Evoenergy proposes to discuss the annual changes with the ECRC, an independent ACT forum of representatives from the ACT community, and provide information to other consumers through its consumer engagement webpages.

[31] Rule 6.18.1B(a) and 11.73.2. The financial year 2019/20 is the first year during which the TSS will be effective.

3 Shortened forms

Term	Meaning
AAR	ActewAGL Retail
ACS	Alternative Control Services
ACT	Australian Capital Territory
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AEST	Australian Eastern Standard Time
AIC	Average Incremental Cost
c	cents
capex	capital expenditure
CNG	compressed natural gas
CPI	Consumer Price Index
DNSP	Distribution Network Service Provider
DUOS	Distribution Use of System
ECRC	Energy Consumer Reference Council
FiT	feed-in tariffs
GST	goods and services tax
HV	high voltage
ICRC	Independent Competition and Regulatory Commission
km	kilometre
kV	kilovolt
kVA	kilovolt-amperes
kW	kilowatt
kWh	kilowatt hour
LRMC	long-run marginal cost
LV	low voltage
MVA	mega volt amperes
MW	megawatt
MWh	megawatt hour
NPV	net present value
NSW	New South Wales
NUOS	network use of system
pa	per annum
PTRM	post-tax revenue model
PV	photovoltaic

Term	Meaning
repex	replacement expenditure
Rules	National Electricity Rules
SCS	Standard Control Services
TOU	time of use
TSS	Tariff Structure Statement
TUOS	transmission use of system
UG	underground
XMC	Excludes Metering Capital

A.1 Addendum: Price Setting Description

A1.1 Estimating Long Run Marginal Cost

The requirement to base network tariffs on LRMC when developing network prices reflects a fundamental economic concept - namely allocative efficiency. Allocatively efficient outcomes will be promoted if customers consume electricity up to the point where the marginal benefit to them of consuming an additional unit of energy (kWh, kW or kVA, depending on the cost driver being priced) equals the marginal cost of providing that extra unit of energy to that customer. When price deviates from the marginal cost of supply — in this case, the LRMC — customers will consume either:

- too much of the service. For example, when the price of an additional unit of electricity service is less than the cost of those services, some customers will consume more of those services. This creates an overall welfare loss (an economically inefficient outcome) as the cost of providing those customers with an additional unit of electricity services exceeds the benefit those customers receive from consuming those electricity services; or,
- not enough of the service. For example, when the price of an additional unit of electricity services is greater than the cost of those services, some customers will consumer less of those services (perhaps due to a budget constraint). This creates an overall welfare loss (an economically inefficient outcome) as the overall net benefits of supplying electricity services could be increased by reducing the price of the electricity services and thereby allowing customers to obtain the benefits of consumption that are in excess of the LRMC.

A1.2 LRMC Approach

The LRMC of providing a network service can be calculated in a number of different ways. One calculation method is the Average Incremental Cost (AIC) approach, which is underpinned by a business' forecast of the change it expects to incur in its future costs (numerator) as a result of its forecast change in demand for its service/s (denominator), with both the numerator and denominator discounted back to create a net present value (NPV).

$$\frac{\text{NPV (Forecast capital and operating costs)}}{\text{NPV (Forecast growth in service attribute driving those costs)}}$$

An alternative approach is to use the perturbation approach. This approach, in practical terms, seeks to ascertain how a business' expected future costs would change (in NPV terms) if there were to be an incremental increase (or decrease) in the future levels of demand for its services, relative to its underlying forecast.

$$\frac{\text{NPV (Revised Capex \& Opex Program } \textit{less} \text{ Initial Capex \& Opex program)}}{\text{NPV (Revised demand forecast } \textit{less} \text{ Initial Demand Forecast)}}$$

Consistent with Rule 6.18.5 (f), Evoenergy have considered the costs and benefits of both methodologies and have adopted the AIC method of calculating the LRMC, along with an evaluation period of 10 years. The AIC approach ensures that if Evoenergy's underlying demand and cost forecasts eventuate, the NPV of revenue generated over the evaluation

period from the implementation of LRMC-based tariffs will equal the NPV of the costs that Evoenergy incurs. Also, the AIC method was preferable because it is underpinned by forecasts that are included in the 2019-24 Revised Regulatory Proposal. Further, this approach is commonly used by distribution networks as it is generally considered to be well suited to situations where there is a fairly consistent profile of investment over time to service growth in demand.

