



FINAL DECISION

Tariff Structure Statement proposals

**Victorian electricity distribution
network service providers—
CitiPower, Powercor, AusNet
Services, Jemena Electricity
Networks and United Energy**

August 2016

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Glossary

Term	Interpretation
CoAG Energy Council	The Council of Australian Governments Energy Council, the policy making council for the electricity industry, comprised of federal and state (jurisdictional) governments.
Consumption tariff	A tariff based on energy consumed (measured in kWh) during a billing cycle.
Declining block tariff	A tariff structure in which the per unit price of energy decreases in steps as energy consumption increases past set thresholds.
Demand charge	A tariff component based on the maximum amount of electricity (measured in kW) used at any given time during a billing cycle.
Demand tariff	A form of tariff that incorporates a demand charge component.
Flat tariff	A tariff incorporating a per unit consumption charge that is unchanging regardless of how much electricity is consumed or when consumption occurs.
Flat usage charge	A per unit consumption charge that is unchanging regardless of how much electricity is consumed or when consumption occurs.
Inclining block tariff	A tariff structure in which the per unit price of energy increases in steps as energy consumption increases past set thresholds.
Interval and smart meters	In this decision, used to refer to meters capable of measuring electricity usage in specific time intervals and enabling tariffs that can vary by time of day.
LRMC	Long Run Marginal Cost. Defined in the National Electricity Rules as follows: <i>"the cost of an incremental change in demand for direct control services provided by a Distribution Network Service Provider over a period of time in which all factors of production required to provide those direct control services can be varied".</i>
Minimum demand charge	Where a customer is charged for a minimum level of demand during the billing period, irrespective of whether their actual demand reaches that level.
NEO	The National Electricity Objective, defined in the National Electricity Law as follows: <i>"to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to—</i> <i>(a) price, quality, safety, reliability and security of supply of electricity; and</i> <i>(b) the reliability, safety and security of the national electricity system".</i>
NER	National Electricity Rules
Tariff	A tariff is levied on a customer in return for use of an electricity network. A single tariff may comprise one or more separate charges, or components.
Tariff structure	Tariff structure is the shape, form or design of a tariff, including its different components (charges) and how they may interact.
Tariff charging parameter	The manner in which a tariff component, or charge, is determined (e.g. a fixed charge is a fixed dollar amount per day).
Tariff class	A class of retail customers for one or more direct control services who are subject to a particular tariff or particular tariffs.
Time of use tariff	A tariff incorporating usage charges with varying levels applicable at different times of the day or week. A time-of-use tariff will have defined charging windows in which these different usage charges apply. These charging windows might be labelled the

Term	Interpretation
	'peak' window, 'shoulder' window, and 'off-peak' window.
Usage charge	A tariff component based on energy consumed (measured in kWh). Usage charges may be flat, inclining with consumption, declining with consumption, variable depending on the time at which consumption occurs, or some combination of these.

Final Decision

CitiPower

Our final decision is to approve CitiPower's revised tariff structure statement submitted on 29 April 2016.

Powercor

Our final decision is to approve Powercor's revised tariff structure statement submitted on 29 April 2016.

AusNet Services

Our final decision is to approve AusNet Services' revised tariff structure statement submitted on 29 April 2016.

Jemena Electricity Networks

Our final decision is to approve Jemena Electricity Networks' revised tariff structure statement submitted on 29 April 2016.

United Energy

Our final decision is to amend United Energy's revised tariff structure statement submitted 29 April 2016 such that:

- the residential demand tariff will be an opt-in only tariff from 1 January 2017

In all other respects, United Energy's revised tariff structure statement is approved.

Overall assessment

CitiPower

Our final decision is to approve CitiPower's revised tariff structure statement submitted on 29 April 2016. The tariff structure statement is compliant with the Rules' requirements, both in terms of what it contains and how it reflects the distribution pricing principles.

The tariff structure statement incorporates:

- tariff classes
- policies and procedures for assigning customers to tariffs
- tariff structures
- tariff charging parameters
- the approach taken in setting tariffs
- indicative pricing schedules

In terms of compliance with the distribution pricing principles, the tariff structure statement:

- exhibits movement along the cost reflectivity spectrum, by introducing demand tariffs for small customers, complementing existing cost reflective tariffs for large customers
 - offers those demand tariffs on an opt-in only basis for small customers as per the jurisdictional obligation
- includes tariffs with varying charges which target peak network demand
- demonstrates CitiPower has accounted for customer impacts by:
 - making small customer demand tariffs opt-in
 - providing a transition to demand tariffs for medium business customers
- shows CitiPower has considered its forward looking costs of supply and applied a reasonable approach to calculating long run marginal cost
- links long run marginal cost to specific tariff parameters, reflecting efficiency goals and consideration of customer impacts.

Powercor

Our final decision is to approve Powercor's revised tariff structure statement submitted on 29 April 2016. The tariff structure statement is compliant with the Rules' requirements, both in terms of what it contains and how it reflects the distribution pricing principles.

The tariff structure statement incorporates:

- tariff classes
- policies and procedures for assigning customers to tariffs
- tariff structures
- tariff charging parameters
- the approach taken in setting tariffs
- indicative pricing schedules

In terms of compliance with the distribution pricing principles, the tariff structure statement:

- exhibits movement along the cost reflectivity spectrum, by introducing demand tariffs for small customers, complementing existing cost reflective tariffs for large customers
 - offers those demand tariffs on an opt-in only basis for small customers as per the jurisdictional obligation
- includes tariffs with varying charges which target peak network demand
- demonstrates Powercor has accounted for customer impacts by:
 - making small customer demand tariffs opt-in
 - providing a transition to demand tariffs for medium business customers
- shows Powercor has considered its forward looking costs of supply and applied a reasonable approach to calculating long run marginal cost
- links long run marginal cost to specific tariff parameters, reflecting efficiency goals and consideration of customer impacts.

AusNet Services

Our final decision is to approve AusNet Services' revised tariff structure statement submitted on 29 April 2016. The tariff structure statement is compliant with the Rules' requirements, both in terms of what it contains and how it reflects the distribution pricing principles.

The tariff structure statement incorporates:

- tariff classes
- policies and procedures for assigning customers to tariffs
- tariff structures
- tariff charging parameters
- the approach taken in setting tariffs
- indicative pricing schedules

In terms of compliance with the distribution pricing principles, the tariff structure statement:

- exhibits movement along the cost reflectivity spectrum, by introducing demand tariffs for small customers, complementing existing cost reflective tariffs for large customers
 - offers those demand tariffs on an opt-in only basis for small customers as per the jurisdictional obligation
- includes tariffs with varying charges which target peak network demand
- demonstrates AusNet Services has accounted for customer impacts by:
 - making small customer demand tariffs opt-in
 - providing a transition to demand tariffs for medium business customers
- shows AusNet Services has considered its forward looking costs of supply and applied a reasonable approach to calculating long run marginal cost
- links long run marginal cost to specific tariff parameters, reflecting efficiency goals and consideration of customer impacts.

Jemena Electricity Networks

Our final decision is to approve Jemena Electricity Networks' revised tariff structure statement submitted on 29 April 2016. The tariff structure statement is compliant with the Rules' requirements, both in terms of what it contains and how it reflects the distribution pricing principles.

The tariff structure statement incorporates:

- tariff classes
- policies and procedures for assigning customers to tariffs
- tariff structures
- tariff charging parameters
- the approach taken in setting tariffs
- indicative pricing schedules

In terms of compliance with the distribution pricing principles, the tariff structure statement:

- exhibits movement along the cost reflectivity spectrum, by introducing demand tariffs for small customers, complementing existing cost reflective tariffs for large customers
 - offers those demand tariffs on an opt-in only basis for small customers as per the jurisdictional obligation
- includes tariffs with varying charges which target peak network demand
- demonstrates Jemena Electricity Networks has accounted for customer impacts by:
 - making small customer demand tariffs opt-in
 - providing a transition to demand tariffs for medium business customers
- shows Jemena Electricity Networks has considered its forward looking costs of supply and applied a reasonable approach to calculating long run marginal cost
- links long run marginal cost to specific tariff parameters, reflecting efficiency goals and consideration of customer impacts.

United Energy

Our final decision is to amend United Energy's revised tariff structure statement submitted on 29 April 2016 such that:

- the residential demand tariff will be an opt-in only tariff from 1 January 2017

In all other respects, the tariff structure statement is compliant with the Rules' requirements, both in terms of what it contains and how it reflects the distribution pricing principles.

The tariff structure statement incorporates:

- tariff classes
- policies and procedures for assigning customers to tariffs
- tariff structures
- tariff charging parameters
- the approach taken in setting tariffs
- indicative pricing schedules

In terms of compliance with the distribution pricing principles, the tariff structure statement:

- exhibits movement along the cost reflectivity spectrum, by introducing demand tariffs for small customers, complementing existing cost reflective tariffs for large customers
 - offers those demand tariffs on an opt-in only basis for small customers as per the jurisdictional obligation
- includes tariffs with varying charges which target peak network demand
- demonstrates United Energy has accounted for customer impacts by:
 - making small customer demand tariffs opt-in
 - providing a transition to demand tariffs for medium business customers
- shows United Energy has considered its forward looking costs of supply and applied a reasonable approach to calculating long run marginal cost
- links long run marginal cost to specific tariff parameters, reflecting efficiency goals and consideration of customer impacts.

Introduction

In reviewing tariff statement proposals of CitiPower, Powercor, Jemena Electricity Networks (JEN), AusNet Services and United Energy, our role is to determine whether a distributor's tariff structure statement proposal complies with the distribution pricing principles and other applicable requirements in the National Electricity Rules (the Rules).¹ The Rules require a tariff structure statement to include a number of specific elements, such as tariff structures, the policies and procedures for assigning and re-assigning retail customers to tariffs and charging parameters.² A tariff structure statement proposal must also comply with the Rules' distribution pricing principles.³ The distribution pricing principles require distributors to set cost reflective tariffs but also to take account of customer impacts and the need for transition periods.

The distribution pricing principles are new and result from a long process of reform initiated by Australian (Commonwealth and state and territory) and jurisdictional governments. Those reforms are intended to establish tariffs which better reflect costs incurred by electricity networks from customer decisions to use electricity at specific times or locations. This is because (marginal) network costs are primarily driven by peak demand, not by usage outside of peak demand periods.

More cost reflective tariffs will allow customers to reduce bills by shifting their electricity usage away from peak periods. Reducing peak demand means less network capacity will be required to meet future demand. Customers would therefore pay for less network infrastructure. This means lower bills over the longer term, all else equal.

Distributors' cost reflective tariffs will send a signal to retailers about the cost of using the network. Retailers will then determine if, and how, their retail offerings to customers will reflect these signals. This is likely to result in customers having a choice on the type of tariff available—i.e. a cost reflective tariff and a flat consumption tariff.

Communication to customers will also be important (so that they can understand tariffs and respond), and this is likely to be an ongoing process with retailers playing an important role.

The distribution pricing principles are not prescriptive. They do not specify particular tariff structures or transitional arrangements. This means a range of approaches are likely to comply with the distribution pricing principles. Hence, we do not seek to enforce a single approach. Nonetheless, tariff statements are not open to distributors to adopt any approach they see fit. We do wish to see movement towards more cost reflective tariffs, taking into account customer impacts, as we consider the distribution pricing principles require.

Stakeholders should note that, while tariff statements include indicative tariff levels (the dollar amount), actual tariff levels are determined by our revenue determinations which generally occur in five year cycles. Our review of tariff statement proposals is focussed on

¹ NER, cl. 6.12.3(k).

² NER, cl. 6.18.5.

³ NER, cl. 6.18.5.

tariff structures and intended movements in tariff levels based on these structures, not on the actual prices or price levels. The actual tariff levels (or prices) will be approved as part of the AER's annual assessment of distributors' pricing proposals. Those proposals must be consistent with the approved tariff structure statement and the price controls set out in the distribution determinations.

What a tariff structure should include

Each Victorian distributor's tariff structure statement contains a description of tariff structures, the tariff classes to which customers will be assigned, the procedures for how customers will be assigned to a tariff, the tariff design and an indicative pricing schedule.

Setting these out in a tariff structure statement ensures that a distributor has met its compliance obligations within the rules on information provision. It also helps ensure there is transparency about future tariffs for retailers and market participants. See chapter 2 for more information.

Compliance with distribution pricing principles

A distributor's tariff structure statement proposal must also comply with the distribution pricing principles and other applicable requirements in the Rules.⁴

We briefly explain our reasons for our assessment below. Further details are provided in chapter's 5 to 7 and appendix B

Introduction of demand tariffs

We approve the move to demand tariffs for residential, small and medium business customers in distributors' revised tariff structure statements submitted to us on 29 April 2016. We are satisfied these tariffs contribute to the achievement of compliance with the distribution pricing principles.

Stakeholders were generally of the view that demand tariffs were a positive move towards cost reflective pricing.⁵ We also heard this at our public forum in December 2015. There were some submitters who consider that a time of use tariff might better reflect efficient costs and promote cost reflective pricing compared to a demand tariff.⁶

We consider that demand tariffs, while not perfect, are more cost reflective compared to flat tariffs that are based only on consumption, or time of use tariffs. Demand tariffs tend to more

⁴ NER cl. 6.12.3(k).

⁵ Energy Consumers Australia, *Victorian DNSP Tariff Structure Statement proposals, Response to AER issues paper*, January 2016, p. 3; AGL, *Re Tariff Structure Statement Proposals of the Victorian electricity distribution network service providers*, 20 January 2016, p. 2; Energy Australia, *Submission Tariff Structure Statement proposals – Victorian electricity distribution network service providers*, 20 January 2016, p.1.

⁶ Creative Energy Consulting, *Submission to the AER Issues Paper on Tariff Structure Statement Proposals*, January 2016, p. 5 ;John Herbst, *Submission on the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 1.

closely resemble the impact of customers' decisions to utilise the distribution network at the time it is most heavily utilised.

The proposed demand tariffs measure customers' maximum demand in 30 minute intervals during the billing period. Charging windows have been proposed which provide signals to customers about the times when the network is most likely to be congested, or facing its peak demand. The proposed demand tariffs therefore will send a price signal that more closely reflects how customers use electricity and how that use might affect the need for future network upgrades by distributors.

Further, by being offered on an opt-in basis, the proposed demand tariffs are compliant with the State Government AMI Tariffs Order. We are therefore satisfied they contribute to achievement of compliance with the distribution pricing principles.⁷

See Section 5.1.3 for a fuller discussion on demand tariffs.

Targeting peak demand

The demand charges proposed by Victoria's distributors attempt to target network wide peak demands. We are satisfied this contributes to achievement of compliance with the distribution pricing principles. We accept that the proposed demand tariffs do not necessarily coincide with when the network peak might actually occur. Nevertheless, by targeting the highest 30 minute demand during the peak charging window, they encourage customers to consider the impact of their electricity usage patterns when the network is under most stress. As a consequence, they can assist customers respond to peak demands on the network and therefore help defer capital augmentations in the long run. They represent a reasonable first step in the move towards cost reflective pricing.

The new tariffs do this by setting a peak demand charge during the summer months December to March from 3pm to 9pm weekdays. These are the months and times when demand is typically highest. Charges in non-summer months are lower, reflecting the lower levels of demand experienced on the network during these periods.

This design gives customers the ability to respond to the tariff at the times when the network is most likely to be under peak demand stress. Stakeholders were in favour of a common charging window for residential customers.⁸ See section 5.2.1 for more discussion. There were no submissions about commercial and industrial charging windows.