1.2.1 Improvements to estimation of Long Run Marginal Cost

Evoenergy made a number of improvements to its methodology for estimating LRMC in this TSS, including:

- the extent to which replacement expenditure should be reflected in the estimate of LRMC used to set prices was investigated;
- the precision of both the expenditure and demand inputs used in the LRMC calculation was refined; and

Attached to the Proposed TSS (submitted in January 2018) is a report by HoustonKemp that reviews the methodology for compliance with the requirements of the Rules.[32] HoustonKemp concluded that the methodology complies with the requirements of the Rules, is consistent with the economic concept of LRMC and reflects the particular circumstances of Evoenergy's customers and network.

The following sections present a brief summary of the price setting methodology.

1.2.2 Research on replacement expenditure

A detailed analysis of replacement expenditure with respect to the estimate of LRMC is presented in Appendix 17.2 of Evoenergy's Proposed TSS (submitted January 2018)[33]. In essence, Evoenergy's research identified that:

- replacement expenditure is only avoidable in areas of the network where demand is declining;
- not all replacement expenditure in those areas is potentially avoidable;
- the relationship between demand and replacement expenditure is generally not linear;
- downsizing an asset upon replacement must be evaluated against the risk that an unexpected increase in demand requires future augmentation costs that exceed the initial cost savings from downsizing; and
- the LRMC of a decrement in demand in areas of declining demand is likely to be significantly less than the LRMC in areas of the network where demand is growing.

Given the findings of our research on avoidable replacement expenditure, Evoenergy undertook an indicative analysis of the approximate level of LRMC in areas of our network where demand is expected to decline (i.e. in those areas where replacement expenditure is avoidable).

Evoenergy undertook this analysis over a ten year estimation horizon by reference to:

- forecast annual replacement capital expenditure at zone substations where demand is expected to decline, annualised over an assumed useful life;[34]

[32] Houston Kemp, Estimating the long run marginal cost of providing electricity distribution network services, January 2018, submitted as Evoenergy, Proposed Tariff Structure Statement, Appendix 17.2, January 2018.

[33] Evoenergy, Appendix 17.2: Proposed Tariff Structure Statement – Explanatory Statement, January 2018.

[34] Evoenergy allocated total replacement expenditure to these substations on the basis of their relative contribution to network maximum demand.

- replacement-related operating expenditure, assumed to be equal to 2 per cent of replacement expenditure; and
- forecast demand at zone substations for which demand is expected to decline.

The average incremental cost approach has an implicit focus on forecast demand growth and growth-related avoidable costs. Therefore, we modified the average incremental cost approach so as to enable its application to a decrement (rather than an increment) in demand.

In particular, we adopted a conservative assumption that there exists a linear relationship between demand and replacement expenditure and, on that basis, estimated LRMC in areas of our network where demand is expected to decline as follows:

$$LRMC^{decrement} = \frac{PV(total\ capital\ and\ operating\ repex\ at\ zone\ substations\ where\ demand\ is\ falling)}{PV(total\ demand\ at\ zone\ substations\ where\ demand\ is\ falling}$$

This gave rise to an indicative, network-level estimate of LRMC in areas of our network where demand is expected to decline equal to **$7.9 per kW**. This estimate is significantly lower than the LRMC in areas where demand is growing (as described in Section A1.2.4 below). Moreover, the true LRMC of a decrement in demand may be even lower than this indicative estimate because:

- it reflects a conservative assumption that there exists a linear relationship between demand and replacement expenditure, whereas our research indicated this relationship is generally non-linear; and
- Evoenergy included all categories of replacement expenditure in this calculation, including those for which different asset sizes don't exist – the potential removal of these cost items would reduce our estimate further.

On the basis of our preliminary analysis – namely the very low estimate of LRMC in areas where demand is expected to decline – it can be concluded that the level of research and analysis required to derive robust tariff-class specific estimates of LRMC in these areas (e.g. detailed allocations of demand and costs) was not warranted.

In this context, prices are set based on the LRMC of an increment in demand. The evidence that LRMC is higher in areas of our network where demand is growing suggests that the cost consequences of sending a price signal that is too low in areas where demand is increasing are materially greater than the potential cost savings arising from a reduction in demand in areas where demand is declining.