Transitioning to new tariffs

Customers consuming less than 40MWh per annum will be transitioned to demand tariffs only via an active choice they make to opt-in to this tariff. Otherwise, they will remain on their existing tariff. We are satisfied that this contributes to achievement of compliance with the

⁷ NER, clause 6.18.5(j) and 6.18.5(k).

⁸ Competitive Energy Association, *Issues Paper Tariff structure statement proposals - Victorian electricity distributors*, 25 January 2016, p 2;

distribution pricing principles because it complies with the amended Advanced Metering Infrastructure (AMI Tariffs) Amendment Order 2016.⁹ It also ensures customers have a choice of tariff, and so gives them an opportunity to respond to the price signal if they opt-in to the demand tariff.¹⁰

CitiPower, Powercor and JEN proposed that business customers that consume up to 60MWh a year will be able to opt-in to demand tariffs. We are satisfied that this contributes to achievement of compliance with the distribution pricing principles because it assists distributors to manage customers who might cut across the small customer threshold of 40MWh per annum on a regular basis. In so doing, it helps to ensure these customers do not face bill volatility from one year to the next. AusNet Services and United Energy have adopted the 40MWh cut off. We also approve this proposal because it is consistent with the amended AMI Tariff Order and it will not adversely affect customers, based on their consumption profiles.

For all other medium business customers (above 40MWh pa) all distributors have chosen to transition customers to a demand tariff by 2020. This is by assigning these customers automatically to a demand tariff. Customers will progressively have this tariff increase over the period as more of the long run marginal costs are included in the demand charge over the 2017-20 period. We are satisfied that this contributes to the achievement of compliance with the distribution pricing principles by enabling these customers to become aware of how the new charges will affect them. Stakeholders supported these types of transitional measures.¹¹ The transition period gives customers time to adjust their demand and consumption behaviour before facing a fully cost reflective demand charge. Customers will also see some reductions in consumption charges, to offset the increasing demand charge. This helps to ensure that the tariff is cost reflective and not over recovering revenues.

See Section 5.1.3 for more information on approaches to transition.

Assignment of customers to tariffs

CitiPower, Powercor, AusNet Services and JEN all offer demand tariffs to small customers on an opt-in basis only, in compliance with the Victorian Government's amended AMI Tariffs Order.

However, United Energy's tariff structure statement did not explicitly state which customers would be assigned to United Energy's residential demand tariff, which has been offered to customers since 2015. We understand from United Energy that they intended for new

⁹ Victorian Government Gazette, Order in Council, *Advanced Metering Infrastructure (AMI Tariffs) Amendment Order 2016*, 14 April 2016.

¹⁰ NER, cl. 6.18.5(h).

¹¹ Red and Lumo Energy, *Submission on the Victorian DNSPs' Revised Tariff Structure Statement Proposals*, 29 April 2016, p. 2; Consumer Utilities Advocacy Centre and Alternative Technology Association, *Submission to the Australian Energy Regulator - Preliminary Views on Victorian 2017–20 Tariff Structure Statements*, 28 June 2016, p. 1; Joint consumer groups, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 1.

connection customers to be mandatorily assigned to this tariff with the ability to opt-out. We find that such an assignment cannot be effected due to the requirements of the amended AMI Tariffs Order.¹² We have therefore made an amendment to require that this tariff be offered to customers as an opt-in tariff, consistent with the amended AMI Tariffs Order, from 1 January 2017.

For those customers not captured by the AMI Tariffs Order, transitional measures proposed by the distributors demonstrate that they have considered customer impacts and the need for transition periods when moving customers to cost reflective tariffs. Business customers will be assigned to cost reflective demand tariffs automatically based on the level of their consumption under certain demand thresholds. We are satisfied that these measures contribute to achievement of compliance with the distribution pricing principles.

See Section 7.2 for more information on tariff assignment policies.

Calculating forward looking costs

We find that the Victorian distributors have used an appropriate methodology to calculate their long run marginal costs. They used the average incremental cost approach, which is commonly used by distribution networks in Australia. We are satisfied that this methodology contributes to achievement of compliance with the distribution pricing principles.

The long run marginal costs have been applied only to the demand component within tariffs. The fixed supply charge and variable energy (consumption) charges have been set to recover residual costs. These residual costs are the difference between the allowed revenue requirement and the revenue derived from recovering long run marginal costs. We are also satisfied that, for this tariff period, the distributors have calculated their long run marginal costs in an appropriate manner and that this contributes to achievement of the distribution pricing principles. Red and Lumo Energy considered that replacement capital expenditure should also be included in long run marginal costs.¹³ We agree this would be desirable and should be considered for future tariff structure statements but the distributors' proposals to date are a positive move to cost reflective charging.

Further discussion on forward looking costs can be found in Section 6.1.

Consideration of customer impacts

The five distributors provided estimates of residential and business customer bill impacts in their tariff structure statements and in response to questions we posed. These impacts do not account for any customer response to new cost reflective tariffs. The impact of customers will vary depending on their response to new and amended tariffs. Retailers and customer groups considered that more customer impact analysis would be beneficial and

¹² Victorian Government Gazette, Order in Council, *Advanced Metering Infrastructure (AMI Tariffs) Amendment Order 2016*, cl. 10A(9)(b), 14 April 2016.

¹³ Red and Lumo Energy, *Re: Victorian Tariff Structure Statement Proposals*, 16 June 2016, p. 4.

would be important in convincing customers of the benefits from tariff reform.¹⁴ We encourage distributors to prioritise impact analysis as more information becomes available on customer impacts once behavioural changes are observed.

Examples of customer impact analysis can be found in Appendix B.2.

Stakeholder engagement

The Victorian distributors collectively engaged with customers, retailers and consumer representatives where possible. This helped formulate the design of their cost reflective tariffs. Examples included distributor alignment on the period, and times, of peak demand charging.

Feedback to us about the distributors' stakeholder consultation has been mostly positive. Stakeholders submitted they have been given the opportunity to comment on distributors' proposals for cost reflective tariffs and to influence the tariff structure statements content.

Stakeholder submissions were broadly supportive of the move to demand based charging, although this was not a universal view. The distributors have created tariffs that align the charging windows and overall tariff design, cognisant that stakeholders and retailers saw this as an important feature of demand tariffs.

Submitters did note that it will be important for end use customers to receive on-going communication and education to help them respond to cost reflective tariffs, where they choose these tariff options. Distributors have committed to working with retailers and other industry players to assist with this education.

See Appendix B for more detail on stakeholder engagement.

Small and medium business customer tariffs

We approve all five Victorian distributors' tariff structure statements for small business tariffs. These are demand based tariffs, offered as an opt-in tariff, to customers consuming less than 40MWh per annum as per the AMI Tariffs Order requirements.

CitiPower, Powercor and JEN extended this definition to customers with annual consumption of less than 60MWh. This will help mitigate impacts for those customers while at the same time providing them with a more cost reflective price, to incentivise efficient long term use of the network.

In contrast, medium business customers will be automatically transitioned to a cost reflective demand tariff beginning 1 January 2017, or from January 2018 in the case of AusNet Services customers. These customers have not been on demand tariffs previously. Stakeholders considered a transition to cost reflective tariffs important for this customer

¹⁴ Consumer Utilities Advocacy Centre and Alternative Technology Association, *Submission to the Australian Energy Regulator - Preliminary Views on Victorian 2017–20 Tariff Structure Statements*, 28 June 2016, p. 5–6; Red and Lumo Energy, *Re: Victorian tariff structure statement proposals*, 15 June 2016, p. 4.

segment.¹⁵ As a consequence, distributors have taken account of potential customer impacts through the phased introduction of these tariffs. The fixed charges and consumption charges in these tariffs will reduce as an offset. Customers will be assigned based on their level of annual consumption, voltage levels or set demand thresholds. We approve this transition and note that stakeholder consultation with affected customers was undertaken over a two year period to refine the proposed tariffs.

See Section 5.2.2 for further discussion.

Large business customer tariffs

All five distributors proposed to continue with their existing basis of charging large business customers. That is, CitiPower, Powercor, AusNet Services, JEN and United Energy will continue to offer large business customers a demand tariff. We consider that the continuance of these charges contributes to the achievement of compliance with the distribution pricing principles.

In some instances, these tariffs will be amended to charge on a kVA basis, rather than the existing kW used to date. This will make these tariffs slightly more cost reflective. Distributors have been consulting with their larger customers about these changes. In particular, the focus has been on advising customers how they can reduce or minimise their electricity bills, for instance through power factor correction equipment. There were no submissions from larger customer groups about these tariffs.

See Sections 5.1.4 and 5.2.3 for more discussion of large customer tariffs.

Future direction

These are the first tariff structure statements submitted by Victoria's distributors. Tariff reform is a long term project. Distribution pricing principles require movement towards more cost reflective tariffs with every tariff statement proposal over upcoming regulatory control periods.

We have identified matters to guide the Victorian distributors of our views on the direction the industry should be heading to maintain compliance with the distribution pricing principles in future and allow consumers to make more informed energy decisions.

For the tariff structure statements for the next period (2021-25) we encourage the Victorian distributors to:

¹⁵ Red and Lumo Energy, *Submission on the Victorian DNSPs' Revised Tariff Structure Statement Proposals*, 29 April 2016, p. 2; Consumer Utilities Advocacy Centre and Alternative Technology Association, *Submission to the Australian Energy Regulator - Preliminary Views on Victorian 2017–20 Tariff Structure Statements*, 28 June 2016, p. 1; Joint consumer groups, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 1.

- Consider whether a move toward measuring a customer's highest demand over an average of, say, three days, rather than a single 30 minute period within the charging window aligns more closely with network co-incident demand
- Refine calculation of long run marginal costs to include replacement capital expenditure
- Provide more information about how their demand management, network planning and non-network solutions interact with cost reflective pricing to deliver positive longer term network and consumer benefits.

Our process

The table below sets out how this tariff statement draft decision follows on from the Power of Choice reform program and into the first annual pricing approval process.

As outlined below, the Victorian distributors submitted their initial tariff structure statement proposals in September 2015 as required by the Rules. Following this, the Victorian Government made changes to its AMI Tariffs Order, to require cost reflective tariffs to be offered on an opt- in basis from 2017 for small customers.

As a result, we made a draft decision, in February 2016, that did not approve the distributors' September 2015 tariff structure statements (which proposed automatic tariff assignment with an opt-out for the small customer demand tariffs). This gave distributors the opportunity to amend their tariff structure statements to take account of the Government's changes. The distributors submitted revised proposals in April 2016.

We also took into account stakeholder submissions received on the September 2015 tariff structure statements, comments received at our public forum in December 2015 and submissions made on the revised April 2016 tariff structure statements. These are considered in the chapters that follow.

Table Tariff Reform—key milestones

Reform milestones	Date
Rule change process	
Power of Choice review: AEMC recommends reforms to distribution pricing rules	November 2012
COAG Energy Council proposes distribution pricing rule change to AEMC	September 2013
AEMC makes final rule determination on distribution pricing rule change proposal	November 2014
Tariff statement process	
Victorian distributors submit tariff statement proposals to AER	25 September 2015
AER publishes issues paper	3 December 2015
AER hosts public forum on distributors' proposals	14 December 2015
Stakeholders' submissions on distributors' proposals and AER's issues paper closed	20 January 2016
AER publishes draft decision	22 February 2016
Victorian distributors' revised proposal and stakeholders' submissions on AER's draft decision due	29 April 2016
AER forum on preliminary positions	31 May 2016
Submission on AER preliminary positions	16 June 2016
AER publishes final decision	26 August 2017
First annual pricing proposal process to apply tariff structure statement	
Victorian distributors submit annual pricing proposals	30 September 2016
AER publishes approved pricing proposal	11 November 2016
New tariffs take effect	1 January 2017

1 Background

The requirement on distributors to prepare a tariff structure statement arises from a long process of reform to the National Electricity Rules (the Rules) governing distribution network pricing. The purpose of the reforms is to empower consumers to make informed choices by:

- Providing better price signals—tariffs that reflect what it costs to use electricity at different times so that customers can make informed decisions to better manage their bills.
- Transitioning to greater cost reflectivity—requiring distributors to explicitly consider the impacts of tariff changes on customers, and engaging with customers (and their representatives) and retailers in developing tariff proposals over time.
- Managing future expectations—providing guidance for retailers, customers and suppliers of services such as local generation, batteries and demand management by setting out the distributor's tariff approaches for a set period of time.

Why is network tariff reform important?

Distribution tariffs historically have not varied according to the time when electricity is used. But distribution costs reflect the maximum demand the network must cater for at key points in time. This means existing network tariffs don't reflect network costs. Most existing tariffs send price signals that don't inform customers about the costs imposed on distribution networks in peak demand periods.

Lifestyle changes, including use of air conditioners, means consumers now use relatively more of their electricity at peak times, even if overall energy consumption has declined. Network costs have increased in recent years as distributors invest in additional infrastructure upgrades to meet the higher peak demand. This increased investment has been a factor driving electricity price rises in the recent past.

Given that there is far greater diversity today in how consumers use electricity, it is important for consumers to understand the value of their choices. Moving to tariffs that reflect electricity use during peak demand periods will make pricing for electricity more transparent.

As such, cost reflective pricing means the tariffs individual consumers pay more accurately reflect the way they use electricity. Those who use electricity at peak times will pay rates better reflecting the costs created by their use. Those who use less power in peak demand periods and more at other times will benefit from lower network prices during non-peak times. And if consumers take heed of these price signals, network investment requirements will be lower than they otherwise would be. This reduces upwards pressure on electricity prices for everyone.

What are the key concepts to understand?

This final decision incorporates concepts which may be unfamiliar to some readers. In this section we provide descriptions of the more commonly used concepts. Readers familiar with electricity network regulation and terminology may choose to skip to the next section.

Difference between demand and consumption

Electricity consumption is the total amount of electricity consumed (used) over a period of time. For example, a typical Australian household might use around 7,000 kWh of electricity over 12 months.¹⁶ Demand means the amount of electricity used at a single point in time. Peak demand is the maximum amount of electricity used at a single point in time over a defined time period, often a day or a year. A typical Australian household might have its yearly peak demand of around 5kW, either on a hot summer afternoon when air conditioning is used, or on a winter evening when electric heating is used.¹⁷ That is, the household's annual peak demand is 5kW.

A good analogy for electricity consumption compared to electricity demand is a river flowing under a bridge. Annual electricity consumption is equivalent to the total water volume flowing under the bridge during a year. Electricity demand is equivalent to the volume of water under the bridge at a single point in time. Peak electricity demand is equivalent to the time when the largest volume of water is flowing under the bridge.

Long run marginal cost and residual costs

An important feature of this draft decision is the concept of long run marginal cost. Long run marginal cost is equivalent to the forward looking cost of a distributor providing one more unit of service, measured over a period of time sufficient for all factors of production to be varied. Long run marginal cost could also be described as a distributor's forward looking costs that are responsive to changes in electricity consumption.

The Rules require network tariffs to be based on long run marginal cost.¹⁸ However, not all of a distributor's costs are forward looking and responsive to changes in electricity consumption. Hence, if network tariffs only reflected long run marginal cost, distributors would not recover all their costs. Costs not covered by a distributor's long run marginal cost are called 'residual costs'. The Rules require network tariffs to recover residual costs in a way that minimises distortions to the price signals for efficient usage that would result from tariffs reflecting only long run marginal costs.¹⁹

Types of network tariffs

A network 'tariff' is the combination of charges paid by a network customer in return for network services. Historically, most small customers in Australia have been on either a flat usage tariff or a block tariff (tiered pricing):

- **Flat tariff**—usually consists of a fixed charge and flat usage charge. That is, usage is charged the same price no matter how much electricity the customer uses.