Further, demand growth is forecast to be more prevalent on the network than declining demand. Specifically demand at only one of the 15 zone substations is forecast to decline in the 2019-24 regulatory control period.

Finally, reflecting the LRMC in areas of declining demand in the estimate used to set prices would necessarily reduce the level of LRMC-based prices (because LRMC in areas of falling demand is likely to be much lower). This would, in turn, require:

- the recovery of more residual costs from fixed charges, with potential adverse customers bill impacts; and/or
- the recovery of more residual costs from less efficient (more distortionary) non-LRMC based variable charges.

1.2.3 Refining demand and expenditure inputs

Evoenergy has refined the expenditure inputs to the LRMC calculation by reviewing the drivers of all demand driven capital expenditure projects considered for inclusion in the

LRMC. This is because the classification of augmentation expenditure for network planning purposes can in some cases be improved for the purpose of estimating LRMC. Consequently, some costs from the augmentation plan were excluded for the purpose of estimating LRMC.

Similarly, capital expenditure inputs are annualised to account for potential end-effects arising from the use of a ten year estimation horizon, which would otherwise bias the estimate of LRMC.[35]

The demand inputs to the LRMC calculation were also refined by removing the off-setting effect of zone substations where demand is falling. In particular, the forecast demand used in the denominator in the AIC calculation was, in each year, equal to the sum of forecast demand at those zone substations where demand is forecast to increase over the evaluation period. This removed the off-setting effect of the few zone substations where demand is forecast to decline, the inclusion of which would act to artificially understate the additional demand served as a result of the expenditure in the numerator to the AIC calculation.

In other words, Evoenergy's proposed approach will better link forward looking costs to changes in demand for the purpose of its analysis of LRMC and, therefore, improve the estimation of LRMC.

1.2.4 Deriving LRMC estimates for each tariff class

Evoenergy estimates the LRMC of providing network services to customers in each of the three tariff classes, whereas previously (in the first TSS) prices were based on a single estimate of LRMC for all customers.

Evoenergy derived tariff class-specific demand forecasts by evaluating the extent to which customers in each tariff class contributed to peak demand on the network, and then apportioning the demand forecast to each tariff class on that basis.

Further, a detailed review of each relevant capital expenditure project was undertaken to identify the extent to which each project is driven by the demand of customers in each tariff class. This approach is more accurate than simply allocating forecast expenditure to tariff classes on the basis of a high-level allocation key such as 'contribution to maximum demand'. Evoenergy adopted an assumption that growth related operating expenditure is equal to 2 per cent of growth-related capital expenditure in each year of the evaluation period.

Estimates of the LRMC of providing network services to customers in each tariff class are included in Table A.1 below.

Table A.1 LRMC BY TARIFF CLASS (2018/19 $/KW P.A.)

Tariff Class		LRMC
Residential		111
LV Commercial		53
HV Commercial		13

[35] Capital expenditure was annualised over a representative useful life of 45 years and on the basis of a pre-tax real weighted average costs of capital.

1.1.1 Converting estimates of LRMC into prices

For the purpose of allocating LRMC to each of Evoenergy's tariffs, the above estimates of LRMC, expressed on a kW per annum basis are converted to a per kWh basis:

$$LRMC\ estimate\ (\$\ /\ kWh) = \frac{LRMC\ (\$\ per\ kW\ p.a.)}{8760\ hours}$$

For the purpose of setting the structure of charges within the TOU and demand tariffs, the above estimates of LRMC, expressed on a kW per annum basis, are converted into efficient price levels using the following formulae.

- ToU peak energy charges[36]

$$LRMC\ \ estimate\ (\$\ /\ kWh\ ) = \frac{LRMC\ (\$\ per\ kW\ p.a)\ \times\ Prob.\ MD\ occurring\ during\ time\ period}{Total\ number\ of\ hours\ in\ time\ period\ in\ the\ year}$$

- Peak demand charges [37]

$$LRMC\ \ estimate\ (\$/kW/day\ ) = \frac{LRMC\ (\$\ per\ kW\ p.a)\ \times\ Prob.\ MD\ occurring\ during\ time\ period}{Total\ number\ of\ days\ in\ the\ year}$$

This approach to converting estimates of LRMC into price levels represents an improvement to the previous approach and, for some tariffs, resulted in strictly LRMC-based price levels that would give rise to unacceptable customer bill impacts. In these circumstances, prices are to be transitioned to the efficient LRMC-based price level so as to avoid any unacceptable customer bill impacts.