¹⁶ For a three person household in NSW without gas nor swimming pool, via: Acil Allen Consulting, *Electricity bill benchmarks for residential customers (report to the Australian Energy Regulator)*, March 2015, p. 29.

¹⁷ EMET Consultants Pty Ltd as referenced by solarchoice.net.au.

¹⁸ NER, cl. 6.18.5(f).

¹⁹ NER, cl. 6.18.5(g)(3).

- **Inclining block tariff**—usually consists of a fixed charge and a series of block charges where the price changes depending on the size of the customer's total consumption. The first consumption block is charged the lowest price, and each successive block of consumption is charged at a higher rate.
- **Declining block tariff**—usually consists of a fixed charge and a series of block charges where the price changes depending on the size of the customer's total consumption. The first consumption block is charged the highest price, and each successive block of consumption is charged at a lower rate. A declining block tariff is the reverse of an inclining block tariff.

Flat tariffs or inclining block tariffs are relatively common. Declining block tariffs are now relatively uncommon in most jurisdictions.

A different type of tariff is a **time-of-use (TOU) tariff**. Time-of-use tariffs usually also have a fixed charge component. Time-of-use tariffs apply a different price depending on when the customer consumes electricity. A time-of-use tariff will have defined charging windows when different rates apply. These charging windows might be labelled the 'peak' window, 'shoulder' window, and 'off-peak' window. The highest usage rate applies to consumption during the peak window, and the lowest usage rate applies to consumption during the off-peak window.

A **demand tariff** includes a charge based on the customer's highest measured demand during the billing period. Often, demand charges will be limited to the highest demand measured during charging windows. Typically, charging windows will coincide with the peak demand times for the whole network or for specific customer types (e.g. residential or small business customers). Demand tariffs may also include fixed charges and usage charges.

Critical peak pricing is another tariff variant and an example of more dynamic tariffs. Under this approach a distributor can specify periods of critical network peak demand, and will set prices particularly high for any demand or consumption that occurs during the specified critical peak event. This approach is generally in use currently only for certain larger businesses which can moderate consumption (e.g. by shutting down part of a production line) or use their own generation assets as a substitute for network electricity.

Distributors sometimes offer combinations of a primary tariff, such as those listed above, with secondary tariffs, such as load control tariffs. These tariffs typically apply a lower rate to electricity used for certain appliances in return for using those appliances during off peak times. For example, off peak hot water. In other cases a lower rate may apply to customers who allow a distributor to remotely cycle appliances on and off during peak demand periods. For example, CitiPower and Powercor have tested technology to cycle customers' air conditioning. They are now considering how to trial this technology with customers.²⁰ AusNet Services also wants to trial the possibility of remote controlling customers' air-conditioners to

²⁰ CitiPower and Powercor, Email to AER staff, *Remote air-conditioning cycling through meters or other means in Victoria*, 12 August 2016.

limit overall demand during peak periods.²¹ Distributors will often limit access to secondary tariffs to customers on specified primary tariffs such as flat usage tariffs or block tariffs.

In addition to tariffs, distributors sometimes seek to influence network demand by offering rebates (partial refunds) to customers in return for demand reductions made by the customer during specific time periods. Rebates may be linked to critical peak demand times or to specific geographic areas or both.

Metering and tariffs

Flat tariffs or block tariffs can be applied to customers with basic accumulation meters (type 6 meters). This is because to calculate the tariff, it is only necessary to know the customer's total consumption, not when that consumption has occurred.

In Victoria though, all customers with annual consumption of less than 160MWh have advanced metering infrastructure (AMI)—commonly referred to as **smart meters**—since 2009. The installation of these meters was undertaken by the five electricity distributors as part of a State Government mandated rollout. Smart meters can facilitate time-of-use or demand tariffs or more dynamic tariffs. This is because they measure both when, where and how much electricity a customer has consumed, which is necessary to calculate a time-of-use tariff or demand tariff. These meters are read remotely through communications functionality that is included in this metering infrastructure.

Degree of choice in network tariff assignment

A constituent element of a tariff structure statement are the policies and procedures a distributor will apply for assigning customers to tariffs or reassigning customers from one tariff to another.²² These policies and procedures should include certainty around whether a tariff is a 'mandatory' tariff, 'opt-out' tariff or 'opt-in' tariff for particular customer types. Among other possibilities, customer types might be based on the connection characteristics and metering arrangements of the customer, as well as whether the customer is a new or existing customer. The differences between these three options are:

- **A mandatory tariff**—means this is the only tariff available for customers of a particular type. For example, industrial customers connected to the high voltage network and whose annual consumption falls within a particular range may be required to be assigned a demand tariff, and there may be no other tariff options they can choose from.
- **An opt-out tariff**—means the customer is assigned to this tariff by default, but they may voluntarily choose to be re-assigned to a different tariff. For example, a residential customer may by default be assigned to a block tariff, but could choose to switch to a time-of-use tariff.

²¹ AusNet Services, Email to AER staff, *Remote air-conditioning cycling through meters or other means in Victoria*, 15 August 2016.

²² NER, cl.6.18.1A(a)(2).

- **An opt-in tariff**—means the customer can choose to be re-assigned to this tariff, but is by default assigned to some other tariff. This is the opposite of an opt-out tariff. In the previous example, the time-of-use tariff would be described as an opt-in tariff.

It is important that distributors are clear in their tariff structure statements which of their proposed tariffs are mandatory, opt-out and opt-in, and for which customer types.

To assign customers to one of the various tariffs offered by a distributor requires also that the distributor group customers into types, or classes. Customer classes might be based on a customer's connection type or metering arrangements, their annual usage, or whether the customer is a new or existing customer.

Elements of a tariff structure

Tariff structure incorporates the charges that make up a tariff. For example, a demand tariff typically comprises a fixed charge, a usage charge and a demand charge. How those charges are applied to a customer reflect the tariff's charging parameters. Examples of charging parameters include:

- how frequently a charge is applied to a customer
- the times during which usage or demand is measured to calculate a charge
- variations in charges and how those variations are triggered.

Charging parameters may be varied to match the purpose of the distributor when designing the tariff. For example, the demand component within a demand tariff may target the time of a distributor's broad network peak, a local regional peak, or a customer class peak (e.g. residential customers).

A group of customers with similar connection and usage characteristics will be grouped into the same tariff class. There can be multiple tariffs within a tariff class to which a customer could be assigned.

How does the tariff structure statement fit into the regulatory process?

Tariff statements are a new element of the Rules. Generally, tariff statements will be submitted to us by distributors with their distribution proposals every five (usually) years. Following our usual distribution determination process we will publish, assess and invite feedback on a tariff statement along with a distribution proposal. An approved tariff statement will then apply to the distributors' tariffs for the coming five year regulatory control period.

In this case, for the first tariff statements for each distributor, the Rules require tariff statements be submitted outside the distribution determination process for all distributors, other than TasNetworks. This is because of the timing of the introduction of tariff statements to the regulatory framework compared to the timing of most distribution determinations.

The timing of TasNetworks' distribution determination enabled the Australian Energy Market Commission to specify in the Rules that TasNetworks' tariff statement be submitted with its distribution determination. The upcoming distribution regulatory period for TasNetworks is to be only two years long. Hence, TasNetworks' initial tariff statement will apply for only two years.

For other distributors the next distribution determination processes are too far into the future for the usual process to be followed. Delaying submission of the initial tariff statement for those distributors would unduly delay the tariff reform process. For distributors in South Australia, Victoria, New South Wales, the Australian Capital Territory and Queensland, the Rules required that tariff statements be submitted in advance of the next distribution determination. The initial tariff statements for these distributors will also apply for abbreviated periods, reflecting the time remaining until their next distribution determination. For Victoria, this is four years, covering the period 1 January 2017 to 31 December 2020.

Once approved, a tariff statement will guide a distributor in shaping its annual tariff proposals, submitted to us prior to each regulatory year. The annual tariff proposal is where a distributor reflects our distribution determination in their tariffs. We check that total expected revenue to be earned in the coming regulatory year is consistent with the annual revenue we determined may be earned in that year.

We will now also check that an annual tariff statement is consistent with a distributor's approved tariff statement. For example, a distributor may not propose a tariff which was not included in its approved tariff statement. Nor may a distributor materially vary the parameters of a tariff from that described in its approved tariff statement. This provides retailers, customers and other stakeholders with certainty about the structure of tariffs to be charged in each year of the regulatory control period.

Approved tariff structure statements in principle address tariffs for both standard control services and alternative control services. However, in practice the tariffs for alternative control services are almost entirely dealt with by our distribution determinations and the annual tariff approval process. There is relatively little regulatory role left for tariff statements in the context of alternative control services. Tariffs for fee based and quoted services are set on an individual customer specific basis, and so typically reflect the costs that each user imposed on the network to provide the service. For this reason distributors deal with alternative control services in their tariff statements relatively briefly. For the same reason our tariff structure decisions will focus on standard control services and make relatively little comment on a distributor's alternative control services. The Victorian distributors have made no changes to the way their alternative control services are constructed and priced compared to their historic approach.

How does network pricing reform interact with other reforms?

Network tariff reform is commencing at the same time as reforms to the provision of metering services and access to customer information. These related reforms have implications for network tariffs, including the pace at which tariffs can evolve to become more cost reflective.

For metering, changes to the Rules will remove the existing barrier to third parties supplying meters to customers. The same wave of changes to metering arrangements will establish new minimum specifications similar to smart meters currently in use. Smart metering is already in use across Victoria as a result of the mandated smart meter rollout. This has resulted in better meter functionality and data flows and facilitates broader use of more cost reflective pricing over time.

Not all consumers might want to use their own detailed consumption data and instead engage an energy services provider or retailer to use this information to recommend bundled energy plans. In recognition of the changing nature of how customer energy usage information might become available and used, reforms were also recently introduced to make it easier to obtain access to this information.²³

Customers will now be able to access their data from their distributor and retailer, and grant access to other parties to do so on their behalf. These reforms will not only help customers but also energy service providers in developing and offering more tailored and innovative energy products and services over time.

How does network pricing interact with network planning and demand management?

Demand pressures can be addressed by sending price signals to encourage customers (and retailers) to reduce demand, consistent with the aims of tariff reform. Alternatively, demand pressures can be addressed by network expenditure, as has been the case in the recent past. Another option, which distributors are required by the Rules to consider, is the use of demand management initiatives. These can include rebates for customers who reduce their consumption. Or distributors can install or utilise generation assets in areas where the associated cost is less than the cost of network investment to meet local area demand.

While not explicitly required of distributors by the Rules, we consider it useful for tariff statements to describe the distributor's approach to integrating tariff reform, network investment and demand management. Such discussion will position tariff statements within the broader context of how distributors intend to respond to demand and service challenges. Also, while the Rules require distributors to consider the time and location varying nature of network cost drivers, difficulties with locational pricing suggest a larger role for demand management initiatives to address local network demand pressures.

An example of this is United Energy proposing to apply rebates for customers in selected locations within its network, to encourage demand reductions that will limit peak demand.²⁴ This will alleviate, or postpone, the need for more costly network upgrades to those areas where network constraints may be likely in the near term, and still ensure continuing electricity supply and reliability.

²³ Australian Energy Markets Commission, National Electricity Amendment (Customer access to information about their energy consumption) Rule 2014, Final Determination, 6 November 2014.

²⁴ United Energy, *Revised Tariff Structure Statement 2017–20*, 29 April 2016, p. 34-35.

CitiPower and Powercor also flag an intention to trial critical peak rebates and tariffs for similar reasons to United Energy.

As new technologies emerge in energy markets, it is anticipated that distributors will also focus on demand management and other non-network solutions to complement pricing as a means to minimising peak demands and delivering electricity efficiently.

2 Rule requirements

The Rules amended pricing provisions have three aims, namely to provide:

- better signals of the cost drivers of distribution networks
- explicit consideration of tariff change impacts
- transparency and greater certainty on tariff strategies for a regulatory period.

A new network pricing objective will be the focus for distributors when developing their network prices. This objective is that:²⁵

the tariffs that a distributor charges for provision of direct control services to a retail customer should reflect the distributors' efficient costs of providing those services to the retail customer

A tariff structure statement is part of the new tariff arrangements. It should show how a distributor applied the distribution pricing principles²⁶ to develop its price structures and indicative price levels for the coming five year regulatory period. A distributor must submit its proposed tariff structure statement to us for assessment.

Generally, a distributor will be required to submit its proposed tariff structure statement when submitting its regulatory proposal.²⁷ The Rules permitted submission of a tariff structure statement outside the regulatory proposal process this time because of the timing of the rule changes.²⁸

Tariff Structure Statement requirements

There are two separate sets of requirements for tariff structure statements. First, the Rules set out a number of elements that an approved tariff structure statement must contain. Second, a tariff structure statement must also reflect the distribution pricing principles.

What must a tariff structure statement contain?

The Rules require a tariff structure statement to include:²⁹

- the tariff classes into which retail customers for direct control services will be divided
- the policies and procedures the distributor will apply for assigning retail customers to tariffs or reassigning retail customers from one tariff to another

²⁵ NER, cl. 6.18.5(a).

²⁶ This is a reference to the Rules' *pricing principles for direct control services*, alternatively described in this paper as the "distribution pricing principles"; NER, cl. 6.18.5(e)–(j).

²⁷ NER, cl. 6.8.2(a).

²⁸ NER, cl. 11.76.2(a).

²⁹ NER, cl. 6.18.1A(a).

- structures for each proposed tariff
- charging parameters for each proposed tariff
- a description of the approach that the distributor will take in setting each tariff in each pricing proposal.

A tariff structure statement must be accompanied by an indicative pricing schedule.³⁰

What must a tariff structure statement comply with?

A tariff structure statement must comply with the distribution pricing principles, which may be summarised as:

- for each tariff class, expected revenue to be recovered from customers must be between the stand alone cost of serving those customers and the avoidable cost of not serving those customers³¹
- each tariff must be based on the long run marginal cost of serving those customers, with the method of calculation and its application determined with regard to the costs and benefits and customer location³²
- expected revenue from each tariff must reflect the distributor's efficient costs, permit the distributor to recover revenue consistent with the applicable distribution determination and minimise distortions to efficient price signals³³
- distributors must consider the impact on customers of tariff changes and may vary from efficient tariffs, having regard to:³⁴
 - the desirability for efficient tariffs and the need for a reasonable transition period (that may extend over one or more regulatory periods)
 - the extent of customer choice of tariffs
 - the extent to which customers can mitigate tariff impacts by their consumption
- tariff structures must be understandable by retail customers³⁵
- tariffs must otherwise comply with the Rules and all applicable regulatory requirements.³⁶

Our role in approving a distributor's tariff structure statement

We must approve a distributor's tariff structure statement unless we are reasonably satisfied that the proposed tariff structure statement does not comply with the distribution pricing

³⁰ NER, cl. 6.8.2(d1).

³¹ NER, cl. 6.18.5(e).

³² NER, cl. 6.18.5(f).

³³ NER, cl. 6.18.5(g).

³⁴ NER, cl.6.18.5(h).

³⁵ NER, cl. 6.18.5(i).

³⁶ NER, cl. 6.18.5(j); this requirement includes jurisdictional requirements.

principles or other applicable requirements of the Rules.³⁷ In Victoria, the distributors' tariff structure statements must also comply with the amendments to the AMI Tariffs Order, made by the Victorian Government via gazettal on 14 April 2016. The amended AMI Tariffs Order requires Victorian distributors to offer demand tariffs on an opt-in basis for customers who consumes less than 40MWh per annum.

We make one holistic determination to approve or refuse to approve the distributor's tariff statement. Our analysis on each element of the distributor's tariff structure statement contributes to our overall determination.

What happens when a distributor submits a proposed tariff structure statement?

The Rules require us to publish a proposed tariff structure statement and invite submissions.³⁸ We then assess a proposed tariff structure statement for its compliance with the distribution pricing principles. Taking into account submissions and any supporting information submitted by the distributor, we will publish a draft determination on the proposed tariff structure statement.³⁹ This will set out our reasons for making the determination.⁴⁰

Our role is largely one of assessing compliance. We must approve a proposed tariff structure statement unless we are reasonably satisfied that it will not comply with the distribution pricing principles or other relevant requirements of the Rules.⁴¹

What happens if a proposed tariff structure statement is not approved?

A distributor may submit a revised tariff structure statement no later than 45 business days after we publish our draft determination.⁴² Under the Rules, a distributor may only make revisions to its tariff structure statement to address matters raised by our draft determination.⁴³ We will publish the revised tariff structure statement and again call for submissions before making a final determination.⁴⁴

What happens after a tariff structure statement is approved?

Once approved, a tariff structure statement will remain in effect for the relevant regulatory period.⁴⁵ The distributor must comply with the approved tariff structure statement when setting prices annually for direct control services.⁴⁶

³⁷ NER, cl 6.12.3(k).

³⁸ NER, cl. 6.9.3(a).

³⁹ NER, cl. 6.10.2; cl. 11.76.2(a).

⁴⁰ NER, cl. 6.10.2(a)(3); cl. 11.76.2.

⁴¹ NER, cl. 6.12.3(k).

⁴² NER, cl. 6.10.3(a).

⁴³ NER, cl. 6.10.3(b).

⁴⁴ NER, cl. 6.10.3(d)(e).

⁴⁵ Tariff Structure Statements may only be amended during a regulatory period, with our approval, if an event occurs that is beyond the distributors' reasonable control and could not reasonably have been foreseeable requires a change.

We will separately assess the distributor's annual tariff proposals for the coming 12 months. Our assessment of annual tariff proposals will also be to ensure consistency with the requirements of the approved tariff structure statement.

An approved tariff structure statement may only be amended within a regulatory period with our approval.⁴⁷ We will approve an amendment if the distributor demonstrates that an event has occurred that was beyond its control and which it could not have foreseen so that the amended tariff structure statement materially better complies with the distribution pricing principles.⁴⁸

⁴⁶ NER, cl. 6.18.1A(c).

⁴⁷ NER, cl. 6.18.1B.

⁴⁸ NER, cl. 6.18.1B(d).

3 Summary of Victorian electricity distributors' proposals

The structure of the Victorian distributors' proposed residential and small business tariffs are set out in the following table:

Table 3-1 Proposed tariff structures

	Tariff features	AusNet	CitiPower	Jemena	Powercor	United Energy	
Demand tariffs	Structure	Fixed charge + Variable charge + Demand charge (Seasonal/Time of day)					
	Measurement	Fixed charge (\$/pa)					Minimum fixed standing charge \$/1.5 Kw/month
		Variable charge (\$cents/KWh/Month)					
		Demand charge (\$/kW ¹ /Month)					
	Seasonal demand charge	Higher Summer charge (December–March) / Lower non-Summer charge (April–November)					
	Demand charge window (Residential) weekdays	3–9PM					
	Demand charge window (Small business) weekdays	3–9PM	10AM –6PM	10AM–8PM	10AM–6PM	10AM–6PM	
	Tariff assignment	Opt-in/Opt-out	Opt-in/Opt-out	Opt-in/Opt-out	Opt-in/Opt-out	New customer mandatory assignment/Opt-out	
	Opt-in/out tariff assignment thresholds	Consumption <40 MWh/pa	Consumption <60 MWh/pa or >60 MWh/pa & Maximum demand <120 Kw	Consumption <40 MWh/pa or >40 MWh/pa & Maximum demand <60 Kw	Consumption <60 MWh/pa or >60 MWh/pa & Maximum demand <120 Kw	Consumption <40 MWh/pa	
Mandatory tariff assignment thresholds	Consumption >40 MWh/pa	Consumption >60 MWh/pa & Maximum demand >120 Kw	Consumption >40 MWh/pa & Maximum demand >60 Kw	Consumption >60 MWh/pa & Maximum demand >120 Kw	Consumption >40 MWh/pa		

Existing Consumption tariffs	Tariff features	AusNet	CitiPower	Jemena	Powercor	United Energy
	Structure	Fixed charge + Variable charge TOU ² (peak/off-peak/Seasonal) ³				
	Measurement	Fixed charge (\$/pa)				
		Variable charge (\$cents/KWh/Month)				
	Common tariff types	Low Voltage High voltage Sub-transmission Solar Hot water Controlled load Slab heating				
	Unique tariff types	Snowfields	n/a	n/a	Reverse cycle air-conditioner Docklands	Reverse cycle air-conditioner

Source: Victorian distributors' revised tariff statement proposals.

Notes:

- 1 Using the highest monthly kVA or kW reached over 30 min interval in the relevant demand charge window – this charge will be different depending on whether the month is summer or non-summer.
- 2 TOU = Time of use charge which is currently in place in Victoria and used to change the variable price for customers based upon the time of day
- 3 See distributors' proposals for specific peak/off-peak rates – AusNet, Revised TSS proposal, 29 April 2016, pp. 66–68; CitiPower, Revised TSS proposal, 29 April 2016, pp. 41–44; JEN, Revised TSS proposal Appendix, pp. A1–A5; Powercor, Revised TSS proposal, 29 April 2016, pp. 41–44; United Energy, Revised Tariff Structure Statement Appendix, 29 April 2016, pp. 21–26.

The tariffs proposed by each Victorian distributor comprise the following:

- The structure of tariffs, for example whether the charges vary by usage, season and peak demand over a period of time at which usage occurs and whether there is a fixed charge.
- The value of relevant tariff parameters, including fixed charges, usage and demand charges, and the relevant time periods during which these tariff parameters will apply.
- Rules that determine how a customer will be assigned, or chooses to be assigned, to a particular tariff. For example, small customers can make an active choice to be assigned to a demand tariff. Larger customers will be automatically assigned to a demand tariff based on their voltage connection, level of demand and consumption usage.

CitiPower proposed:

- Small residential and business customers will remain on their existing consumption based tariffs, unless they make an active choice to be assigned to a demand tariff. These customers can opt in and out of the demand tariff.
- Small residential and business customers' consumption based tariffs comprise a fixed charge and consumption charge. Time of use tariffs are also available (as opt-in).
- Medium business customers whose consumption exceeds certain consumption and demand thresholds will be assigned to demand tariffs.

Powercor proposed:

- Small residential and business customers will remain on their existing consumption based tariffs, unless they make an active choice to be assigned to a demand tariff. These customers can opt in and out of the demand tariff.
- Small residential and business customers' consumption based tariffs comprise a fixed charge and consumption charge. Time of use tariffs are also available (as opt-in).
- Medium business customers whose consumption exceeds certain consumption and demand thresholds will be assigned to demand tariffs.

AusNet Services proposed:

- Small residential and business customers will remain on their existing consumption based tariffs, unless they make an active choice to be assigned to a demand tariff. These customers can opt in and out of the demand tariff.
- Small residential and business customers' consumption based tariffs comprise a fixed charge and consumption charge. Time of use tariffs are also available (as opt-in).
- Medium business customers whose consumption exceeds certain consumption and demand thresholds will be assigned to demand tariffs.
- Customers in designated snowfield regions retain their existing consumption based tariff, and will not be able to access the demand tariff.

JEN proposed:

- Small residential and business customers will remain on their existing consumption based tariffs, unless they make an active choice to be assigned to a demand tariff. These customers can opt in and out of the demand tariff.
- Small residential and business customers' consumption based tariffs comprise a fixed charge and consumption charge. Time of use tariffs are also available (as opt-in).
- Medium business customers whose consumption exceeds certain consumption and demand thresholds will be assigned to demand tariffs.

For United Energy proposed:

- Small residential and business customers will be automatically assigned to a residential demand tariff, comprising minimum chargeable demand and consumption based charge. Customers can opt-out of new tariff.
- Small residential and business customers' consumption based tariffs comprise a fixed charge and consumption charge. Time of use tariffs are also available (as opt-in).
- Medium business customers whose consumption exceeds certain consumption and demand thresholds will be assigned to demand tariffs.

4 AER approved tariff structures

Approved tariff structures for residential and small business tariffs are set out in the following table.

Table 4-1 Approved tariff structure statements

	Tariff features	AusNet	CitiPower	Jemena	Powercor	United Energy	
Demand tariffs	Structure	Fixed charge + Variable charge + Demand charge (Seasonal/Time of day)					
	Measurement	Fixed charge (\$/pa)					Minimum fixed standing charge \$/1.5 Kw/month
		Variable charge (\$cents/KWh/Month)					
		Demand charge (\$/kW ² /Month)					
	Seasonal demand charge	Higher Summer charge (December–March) / Lower non-Summer charge (April–November)					
	Demand charge window (Residential) weekdays	3–9PM					
	Demand charge window (Small business) weekdays	3–9PM	10AM –6PM	10AM–8PM	10AM–6PM	10AM–6PM	
	Tariff assignment	Opt-in/Opt-out	Opt-in/Opt-out	Opt-in/Opt-out	Opt-in/Opt-out	Opt-in/Opt-out	
	Opt-in/out tariff assignment thresholds	Consumption <40 MW/pa	Consumption <60 MWh/pa or >60 MWh/pa & Maximum demand <120 Kw	Consumption <40 MWh/pa or >40 MWh/pa & Maximum demand <60 Kw	Consumption <60 MWh/pa or >60 MWh/pa & Maximum demand <120 Kw	Consumption <40 MW/pa	
	Mandatory tariff assignment thresholds	Consumption >40 MWh/pa	Consumption >60 MWh/pa & Maximum demand >120 Kw	Consumption >40 MWh/pa & Maximum demand >60 Kw	Consumption >60 MWh/pa & Maximum demand >120 Kw	Consumption >40 MWh/pa	

Existing Consumption tariffs	Tariff features	AusNet	CitiPower	Jemena	Powercor	United Energy
	Structure	Fixed charge + Variable charge TOU ² (peak/off-peak/Seasonal) ³				
	Measurement	Fixed charge (\$/pa)				
		Variable charge (Scents/KWh/Month)				
	Common tariff types	Low Voltage High voltage Sub-transmission Solar Hot water Controlled load Slab heating				
Unique tariff types	Snowfields	n/a	n/a	Reverse cycle air-conditioner Docklands	Reverse cycle air-conditioner	

Source: Victorian distributors' revised tariff statement proposals.

Notes:

- 1 Using the highest monthly kVA or kW reached over 30 min interval in the relevant demand charge window – this charge will be different depending on whether the month is summer or non-summer.
- 2 TOU = Time of use charge which is currently in place in Victoria and used to change the variable price for customers based upon the time of day
- 3 See distributors' proposals for specific peak/off-peak rates – AusNet, Revised TSS proposal, 29 April 2016, pp. 66–68; CitiPower, Revised TSS proposal, 29 April 2016, pp. 41–44; JEN, Revised TSS proposal Appendix, pp. A1–A5; Powercor, Revised TSS proposal, 29 April 2016, pp. 41–44; United Energy, Revised Tariff Structure Statement Appendix, 29 April 2016, pp. 21–26.

5 Tariff structures

This chapter sets out our assessment of the five Victorian distributors' proposed tariff structures, including tariff design and charging windows.

We are satisfied the Victorian distributors' proposed tariff structure statements are compliant with the distribution pricing principles, specifically clause 6.18.4 (as set out in appendix D of attachment 14 to of each distributors' Final distribution determination 2016–20) and clause 6.18.5 of the NER. The proposed tariff statements exhibit movement along the cost reflectivity spectrum, incorporating demand based tariff options for small customers and complementing existing cost reflective tariffs for large customers.

We were not satisfied that United Energy's tariff structure statement was compliant with the AMI Tariffs Order. United Energy did not indicate how customers would be assigned to their demand tariff. However we understood that the new customers were to be assigned mandatorily to this tariff from 1 January 2017.

Our decision is that the residential demand tariff must be offered on an opt-in basis to small customers (both residential and business). This ensures it complies with the AMI Tariffs Order.

The distributors proposed to offer demand tariffs to small customers on an opt-in basis only, in compliance with the Victorian Government's amended AMI Tariffs Order. As discussed above, United Energy was the one exception to this.

For those customers not captured by the AMI Tariffs Order, transitional measures proposed by the distributors demonstrate that they have considered customer impacts and the need for transition periods when moving customers to cost reflective tariffs. Further, the distributors' proposed demand charge windows appear to target network peak demand while providing customers the opportunity to shift their usage to mitigate bill impacts. As such, we are satisfied that the tariff structure statement proposals contribute to the achievement of compliance with the distribution pricing principles.

Existing large customer tariffs, where demand charging is prevalent, are already relatively cost reflective compared to those of small customers. Large customers therefore face relatively minor changes to tariffs from 2017.. Overall, we consider that the distributors' large customer tariffs contribute towards the achievement of the distribution pricing principles.

5.1 Tariff design

All five Victorian distributors have put forward a demand based tariff design in their tariff structure statement proposals.

In our view, the introduction of demand tariffs represents a distinct move towards more cost reflective prices and contributes to the achievement of compliance with the distribution pricing principles. This is because demand tariffs are more cost reflective than current flat or peak only consumption based tariffs which do not price demand and incentivise customers to reduce peak demand as effectively as demand based tariffs.

5.1.1 Structure of the demand tariff

We are satisfied that the proposed demand tariffs contribute to achievement of compliance with the distribution pricing principles. This is because consumers will get more accurate signals of the cost their consumption decisions impose on the network. This gives consumers more control over their electricity bills.

The Victorian distributors have proposed multi-part tariffs for all customer types, comprising:

- Standing (fixed) tariff—as either \$/annum or c/day
- Energy tariff—for energy consumed over the billing period (c/kWh)
- Demand tariff—\$/kW/month, \$/kW/pa or c/kW/day.

The Victorian distributors' revised tariff statements proposed to offer residential and small business customers a fully cost reflective demand based tariff at the time of opt-in, rather than gradually introducing a demand charging component. That is, the demand tariff would cover the full forward looking costs, rather than having those costs being increased in increments during the course of the 2017–20 period.

The proposed opt-in assignment policy is based on the amended AMI Tariffs Order, which requires Victorian distributors to offer demand tariffs on an opt-in basis for customers who consume less than 40MWh per annum. As the AMI Tariffs Order does not cover customers whose annual energy use is 40MWh and above, distributors have proposed to mandatorily assign these customers to demand tariffs that will transition towards full cost reflective levels between 2017 and 2020.⁴⁹

As noted earlier, with respect to United Energy's small customer demand tariff, we have made an amendment to the tariff structure statement. This tariff will now be opt-in from 1 January 2017 for customers consuming less than 40MWh per annum.

An opt-in tariff is one that a customer chooses to be re-assigned to from some other existing tariff that they are presently assigned to. To date, small customers have been assigned by default to a flat, consumption based tariff, or where applicable also to a controlled load tariff. They must make an active choice to opt in to the demand tariff offered by their distributor.

Furthermore, the distributors proposed that a transition period is no longer needed as small customers are protected through the opt-in requirement of the AMI Tariffs Order. We agree that this provides appropriate recognition of customer impacts because customers are free to choose the demand tariff or stay on their existing tariff.