Estimates of LRMC, like those of other DNSPs, vary through time and so transitioning to LRMC-based price levels, where necessary, will generally assist in smoothing intertemporal variation in LRMC-based prices.

1.2 The allocation of residual costs

Absent reliable information on customers' price elasticity of demand for distribution network services – which is theoretically required to minimise distortions to price signals for efficient usage – DUOS residual costs are allocated to network tariffs on the basis of the previous year's allocation and the current year's consumption volumes[38]. This ensures the level of DUOS revenue expected to be recovered from each network tariff and across all network tariffs complies with the requirements of clause 6.18.5(g)(1) and 6.18.5(h).

As to the allocation of DUOS residual costs to the charging parameters that comprise each tariff, the AEMC explained that:[39]

[36] 'MD' is an abbreviation of 'maximum demand' in this expression.

[37] For tariffs with kVA based demand charges, the same formula is applied except the $/kW/day is divided by the power factor.

[38] The same approach is used to allocate TUOS and Jurisdictional Scheme costs.

[39] AEMC, *Rule Determination – National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014*, November 2014, p.159.

The underlying principle that minimises distortions to efficient usage decisions is to assign residual costs to tariff components in inverse proportion to consumers' responsiveness to that tariff component.

Although Evoenergy does not have reliable information on the price elasticity of demand at the charging parameter level, economic theory establishes that fixed charges are the most appropriate charging parameter by which to recover residual costs because they are the most price inelastic. Therefore, our allocation of DUOS residual costs is guided by a rebalancing of the recovery of residual costs towards fixed charges and away from more distortionary consumption-based charges, subject to the extent Evoenergy can achieve this rebalancing without unacceptable network bill impacts for our customers.

Evoenergy then allocates to non-LRMC based variable charges the remaining residual costs to be recovered from each network tariff (i.e. the DUOS residual costs to be recovered from a particular tariff less the DUOS residual costs recovered by means of the fixed charge).

A.2 Addendum: Standalone costs and avoidable costs

This Addendum discusses the methodology Evoenergy used to generate the stand alone and avoidable cost efficiency test. In setting its tariffs, Evoenergy must comply with Rule 6.18.5 (e) which requires:

> *'…that for each tariff class, the revenue expected to be recovered must lie on or between:*
>
> > *(1) an upper bound representing the stand alone cost of serving the retail consumers who belong to that class; and*
> >
> > *(2) a lower bound representing the avoidable cost of not serving those retail consumers'*

For a tariff to be deemed to be efficient under the Rules, it must deliver a stream of revenue from a class of consumers that is between this upper and lower bound. This is commonly known as the 'efficient pricing band'. Tariff prices are deemed to be efficient if revenue recovered is (1) less than the stand alone cost and (2) greater than the avoidable cost. There are two reasons why a price within this 'band' is deemed to be efficient.

1. Less than the stand alone cost: Breaching this upper bound may result in that tariff class being incentivised to inefficiently by-pass Evoenergy's existing distribution network in order to avoid paying Evoenergy's network tariffs, despite the fact that the incremental cost to Evoenergy of providing these services to that consumer (or tariff class) may be less than the alternative (by-pass) 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 they did not provide them with electricity services, that tariff class is (a) being subsidised by other tariff classes, and (b) would be over-consuming electricity services, relative to efficient levels (assuming that the tariff class' demand curve is not perfectly inelastic).

Avoidable and Stand Alone Costs

The avoidable cost for each tariff is estimated using the estimated LRMC, which is calculated using the methodology outlined in Addendum A.1. Evoenergy estimates the stand-alone cost for each tariff class as the avoidable cost for each tariff plus total common costs.

Hence, the table shows that the DUOS revenue for each tariff class lies within the lower bound of the avoidable cost and the upper bound of the stand alone cost. The tariffs therefore comply with Rule 6.18.5 (e).

Table A.2 AVOIDABLE AND STANDALONE COSTS, 2019/20 ($'000)

	Avoidable Cost ('000)	DUOS Charges ('000)	Stand Alone Cost ('000)
Residential	15,446	57,125	134,977
LV Commercial	8,759	79,589	128,290
HV Commercial	570	7,591	120,101
Total		144,306	