Victorian distributors have aligned their peak charging windows for residential customers but not for business customers. Residential customer tariffs will include a demand component that measures maximum demand during the peak time of 3pm to 9pm on weekdays. All other times are off-peak periods, including weekends and public holidays. A demand charge

⁴⁹ Victorian Government Gazette, Order in Council, *Advanced Metering Infrastructure (AMI Tariffs) Amendment Order 2016*, 14 April 2016.

will still apply during these latter periods, however at a lower tariff rate. This will ensure customers can adjust their consumption behaviour by responding to the price signals within the tariff.

5.1.2 Seasonally varying tariff

The Victorian distributors' proposals also incorporate seasonal variation with higher charges in summer months—December to March inclusive—as compared to non-summer months. This reflects the fact that Victorian networks are mostly summer peaking, so customer demand in summer is more likely to require network augmentation than demand at other times of the year.

In approving the proposed tariff structure statements, we have considered:

- whether the tariffs better reflect the efficient underlying cost of providing network services
- the justification of the tariff design given the load profile of the network
- whether the suite of tariffs offered give customers sufficient diversity of billing alternatives.

Taking into account the views submitted by various industry stakeholders, we consider that the distributors' proposed demand-based tariffs are a good step towards cost-reflectivity. We note retailer Energy Australia's supporting view that maximum demand charges are reflective of network costs and therefore consistent with the new pricing rules for distributors.⁵⁰ Energy Consumers Australia as well as retailers AGL and Origin Energy were of the view that demand tariffs represented a good first step towards cost reflective pricing.⁵¹

Creative Energy Consulting, however, did not support the tariff design put forward by distributors and submitted that a demand based tariff is inferior to a time of use tariff.⁵² It preferred giving all customers the same price via a time of use tariff as a more effective way to gain a greater response from customers at the time it was most needed.

John Herbst, on behalf of the Renewable Energy Policy Group and Solar Citizens, contended that a time of use is cost reflective, whereas a demand tariff is not.⁵³ We find that both these tariffs reflect the underlying cost of providing network services, but demand tariffs are more cost reflective than time of use tariffs. This is because demand tariffs are designed to send signals to customers about how their demand affects future network costs and to

⁵⁰ Energy Australia, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 3.

⁵¹ Energy Consumers Australia, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 2; AGL, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 1; Origin Energy, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 1.

⁵² Creative Energy Consulting, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 5.

⁵³ John Herbst, Solar Citizens and Renewable Energy Policy Group, *Submission on the AER's preliminary views on the Victorian DNSPs' Revised Tariff Structure Statement Proposals*, 30 June 2016, p. 2.

more closely align with when networks are likely to be under peak demand stress. While the proposed demand tariffs do not exactly match coincident peak demands on the network, we consider that they nevertheless assist customers in responding to peak demands and therefore would still help defer capital augmentations. Time of use tariffs are often in the form of energy only tariffs (measured in kWh) not as demand tariffs (measured in kW). As the former, they do not signal to a customer as clearly how their demand can affect future network investment, although they do still send a price signal.

There are many tariff designs that could be adopted to better reflect costs, ranging from more averaged to more specific or dynamic approaches. Moving along the cost reflectivity spectrum will be something to consider on an iterative basis, as technologies and stakeholder acceptance allows for more sophisticated options. We noted this in our issues paper.⁵⁴

Presently, Victorian distributors make available a time of use tariff for residential customers. These tariffs are considered more cost reflective than a simple volumetric flat price tariff. However, there are not many Victorian customers on these tariffs at the moment, which may reflect a lack of ongoing marketing and customers' resistance to change. In the near future, retailers might be able to package up a network tariff to include in-home displays or demand management options with interruptible load that enable customers to take even more control over their electricity needs and therefore charges. Tariff design needs to be neutral towards customer technology choices in order to be most effective or efficient.

The proposed seasonal variation in demand charges is intended to reflect the load profile of the separate Victorian networks. These have higher peak demands in summer months, and those peaks contribute most to additional network investment needs. It is therefore important to target consumption during summer months given that this is when the networks hit their peak demand. We accept the distributors' proposal to introduce a demand tariff during the off-peak periods of April through November, which is set at a lower level than the peak demand tariff. This can help manage customer impacts by enabling customers to offset their summer demand charges and thus mitigate their overall electricity costs. It also ensures customers get a consistent charging regime throughout the year, which helps improve understanding and minimise complexity. We consider this to be consistent with the Rules which require network businesses to consider the impact on retail customers of changes in tariffs.⁵⁵

AusNet Services submitted that this seasonal approach to demand tariffs acts as a means of reinforcing to customers the concept of demand as the basis for charging, enhancing understanding of the broader tariff structure.⁵⁶

⁵⁴ Australian Energy Regulator, *AER Issues paper on Victorian Tariff Structure Statement Proposals*, 3 December 2015, p. 10.

⁵⁵ NER, cl. 6.18.5(h).

⁵⁶ AusNet Services, *Revised Tariff Structure Statement Proposal*, 29 April 2016, p. 48.

United Energy used cost-reflectivity to justify its seasonal demand charge variation as well as a need to provide customers with consistent signals throughout the year to minimise the potential for bill shock throughout the transition to demand based tariffs.⁵⁷

However, JEN submitted that a common summer and non-summer charge (that is, where the price did not vary) could maintain simplicity and help drive change in customer behaviour, despite better cost reflectivity of seasonal variation in demand charges. JEN noted that it will finalise a position on this in subsequent annual pricing proposals.⁵⁸ This aligns with the concerns of the Competitive Energy Association of Australia and Origin Energy that the timing of peak demand seasonal charges could lead to multiple network charges on a customer's bill and create confusion.⁵⁹

Nonetheless, we are satisfied that the seasonal variation in charges contributes to the achievement of compliance with the distribution pricing principles and that the complexity of tariffs is balanced by their cost-reflectivity and impact mitigation.⁶⁰ We recognise that consumer impact and education is important during reform. Seasonal variation in tariffs does introduce more complexity than a year round tariff but appropriate education and communication (by retailers, distributors and governments) can address this.

Furthermore, JEN cannot use the annual pricing proposal process to alter the structure of its charges, such as to move from a common summer and non-summer tariff towards different tariffs for these periods. The tariff structure statement should be clear in this respect. JEN's proposed tariff structure statement has common summer and non-summer charges and this is compliant with the pricing principles. If JEN wishes to change this structure during the 2017–20 period, it would need to submit to us an application to amend its tariff statement, and we would need to consult on those before making a decision to approve or not approve amendments.

While submitting in-principle support for tariff reform and demand charging, Energy Australia expressed concern that customers may struggle to grasp this new, more cost reflective tariff structure.⁶¹ We note Clause 6.18.5(h) of the Rules reflects these concerns and requires reasonable transition periods before exposing customers to cost reflective price signals. The Energy Networks Association emphasised the importance of a carefully managed transition to cost reflective prices in which tariff reform can be implemented in an effective and timely manner.⁶²

⁵⁷ United Energy, *Revised Tariff Structure Statement Proposal*, 29 April 2016 p. 31.

⁵⁸ Jemena Electricity Network, *Revised Tariff Structure Statement Proposal*, 29 April 2016, p. 46, see footnote 109.

⁵⁹ Competitive Energy Association of Australia, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 2; Origin Energy, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 2.

⁶⁰ NER, cl. 6.18.5(h).

⁶¹ Energy Australia, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 3.

⁶² Energy Networks Association, *Submission to the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 3.

We agree with these concerns for adequate transition periods, but note distributors' views that an explicit transition period to full demand tariffs is no longer needed for small customers, as they will only be moved onto a demand tariff if they choose to do so under the Victorian Government's opt-in requirement. AGL submitted that a transition period under the opt-in arrangements would actually hinder take-up by customers that would benefit from demand based tariffs.⁶³ Distributors have not chosen a transition for small customers. Those who opt-in will face a cost reflective tariff from 2017. It appears this is the outcome desired by AGL. We also note that it will be important for distributors, retailers and other key stakeholders to educate customers on tariff reform and on how customers can respond to new price signals.

Each distributor has defined its tariff classes in a similar fashion. Generally, the voltage of the customer connection and the annual consumption of the customer play a role in determining which tariff class they will be assigned. This is outlined in **Error! Reference source not found.** below

⁶³ AGL, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 3.

Table 5-1: Distributors' tariff classes

Tariff classes	AusNet Services	CitiPower	Powercor	JEN	United Energy
Residential	Small low voltage customers. Consuming up to 40 MWh p.a.	No consumption threshold.	No consumption threshold.	No consumption threshold.	Consuming less than 20 MWh p.a. and voltage of 0.23 kV.
Small Business	Includes small business customers consuming up to 160MWh p.a. connected at 230V & 415V.	Consuming up to 60 MWh p.a.	Consuming up to 60 MWh p.a.	Consuming less than 400 MWh p.a. and max demand less than 150 kVA.	Consuming between 20–400 MWh p.a. and voltage of less than 1kV.
Medium Business	Medium LV industrial and commercial customers using between 160MWh and 400 MWh p.a, connected at 415V.	Consuming greater than 60 MWh and max demand less than 120 kW.	Consuming greater than 60 MWh and max demand less than 120 kW.	No medium business.	Same as small business.
Large Business Low Voltage	Low voltage connections (415V), consuming more than 400MWh p.a.	Voltage less than 1kV with supply capacity greater than or equal to 120 kW.	Voltage less than 1kV with supply capacity greater than or equal to 120 kW.	Consuming greater than 400 MWh p.a. and voltage less than 1 kV.	Consuming greater than 400 MWh p.a. and voltage less than 11kV.
Large Business High Voltage	High voltage connections for 6.6, 11 & 22kV.	Voltage greater than 1kV but less than or equal to 22 kV.	Voltage greater than 1kV but less than or equal to 22 kV.	High Voltage tariffs greater than 1 kV and less than or equal to 22 kV.	Voltage between 11–22kV.

The basis of charging is the same for medium business customers among the five distributors. However, for large customers taking high voltage supply, some distributors are charging on the basis of kVA rather than KW. The difference between these two is the power factor. We consider that kVA charging also contributes to the achievement of the pricing principles.

5.1.3 Small customer tariffs

Residential customers

We are satisfied that the residential tariff proposals of Victorian distributors contribute to the achievement of compliance with the distribution pricing principles.

These principles include promoting efficient price signals for the use of the electricity distribution network, while managing the bill impact on customers moving towards more efficient prices.⁶⁴ We are satisfied that the proposals for residential tariffs comply with these pricing principles, and, as part of this assessment comply with the Victorian Government's amended AMI Tariffs Order (because residential customers will generally consume less than 40MWh of electricity annually). We also observe that the distributors must comply with procedures governing assignment and reassignment of small customers in accordance with their applicable distribution determination.⁶⁵ We consider their proposals achieve this.

We consider that the Victorian distributors' proposals for residential customer tariffs sufficiently transition towards cost reflective pricing. This is because they all introduce a monthly tariff for peak demand, and therefore contribute to the achievement of compliance with the distribution pricing principles. The proposed demand tariffs are a move towards greater cost reflectivity (away from consumption based tariffs) and will send price signals to customers during times of high network demand. That is, the demand tariff has not been designed to reflect each individual customer's demand but overall system demand.

The Victorian distributors have each proposed a similar pricing structure for the demand based tariff and have worked to ensure consistency for small customer tariff structures.

All five Victorian distributors have proposed to offer at least one tariff with a monthly maximum demand charging component to small customers. The demand tariffs are opt-in only, in compliance with the Victorian Government's AMI Tariffs Order. There is

⁶⁴ NER, cl. 6.18.5.

⁶⁵ AER, *Final decision, CitiPower distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, Powercor distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, Jemena distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, AusNet Services distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, United Energy distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3.

one exception to this made by United Energy who proposed to assign all new connections to a trial demand based tariff with the option to opt out. This is discussed in section 7.2.

For all distributors, a customer's maximum demand is measured in 30 minute intervals over the course of a month, and the interval with the highest (or maximum) level of demand is used as the electricity quantity to be multiplied by a price (the demand tariff).

Currently, network charges for residential customers only reflect their consumption of energy, in kWh, and are not charged for the peak demand which drives the cost of providing network capacity. The current suite of network tariffs offered includes a flat usage tariff, comprised of only a fixed component and an energy usage component. This tariff design is less cost reflective because the usage charge does not signal to customers the times when peak demand constrains network capacity. It does not signal the costs incurred of meeting an additional increment of demand.

As such, customers are not incentivised to reduce their bills by shifting usage away from peak demand periods to other periods and minimise the cost of adding additional network capacity.

Reductions in energy consumed (in kWh) do not necessarily impact on a given customer's level of demand such as in peak periods, which may be high even though their overall energy consumption is low, or falling. Citizens Own Renewable Energy Network Australia Inc. was concerned that a demand tariff would make solar PV less attractive financially. They were concerned that solar customers would reduce energy consumption but receive no reward for doing so.⁶⁶

However, demand and consumption are not the same. Solar customers who have north facing arrays do not generate much electricity late in the afternoon or early evening in summer months, when their demand may be high. The network needs to be sized to meet this demand. If there are no incentives for customers to reduce peak demand, distributors may face additional expenditure requirements which increase network charges for all customers. Cost reflective tariffs aim to overcome this. Solar customers, along with all other customers, will face the same incentive to reduce their level of demand during the evening peak. This helps to ensure fairer outcomes for all customers and that the tariff is technology neutral.

Victorian distributors will continue to offer consumption-based time of use tariffs comprising a fixed charge and a variable usage charge. Solar PV customers will still have access to them. These are more cost reflective than flat tariffs however the distributors have now gone further by seeking to introduce demand based tariffs.

⁶⁶ Citizens Own Renewable Energy Network Australia Inc, *Make Safe Climate a Priority in Electricity Network Regulation*, 20 January 2016, p. 1.

We consider that the Victorian distributors' proposals for residential customer tariffs sufficiently transition towards cost reflective pricing, through introducing a demand component to tariffs on an opt-in basis. This is compliant with the AMI Tariffs Order. We note that various stakeholders submitted their support for demand based tariffs. For example, retailer AGL Energy noted that a demand tariff approach:

- substantially increases the cost reflectivity of network tariffs
- reduces inherent cross-subsidies
- mitigates annual network price instability whilst still providing consumers the ability to alter usage patterns and manage their bill
- provides a clear time signal for new technologies.

Energy Consumers Australia also submitted its support for demand charging, noting that a demand tariff structure is highly efficient.⁶⁷ Origin Energy and Energy Australia was also supportive.⁶⁸ We agree with these positions that cost reflective pricing is likely to contribute to more efficient use of networks.

Small business customers

We approve the Victorian distributors' proposals to implement a demand tariff for small business customers below the 40MWh consumption threshold. We are satisfied this contributes to achievement of compliance with the distribution pricing principles. Demand tariffs more appropriately signal the cost to customers of their usage during peak times. As such, they are more cost reflective than the tariffs currently in place for small business customers and so contribute to the achievement of compliance with the pricing principles. This is largely because the load profile of each Victorian distribution network reveals highest peak demand in summer.

At the moment, small businesses are charged only for their energy consumption in kWh but this does not correlate to when these businesses use kW of demand during the day. It is this demand that drives network distributors to install new investment capacity to keep pace with demand growth. Without those investments, customers are at risk of poorer reliability and network outages when, or if, demand spikes.

Small businesses that consume less than 40MWh per annum are captured by the Victorian Government's AMI Tariffs Order. The Victorian distributors therefore offer these customers a demand tariff on an opt-in only basis.

In doing so, they have balanced the legislative requirements of the AMI Tariffs Order with the need to send price signals to customers.

⁶⁷ Energy Consumers Australia, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January, p. 3.

⁶⁸ Origin Energy, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 1; Energy Australia, *Submission Tariff Structure Statement proposals – Victorian electricity distribution network service providers*, 20 January 2016, p.1.

AusNet Services and United Energy will automatically assign small business customers who consume over 40MWh annually to a demand tariff. CitiPower, Powercor and JEN have proposed a higher consumption threshold of 60MWh annually to trigger mandatory assignment, as a means to mitigate customer impacts. Red and Lumo Energy did not support a mandatory assignment of small business customers who consume 40MWh or more to the demand tariff.⁶⁹

Just as for residential customers, the Victorian distributors' have proposed seasonal variation in the demand component of their small business tariff structures. Higher demand tariffs in summer months (December to March) are appropriate given the prevalence of summer peaking among Victorian networks. This promotes more efficient use of the distribution networks if customers respond to price signals over the longer term.

The distributors' have used the consumption threshold from the AMI Tariff Order to determine when to assign small business customers to a demand tariff. This ensures compliance with that order. Taking into account the views submitted by various stakeholders as discussed above, we are satisfied that the Victorian distributors' proposals for small customer tariffs contribute towards the achievement of compliance the distribution pricing principles.⁷⁰ This requires that the tariffs that a distributor charges to a retailer for the provision of direct control services reflect the distributor's efficient costs of providing those services. Importantly, these tariffs signal the long run marginal costs of demand.

Medium business customers

We approve the tariff design put forward by the Victorian distributors for medium business customers and are satisfied that it contributes to the achievement of compliance with the pricing principles.⁷¹ We consider the proposed medium business customer tariffs sufficiently transition customers towards cost reflective pricing, while managing customer bill impacts resulting from the introduction of demand tariffs.

The structure of existing network tariffs for medium business customers typically includes a fixed component and an energy usage component which may vary depending on the time of day, much like the existing tariffs for residential and small business customers. As such, these medium business customers do not presently face a demand tariff.

All five Victorian distributors' have proposed mandatory assignment to a demand based tariff for customers who consume over a certain level of electricity annually and dependant on voltage levels, but with a transition to full cost reflectivity.

⁶⁹ Red and Lumo Energy, *Re: Victorian Tariff Structure Statement proposals*, 16 June 2016, p. 3.

⁷⁰ NER, cl. 6.18.5(a)

⁷¹ NER, cl. 6.18.5.

The AMI Tariffs Order defines small business customers as those business customers consuming less than 40MWh per annum. By contrast, medium business customers are generally those who consume between 40MWh and 160MWh.

Most distributors propose to assign these medium customers to a demand tariff with a transition to full cost reflectivity over the 2017-20 period. However some distributors have set a slightly higher consumption threshold for mandatory assignment to a demand tariff, which we note below.

Defining medium businesses

CitiPower and Powercor have proposed to define medium business customers as those consuming more than 60MWh per annum. They propose a higher threshold than set out in the AMI Tariffs Order for the following reasons:

- some business customers' usage will fluctuate above and below 40MWh per annum, so setting a higher threshold assists in managing compliance with the AMI Tariffs Order
- those customers who currently consume between 40MWh and 60MWh per annum would be, on average, materially worse off under CitiPower and Powercor medium business or commercial and industrial network tariffs. The distributors did not consider this was desirable from a customer impact point of view, even though it may provide a more cost reflective signal.

Consequently, CitiPower and Powercor propose an opt-in arrangement for business customers who consume up to 60MWh and plan to assign those with consumption above this level to a transitional demand tariff.

Similarly, JEN has proposed an opt-in arrangement for customers who consume up to 60MWh rather than mandatorily assigning them to a demand tariff. Nevertheless, JEN acknowledged that there are very few customers in this category, so the impacts are not widespread.

AusNet Services classifies medium customers as those who consume between 160MWh and 400MWh of electricity annually. United Energy classifies medium customers as those who consume between 40MWh and 160MWh of electricity annually, consistent with the AMI Tariffs Order.

We approve the distributors' consumption thresholds for applying the AMI Tariffs Order. This is because distributors have struck a balance that favours mitigating customer impacts and attempting to encourage customers onto demand tariffs voluntarily.⁷²

By applying a slightly higher threshold for voluntary cost reflective tariffs take up than set out in the AMI Tariffs Order, the networks are able to offer customers the ability to

⁷² NER, cl. 6.18.5(h)(3).

trial new tariffs and become informed of their impacts. This is particularly pertinent for the smaller to medium sized customers, who have not had experience with demand charging to date.

Transition path to cost reflectivity

We approve mandatory demand tariffs for medium business customers as contributing to the achievement of compliance with the distribution pricing principles. This is because charging medium businesses for demand will signal to them the cost they impose on the network through use of the network at specified times. Also, the demand tariff will be set at transitional levels, giving customers time to understand the charging regime and make appropriate consumption and demand behaviour responses.

Distributors have proposed to automatically assign medium business customers to a cost reflective demand tariff but with a transition path. This means a demand tariff will be introduced and increased as a proportion of the distribution charge, alongside a decline in the fixed and usage components. There will not be an opt-out provision for these customers.

It is also important that customers in this tariff class are treated on an equal basis. This means applying a demand tariff to them to ensure the benefits of cost reflective charging are widespread and not confined to a narrower grouping of customers.

The proposed transition path varies between the five distributors. However they all intend the demand charge should fully reflect long run marginal costs by the end of the 2017-20 regulatory period. In particular:

- AusNet Services has proposed to phase in the demand component of the tariff with 20 per cent annual increments from 1 January 2018. Alternatively, customers may opt for a single rate tariff with a full demand component from this date.
- CitiPower and Powercor have proposed to set a transition path for which fully cost reflective tariffs will be achieved in 2019.
- JEN's business customers who consume over 60MWh annually are already subject to a demand based tariff component.
- United Energy has proposed to achieve full cost reflectivity in their demand component by 2019, with two 50 per cent increments to achieve this.

However, customers may require a period of time to understand these new tariff structures and to adapt their behaviour or implement demand management initiatives.

This is particularly the case where customers cannot choose the tariff to which they are assigned. Red Energy and Lumo Energy submitted their support for a long-term approach of transitioning customers to cost reflective tariffs, to manage expectations of

consumers and provide necessary timing for behaviour changes to avoid price shock.⁷³ Various advocacy and consumer groups submitted that customer impacts—both for medium businesses and residential customers—must be given primary consideration in the transition to cost reflective pricing and that price volatility should be minimised.⁷⁴ We note Energy Australia’s view that 1 January 2018 is a more practical commencement date for transitioning customers to a demand tariff and allows enough time for customers to understand and adjust to the tariffs. This is an approach that AusNet Services and JEN have chosen to take,

We agree with these submitters that medium business customers do need time to adapt to new demand tariffs. The Victorian distributors’ acknowledged the need to minimise customer impacts by proposing to transition medium business customers progressively towards full cost reflectivity.⁷⁵ As these customers haven’t been on demand tariffs before, it is important that distributors find a balance between minimising customer impacts and achieving cost reflectivity.

We accept the proposed transition paths of all distributors do help customers manage bill impacts resulting from the introduction of demand tariffs. We note that in moving towards demand tariffs that fully recover long-run marginal costs over this period, there are offsetting reductions to fixed and usage charge components.

Transition to cost reflective levels over time is consistent with the Rules which requires network businesses to consider the impact on retail customers of changes in tariffs.⁷⁶ We find that distributors have ensured customers are able to mitigate price impacts by reducing their demand and that customers will reasonably be able to understand these new tariffs.⁷⁷ The introduction of cost reflective network tariffs contributes toward minimising peak demand requirements and consequently reducing long-term average network tariffs for all users. We have also taken into account the extent of distributors’ customer consultation over the last couple of years when deciding to accept the transition paths.

5.1.4 Large customer tariffs

We are satisfied the Victorian distributors’ proposed commercial and industrial tariff structures contribute to achieving compliance with the distribution pricing principles.

⁷³ Red and Lumo Energy, *Submission on the Victorian DNSPs’ Revised Tariff Structure Statement Proposals*, 29 April 2016, p. 2.

⁷⁴ Consumer Utilities Advocacy Centre and Alternative Technology Association, *Submission to the Australian Energy Regulator - Preliminary Views on Victorian 2017–20 Tariff Structure Statements*, 28 June 2016, p. 1; Joint consumer groups, *Submission on the AER’s Issues paper and the Victorian DNSPs’ Tariff Structure Statement Proposals*, 20 January 2016, p. 1

⁷⁵ AusNet Services, *Revised Tariff Structure Statement*, 29 April 2016, p. 47; CitiPower, *Revised Tariff Structure Statement*, 29 April 2016, p. 49; Jemena, *Revised Tariff Structure Statement*, 29 April 2016, p. 31; Powercor, *Revised Tariff Structure Statement*, 29 April 2016, p. 49; United Energy, *Revised Tariff Structure Statement*, 29 April 2016, p. 40.

⁷⁶ NER, cl. 6.18.5(h).

⁷⁷ NER, cl. 6.18.5(h)(3) and NER cl. 6.18.5(i).

The distributors have not proposed to change the tariff structures for large low voltage (LV), high voltage (HV) and sub-transmission (ST) customers as they already exhibit relatively strong cost reflectivity. In particular, these customers already face a charge for demand in the form of a capacity charge and/or a critical peak demand charge.

These large business customers have faced demand charging for many years and are familiar with the incentives to change consumption behaviour in response to price signals. Additionally, some distributors are able to negotiate connection requirements directly with commercial high voltage and sub-transmission customers to help them manage their demand profile. We did not receive submissions about larger customer tariffs.

JEN changes to basis of demand charging

JEN intends to change how it measures maximum demand for large business customers from kW to kVA from 2017 to better reflect the additional costs that a poor power factor has on its system.⁷⁸ JEN submitted that this change is to ensure they are providing cost reflective price signals as kVA charging means they can provide signals to large customers to invest in ways that improve their power factor where it is cost effective for them to do so.

This should assist in promoting efficient levels of investment in JEN's network over the longer term. We note that this approach brings JEN in line with the other Victorian distributors' tariff approaches and as such it was the only distributor to propose a change in how maximum demand is measured for the 2017-20 period.

JEN currently offers its large customers a demand based tariff structure in which a customer's maximum demand is set at any 15 minute period in a month. The demand component of the tariff ratchets upwards, meaning that it is determined as the highest of the maximum demand recorded for a month and the billed demand for the previous month. JEN intends to notify large customers of the change from kW to kVA demand charging and in doing so will advise them of ways to reduce their bills by installing power factor correction equipment at their site.

The customer must advise JEN that it has installed such equipment and reduced its demand before JEN will reset the kVA demand charged to that customer. Customers can then request subsequent demand resets every 12 months, and the new level of kVA demand will be the highest reading recorded in the 12 months prior to the reset application. Therefore, a customer's demand tariff is based on their highest level of demand until they apply for a demand reset.

⁷⁸ As well as the power that is used in equipment, known as real power, a site may also draw power which is not directly used, known as reactive power. The combination of the two is known as apparent power. Power factor is the relationship between real and apparent power (kVA). If a site has a poor power factor, the business could be paying for energy that cannot be used. Simply, it is a measure of how efficiently the load current is being converted into useful work output and is a good indicator of the effect of the load current on the efficiency of the supply system.

JEN has not proposed to change the structure of its commercial and industrial tariffs, which includes a fixed component, a usage component that varies for peak and off-peak times, and a demand component.

The demand component for large business customers is subject to a minimum chargeable demand level. JEN submitted that it does not consider a locational critical peak demand tariff would be appropriate for its network at the moment, due to practicalities involved in notifying in advance when the peak will be.

We are satisfied that JEN's proposal to change how it measures maximum demand contributes to the achievement of compliance with the distribution pricing principles. This is because it prices the cost of maximum demand by taking account of large customers' power factor. The lower the power factor, the more network assets that needs to be built, or run at higher levels of efficiency, to supply the given level of demand. Therefore, JEN is incentivising customer usage that will lead to desirable power factors. This can include the customers' installation of power factor correction equipment, the benefits of which will be lower overall charges in the short term for the individual customer and over the medium to long term for all customers in that tariff class. We accept JEN's assessment of the way in which changing the basis of customer charging will encourage desirable power factor outcomes.

AusNet Services critical peak tariff

AusNet Services offers a suite of commercial LV, HV and sub transmission tariffs that consider contributes to compliance with the distribution pricing principles.

Since January 2011, AusNet Services has used a two part demand tariff structure under which customers who consume above 160MWh per annum face a critical peak demand charge and a demand capacity charge, in addition to a fixed charge and time varying usage charge.

AusNet Services is proposing to retain this tariff structure for large customers during 2017–20. The critical peak demand tariff component, charged as \$/kVA per annum, is based on a customer's average demand on five critical peak demand days nominated by AusNet Services between 1 December and 31 March each year. AusNet Services nominates days that are to be Critical Peak days at least 24 hours in advance. On each of the days that are nominated as Critical Peak, AusNet Services captures the maximum 30 minute demand for each customer that occurs between 3pm and 7pm. The five maximums recorded for each day are then averaged and 1/12th of the Critical Peak Rate is applied to the average value each month for the twelve months commencing 1 April. This cost reflective price signal was designed to incentivise industrial and large commercial customers to reduce their load during those five critical peak demand days.

The capacity component of the demand tariff structure is based on a customer's installed connection assets; that is, the amount of transformer capacity dedicated to the customer's connection. In general, this is not a variable value but is based on the connection design requirements when the network assets are constructed. The amount

is only varied in the exceptional circumstances where a customer's long term needs have changed and the existing capacity is either insufficient or no longer required.

The purpose of the capacity charge is to ensure that customers do not require AusNet Services to over engineer the network and increase the network costs for all other customers. This is an important feature of any cost reflective tariff; i.e. that it removes, or at least substantially reduces, cross subsidies within and between customer classes.

AusNet Services submitted that the application of peak demand and capacity charges in commercial tariffs has led to more efficient use of its distribution network.

We approve AusNet Services' proposal to retain this critical peak tariff structure and are satisfied that it contributes towards the achievement of compliance with the distribution pricing principles. In particular, it is a targeted cost reflective tariff that enables customers to respond to critical peak events on the AusNet Services network. Because this tariff is announced in advance by AusNet Services, customers have the potential to shift their demand and consumption to non-critical peak times with full knowledge that this will result in a reduced charge on their electricity bill. This is the outcome desired by AusNet Services. If enough customers participate and reduce their demand by a sufficient amount during the critical peak days, it will not need to upgrade or reinforce its distribution assets which service those customers.

CitiPower and Powercor critical peak pricing trials

CitiPower and Powercor's large customer tariff structure includes a fixed component, a peak and off-peak usage component and a maximum demand tariff. We welcome the proposal to trial critical peak pricing for large business customers. This is because as network costs can be driven by time and location specific factors we consider prices that vary over time and by location would be the most cost reflective option.

From 1 July 2016, kVA demand tariffs replaced the previous kW demand tariffs. All large customers that were on a kW demand tariff were reassigned to the kVA demand tariff. CitiPower and Powercor's kVA demand charge is billed at the customer's highest recorded demand over the previous 12 month period. For example, the July 2017 bill would be based on the maximum kVA over the period from 1 August 2016 to 31 July 2017. CitiPower and Powercor did not propose to make any further changes to network tariff structures for large customers in their tariff statements.

However, both these distributors advised that they are considering conducting critical peak pricing or critical peak rebate trials over the 2017–20 period. This is intended to encourage large business customers to reduce their electricity usage during peak demand periods, much like AusNet Services' pricing described above. CitiPower noted that these may be location based. We do note that none of the distributors have proposed location based tariffs for the 2017–20 period, on the grounds that these are too complex to design and implement.

Additionally, customers in Victoria are unfamiliar with these types of tariffs at present and we consider that the proposed tariffs may risk complicating price signals to customers, or creating confusion. Therefore, proposed trials are an appropriate

measure at this time to test if location specific tariffs can be successfully implemented in future.

Retailers and customer groups submitted that distributors should not introduce more complex tariff structures for residential and small business customers, such as critical peak pricing or location based charges.⁷⁹ Notwithstanding the approaches of CitiPower, Powercor and AusNet Services noted above for large customers, distributors have largely taken on board this feedback and consider it would be advantageous to engage further with customer groups about tariff reform for small customers in this area over coming years. Such stakeholder engagement will be important in explaining the full benefits of more elaborate tariff structures and helping customers understand them. Commercial customer critical peak tariff trials may assist with this consultation.

United Energy continuance of current charging structures

United Energy did not propose to change its existing cost reflective large customer tariff structures. It commenced phasing in cost reflective tariffs for large industrial and commercial customers more than ten years ago. United Energy submitted that the introduction of these tariffs has been successful in demonstrating customers' capability to understand and respond to price signals. Specifically, customers have undertaken demand side management initiatives, including power factor correction, in response to the kVA demand element within the tariffs. We welcome United Energy's continued offering of demand tariffs to its customers, as it promotes the pricing of distribution services on the basis of efficient cost.

United Energy's existing commercial and industrial tariffs include a peak energy usage component that varies for summer and non-summer months, an off-peak energy usage component and two demand based tariffs—a Summer Demand Incentive Charge and a peak rolling demand tariff. A minimum chargeable demand level applies to United Energy's large customer tariffs.

The Summer Demand Incentive Charge encourages customers to make bill savings by altering the time of use of their consumption away from 3pm to 6pm on summer workdays. Large customer demand is initially measured on the maximum kW recorded over a 30 minute interval. It is then billed based on the corresponding kVA for the half hourly period of maximum demand.

We consider that each of the distributors' tariff design complies with the distribution pricing principles, particularly the network pricing objective in Clause 6.18.5(a) which requires distributors to set charges for direct control services that reflect the efficient costs of providing those services to retail customers.

⁷⁹ Energy Consumers Australia, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 4; Energy Australia, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 4; Origin Energy, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 3.

Differences in distributors' tariff categories

There are some aspects of the Victorian distributors' proposals which offer a unique tariff or charging methodology. These differences in the Victorian distributors' tariff structure statements are outlined below:

AusNet Services Alpine village tariff

AusNet Services proposed not to offer alpine village customers the demand tariff, given that the maximum demand tariff is significantly weighted to summer months and customers in alpine regions are heavily winter peaking.⁸⁰ A summer season based tariff would not be cost reflective for alpine village customers, sending a perverse price signal such that they would be the greatest beneficiaries. That is, these customers would face a minimal demand tariff during summer because these regions are largely vacated during that time. AusNet Services is considering options for a more suitable cost reflective tariff targeted to these customers in the coming years.⁸¹ Our view of this alpine tariff is that it makes sense not to apply a summer demand tariff to this group of customers for the reasons proposed by AusNet Services.

JEN future tariff options

JEN has engaged with particular customers and explored some options of specific pricing methodologies based on the unique requirements of these customers.

As a result, JEN is considering introducing:

- A traction tariff for Metro Trains—this tariff would better reflect Metro Trains' contribution to driving JEN's costs.
- A preferential service tariff—distribution services provided to a higher service level for large customers, for example better expected reliability through higher levels of security and better response times for the part of the network that the relevant customer is connected to.⁸²
- Network benefit tariff—this tariff would reflect the costs of supplying customers using battery technologies, including electric vehicles and a solar PV and battery combination. It is intended to facilitate the efficient deployment of new technologies in JEN's network.
- Trial tariffs—critical peak rebates trialled over the regulatory period, with potential benefits of obtaining targeted response in certain locations.⁸³

The rules limit the extent to which distributors can make amendments to approved tariff structure statements. Clauses 6.18.1B and 6.18.1C set out alternative methods under

⁸⁰ The alpine region is defined as Mount Hotham, Dinner Plain, Falls Creek and Mount Buller.

⁸¹ AusNet Services, *Revised Tariff Structure Statement*, 29 April 2016, p. 48.

⁸² Customers that request the preferential service tariff would fully fund the additional costs of providing such a service through higher tariffs than the rest of JEN's customer base.

⁸³ Jemena Electricity Networks, *Revised Tariff Structure Statement*, 29 April 2016, p. 34.

which distributors can propose, and that AER can accept, amendments. The circumstances under each process differ, and limit the extent to which changes can be made to a previously approved tariff structure statement.

In the event that JEN decided the above tariffs should be introduced, JEN should make a proposal to amend its tariff structure statement.⁸⁴ We would then review those proposals and consult with customers before making a final decision to amend the tariff structure statement.

United Energy minimum demand levels

United Energy has proposed to include a minimum demand charge of 1.5kW instead of a fixed charge for its residential and small and medium business customers. A minimum demand charge is functionally equivalent to a fixed (standing) charge, as customers will pay for at least 1.5kW of demand via the demand charge, no matter what their maximum demand actually is for the relevant billing period. United Energy is proposing not to incorporate a fixed charge component in their demand tariff.⁸⁵

AGL submitted concern for the transparency of fixed charges in regard to United Energy's proposed minimum demand charge and recommended that it be removed.⁸⁶ We also note Red and Lumo Energy's view that a fixed daily charge would achieve the same goal as a minimum demand charge and would reduce complexity.⁸⁷ Our view of the minimum demand charge is that, at 1.5kW, it is low enough to result in only a minimal bill impact to customers as most will exceed this level. We consider that there will not be a significant increase in the fixed component of the bill and are satisfied that United Energy's minimum demand charge complies with the distribution pricing principles. We reach this view on the basis that it ensures that there is a signal to customers about the costs, and the value to users, of being connected to the electricity distribution network.

We consider that the minimum demand charge does not distort the price signals being sent to customers as it includes only residual cost recovery and its impact on customers is minimised by the low value of the minimum charge.⁸⁸ Further, there is no fixed supply charge that also applies to these customers as an offset to the introduction of the minimum level of demand charge.⁸⁹ This ensures the tariff does not over recover costs from customers assigned to it.

United Energy critical peak rebates

⁸⁴ JEN would need to do this via NER, cl. 6.18.1B.

⁸⁵ United Energy, *Revised Tariff Structure Statement*, 29 April 2016, p. 29, 31.

⁸⁶ AGL, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 3.

⁸⁷ Red and Lumo Energy, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 2.

⁸⁸ NER, clause 6.18.5(g).

⁸⁹ NER, clause 6.18.5(h).

United Energy has employed critical peak rebates for some customers on its network in recent years, noting that they are an efficient way of dealing with localised constraints. Many holiday homes located on the Mornington Peninsula put pressure on United Energy's network during weekends. It considers critical peak rebates an important tool for managing demand at these times and proposed to continue offering these rebates.⁹⁰

We are satisfied that United Energy's proposal to continue offering critical peak rebates to customers in selected areas contributes to the achievement of compliance with the distribution pricing principles.

In particular, we consider that moves that attempt to use variations in traditional tariff types to engender customer response to specific issues, including localised congestion or emergence of local network constraints, exhibits compliance with the distribution pricing principles.⁹¹ It is possible that for tariff statements beyond 2020, distributors might place more emphasis on critical peak prices or rebates.

5.2 Charging windows

We approve the distributors' proposed demand charge windows for residential and business customer tariffs. We are satisfied they contribute to the achievement of compliance with the distribution pricing principles. This is because we consider the distributors' proposed demand charge windows reasonably target their network-wide peak demand for residential and business customers. We set this out by each distributor below.

The Victorian distributors consulted widely with stakeholders on the appropriate charging windows. They received clear and strong guidance to align the time periods for residential customers' charging windows and the days they apply.

Customers and stakeholders submitted that aligning charging windows will simplify new concepts to enable better communication of tariff reform, and therefore promote customers' understanding. The distributors' proposal to align charging windows is also intended to have regard to stakeholder feedback, with the result being consistency among distributors' charging regimes. Extensive consultation with customers, retailers and other stakeholders provides us with confidence that the distributors have struck a balance between improved cost reflectivity and managing customer impacts.⁹²

5.2.1 Residential customer charging windows

All Victorian distributors proposed to align their charging windows (that is, the period of time that defines the peak pricing period) for residential demand tariffs. Charging

⁹⁰ United Energy, *Revised Tariff Structure Statement proposal*, 29 April 2016, p. 34.

⁹¹ NER, cl. 6.18.5(f).

⁹² NER, cl. 6.18.5(g) and NER, cl. 6.18.5(i)(2).

windows are designed to signal when demand on the network might be higher, so that demand based tariffs provide an accurate signal of network costs to customers.

Charging windows need to be:

- wide enough to capture peak demand periods
- not so short as to make it easy to shift demand, simply moving the network peak from one time period to another
- wide enough to ensure customers have an ability to respond to the price signal by spreading their load over the period and thereby allow them to manage their bill.

The proposed window for all distributors is 3pm to 9pm on weekdays, excluding public holidays, with a higher charge during summer (December to March inclusive).

Data submitted by the distributors confirms that the majority of network peaks occur within the proposed charging window, or close to it. Some distributors acknowledged that they had peaks outside the 3pm to 9pm window.⁹³

Commonality of charging windows was a big focus of consultation between customer groups and distributors. Powercor heard a recurring theme during consultation that it would be beneficial for retailers and customers if Powercor aligned as much as practicable with the other Victorian distributors on network tariff reform.⁹⁴

Industry, stakeholders and customer groups expressed a strong desire for commonality throughout Victorian networks, to aid retailers' ability to pass through demand tariffs.⁹⁵ Private citizen John Herbst suggested that the proposed charging windows are too wide. This would lead to customers spreading out their load within the charging window and shifting it into peak times.⁹⁶ We observe that spreading out load is a desirable outcome and should help alleviate peak demands, rather than add to them.

Common charging windows allow for simplicity and predictability and reduce administrative costs for retailers. They also help customers to understand tariffs. Retailers are responsible for converting network tariffs into final retail tariff structures for customers. Retailers are more likely to pass through the network structure where they only need to have one common field in their billing systems. Amending billing

⁹³ Jemena Electricity Networks, *Tariff Structure Statement Proposal*, 29 April 2016, Appendix B, pp B-1 to B-3.

⁹⁴ Powercor, *Tariff Structure Statement 2017-20*, September 2015, p. 85.

⁹⁵ Origin Energy, *Submission on the AER Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 2; Red and Lumo Energy, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 2; AGL, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 2; Energy Networks Association, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 4; Competitive Energy Association, *Submission to AER issues paper tariff structure statement proposals – Victorian electricity distributors*, 25 January 2016, p. 2.

⁹⁶ John Herbst, *Submission on the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 1.

systems can be expensive, and any incremental costs to retailers could be passed through to customers in retail tariffs.

Distributors have also preserved consistency in the peak charging window for the demand tariffs, by setting the same 3pm to 9pm peak window as the flexible time of use tariff currently in place. This again reduces the complexity for retailers and customers and aids understanding and customer communication.⁹⁷ Importantly, data from the distributors showed that 3pm to 9pm coincided with the maximum peaks recorded on their networks. This permitted a common charging window to be proposed.

Although JEN acknowledged that it did have some zone substations peaking before 3pm, it saw reduced risks of these being affected by commencing the demand tariff from 3pm to 9pm. This was because six out of seven substations were not considered likely to need capacity upgrades until sometime after 2020 and they also have a 3pm to 9pm peaking profile. The seventh substation (Somerton) peaks before 3pm but predominantly services commercial customers, who mostly already face demand based tariffs.⁹⁸ Thus, JEN saw merit in ensuring consistency with the demand charging window proposed by other distributors and generally sought by customers. We support this approach.

⁹⁷ NER, cl. 6.18.5(i)(2).

⁹⁸ Jemena Electricity Networks, *Tariff Structure Statement Proposal*, 29 April 2016, Appendix B, pp B-2 to B-3.

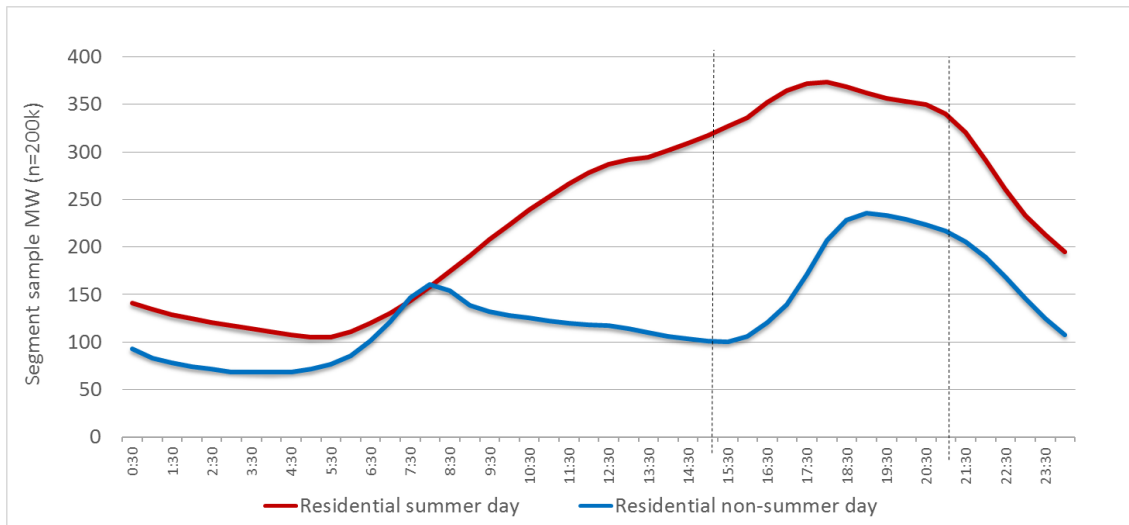
United Energy

Figure 5-1 presents United Energy's residential substation demand profile for a typical summer and non-summer day. Data is recorded for a particular summer day (16 January 2014) and non-summer day (22 July 2014), based on a sample of 200,000 residential customers.

It shows residential summer peak demand occurring around 6pm after building steadily throughout the day and declining relatively quickly from 9pm. The non-summer peak occurs slightly later and is over 100MW lower than the summer peak, and its duration is shorter.

We consider the difference between seasonal peak demand and the daily peak demand profile justifies United Energy's proposed seasonal variation in demand charges. We consider United Energy's proposed charging window period of 3pm to 9pm is justified by its customer demand profile presented in Figure 5-1, where demand peaks between 3pm and 9pm. For these reasons, we are satisfied United Energy's proposed charging windows contribute to the achievement of compliance with the distribution pricing principles.

Figure 5-1: United Energy - sample residential customer summer/winter demand profile, MW



Source: United Energy, Revised Tariff Structure Statements, 29 April 2016, p.10.

AusNet Services

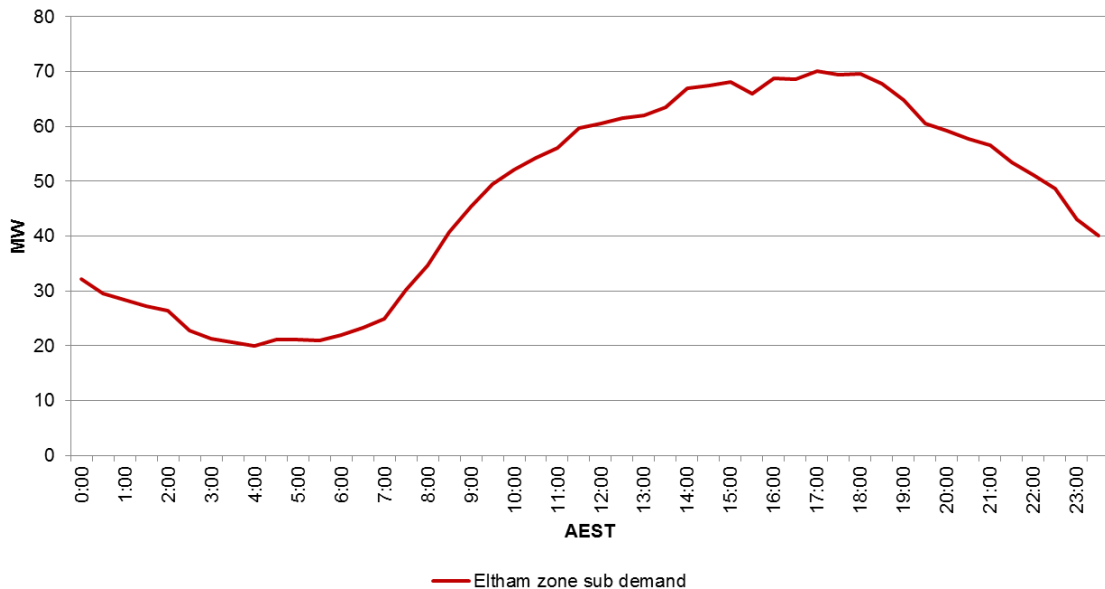
AusNet Services has proposed the same charging window for both commercial and residential customers. This is because those network areas serving largely residential customers (91 per cent) also serve commercial customers and both have a similar late afternoon demand peaking profile.⁹⁹ Figure 5-2 presents the demand profile on a peak

⁹⁹ AusNet Services' overall customer base is made up of approximately 90 per cent residential customers.

day for Eltham zone substation, where the residential proportion of overall consumption is relatively high (69 per cent, with the remaining 31 per cent being commercial and industrial customers).¹⁰⁰ The figure presents data recorded on 19 December 2015 for all customers served on the Eltham zone substation. Demand peaks between the hours of 3pm and 9pm, justifying the proposed charging window.

AusNet Services explained that the key cost driver that can be affected by its customers' future consumption behaviour is peak demand. Energy consumption occurring outside of the system peak demand period is not a material driver of AusNet Services' future costs. For these reasons, we are satisfied AusNet Services' proposed charging windows contribute to the achievement of compliance with the distribution pricing principles.

Figure 5-2: AusNet Services – residential customer summer demand profile, MW



Source: AusNet Services – Information request response provided to the AER, 20 June 2016.

CitiPower and Powercor

Figure 5-3 and Figure 5-4 compares the residential daily demand profile for CitiPower and Powercor's networks in winter and summer, constructed using all residential customers' demand recorded on particular winter and summer peak days. Again, the proposed 3pm to 9pm charging window for residential customers reflects the timing of maximum demand on CitiPower and Powercor's networks. We are satisfied that this proposal contributes to the achievement of compliance with the distribution pricing principle in clause 6.18.5(f)(2) because the charging window captures peak demand on

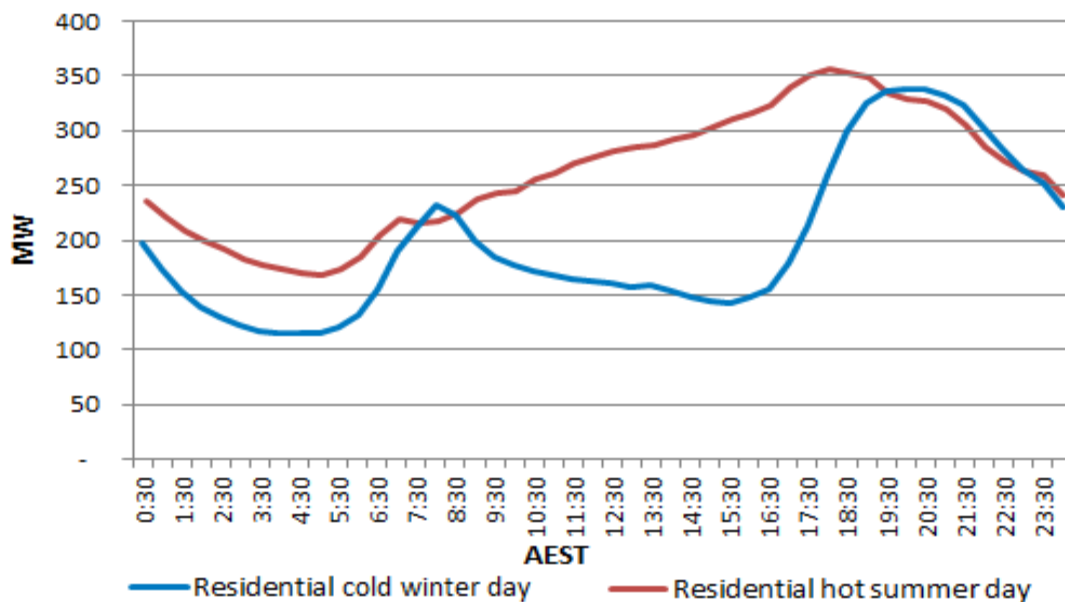
¹⁰⁰ Note that Barnawatha zone substation has only 13 per cent residential customers and is discussed in the section on small business charging windows.

CitiPower and Powercor's network which is most likely to drive further network expenditure,

CitiPower and Powercor further justified this charging window as reflecting the feedback provided during their stakeholder engagement process, noting stakeholder support for measuring demand over as narrow a period as possible and a preference for consistency across distributors.¹⁰¹ As explained above, we consider limiting the charging window periods to between 3pm and 9pm will contribute to the mitigating the impact of changes in tariffs on residential customers because this provides opportunities for residential customers to shift their consumption outside the peak demand charging window.¹⁰²

For these reasons, we are satisfied CitiPower and Powercor's proposed charging windows contribute to the achievement of compliance with the distribution pricing principles.

Figure 5-3: CitiPower – sample residential customer summer/winter demand profile, MW

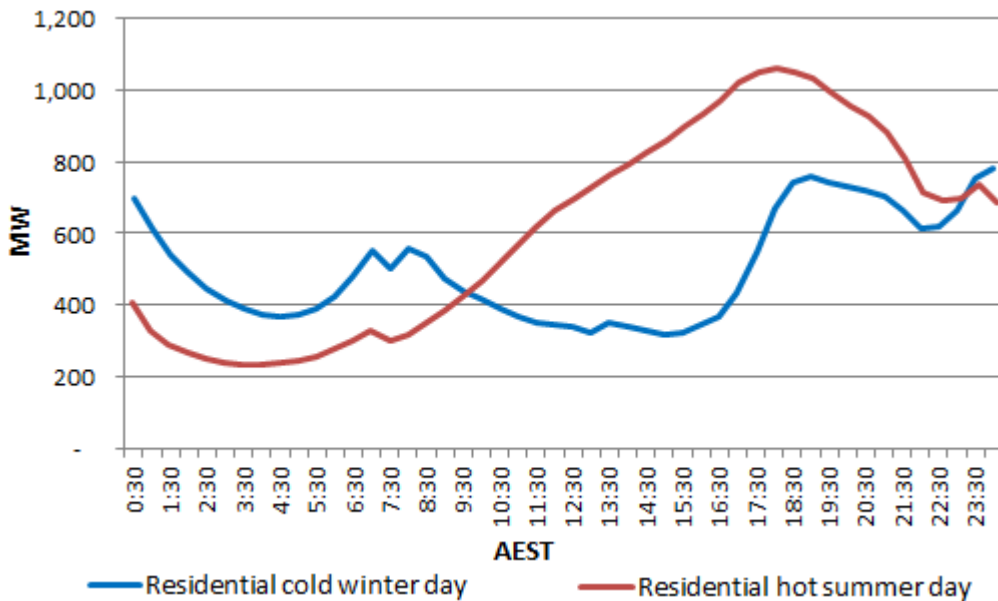


Source: CitiPower – Information request response provided to the AER, 17 June 2016.

¹⁰¹ CitiPower, *Revised Tariff Structure Statement Proposal*, 29 April 2016, p. 40.

¹⁰² NER cl 6.18.5(h).

Figure 5-4: Powercor – sample residential customer summer/winter demand profile, MW



Source: Powercor – Information request response provided to the AER, 17 June 2016.

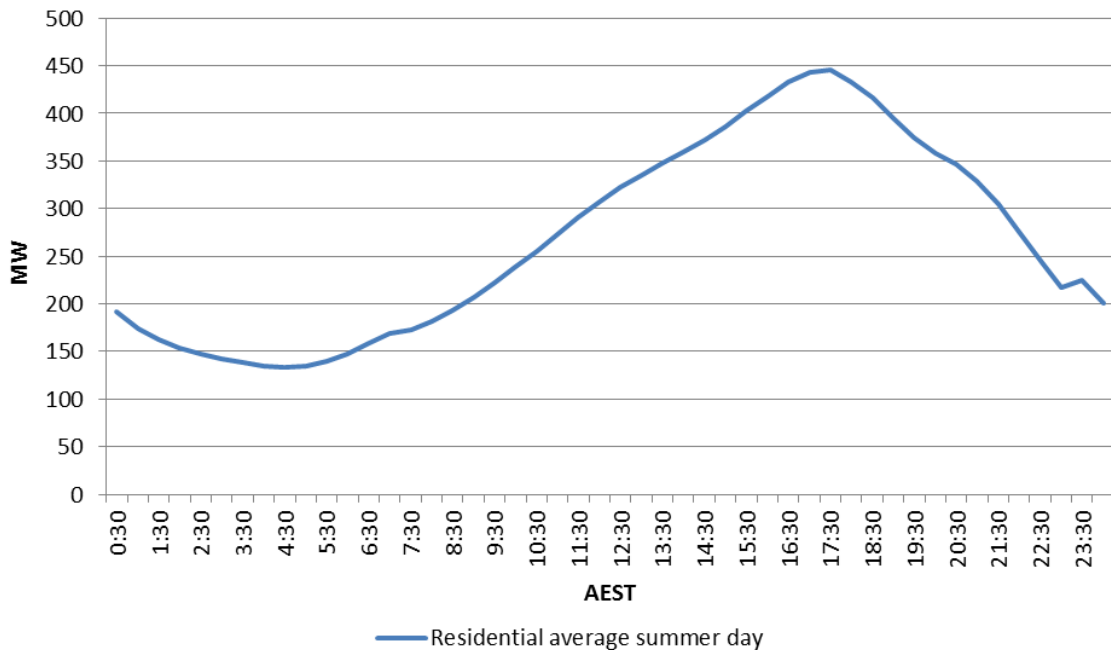
JEN

Figure 5-5 presents the average of the five highest peaks on JEN's network recorded during the summer of 2014–15 for all residential customers. JEN's residential customer demand profile builds steadily throughout the day and peaks at around 6pm.

As noted above, JEN observed that its network demand profile actually suggests that 3pm to 9pm is not its ideal window. However it was more inclined to align charging windows with other distributors, as a result of strong stakeholder support for this.

Nevertheless, JEN noted that in future tariff structure statements, it may consider proposing different demand charging windows depending on the outcome of customers' response to tariffs during 2017–20. We note the nuance in JEN's proposed charging windows. For the reasons set out both here and above, we are satisfied JEN's proposed charging windows contribute to the achievement of compliance with the distribution pricing principles.

Figure 5-5: JEN – sample residential customer summer demand profile, MW



Source: JEN – Information request response provided to the AER, 20 June 2016.

Overall, the data submitted by the Victorian distributors justifies setting higher charges during summer months to signal the times of greatest network stress, and supports a wide charging window to avoid a situation in which customers can simply shift peak demand to a new time period. We consider that the distributors have provided sufficient information to show that their proposed charging windows are in line with the times of greatest network utilisation.

Wide charging windows also limit the potential for bill shock by reducing the amount charged per kilowatt during the peak period. This enables customers to respond to price signals by altering their demand during the peak periods.

We consider that the distributors' proposed residential demand charging windows signal efficient network costs, giving customers the ability to respond to price signals and mitigate their bill impacts. We are satisfied they thereby contribute to the achievement of compliance with the distribution pricing principles.¹⁰³

An alternative approach to measuring demand

We note that Victorian distributors have proposed that they measure a customer's demand as the highest demand recorded in a 30 minute period (that falls within its proposed peak charging window) during the month. We approve this basis of charging in this initial phase of tariff reform. It does indicate to a customer how their individual

¹⁰³ NER, cl. 6.18.5(f)(2)

demand can affect the network. But that customer's individual peak may not coincide with when the network is peaking and so there can be a mismatch between these two. As such, the highest 30 minute demand charge is sending an average signal about demand.

An alternative approach would be to average a customer's top several demand periods during the month (that falls within the peak charging window). We observe that Ergon Energy has proposed to average the top four highest demand periods for its residential customers as the basis for calculating the demand charge.

We consider this issue lends itself to further analysis in the future as distributors look to refine the cost reflectivity of their tariffs, including attending to customer impacts. We would be interested in working through this issue with the industry and stakeholders in the lead up to the next round of tariff structure statements.

5.2.2 Small business customer charging windows

Unlike for residential customers, the proposed charging windows for small business customers vary among the Victorian distributors as they are designed to reflect each distributor's individual circumstances.

For example, the distributors' small business customer base is likely to exhibit varying demand profiles reflecting the diverse nature of these businesses' operating hours. These customers can utilise the network in terms of their usage and demand at different times during the day. This explains why distributors have proposed wider charging windows. We received evidence from the distributors to support the charging windows and consider that they appropriately match when peak business demand on the networks is likely to occur. No submissions were received on the length of business customer charging windows.

We do not take issue with the lack of alignment among business tariffs for each distributor and accept the proposed charging windows as appropriately matching the timing of peak demands on the individual distributors' networks. We are therefore satisfied that they contribute to achievement of compliance with the distribution pricing principles.

Table 5-2 presents each distributor's proposed charging window for its time varying small business customer tariff.

Table 5-2: Victorian distributors' small business charging windows

Distributor	Charging window
AusNet Services	Peak 3pm to 9pm workdays
CitiPower	Peak 10am to 6pm workdays
JEN	Peak 10am to 8pm workdays
Powercor	Peak 10am to 6pm workdays
United Energy	Peak 10am to 6pm workdays

All five distributors proposed to set higher demand charges during the summer months, defined as December to March inclusive. This is the same approach to that adopted for residential customers demand tariffs.

AusNet Services charging windows 3pm to 9pm

While four of the Victorian distributors have similar small business charging windows, AusNet Services proposed to align its residential and small business charging windows of 3pm to 9pm. AusNet Services considered its business and residential customer demand profiles together and found that the peak period on its network overall was still 3pm to 9pm, as shown in Figure 5-6. This is partly explained by the fact that 90 per cent of AusNet Services' customers are residential and approximately 9 per cent are small business customers. Even in zone substations for which commercial customers make up the majority of consumption, AusNet Services finds a similar late afternoon peaking profile to those serving largely residential customers.

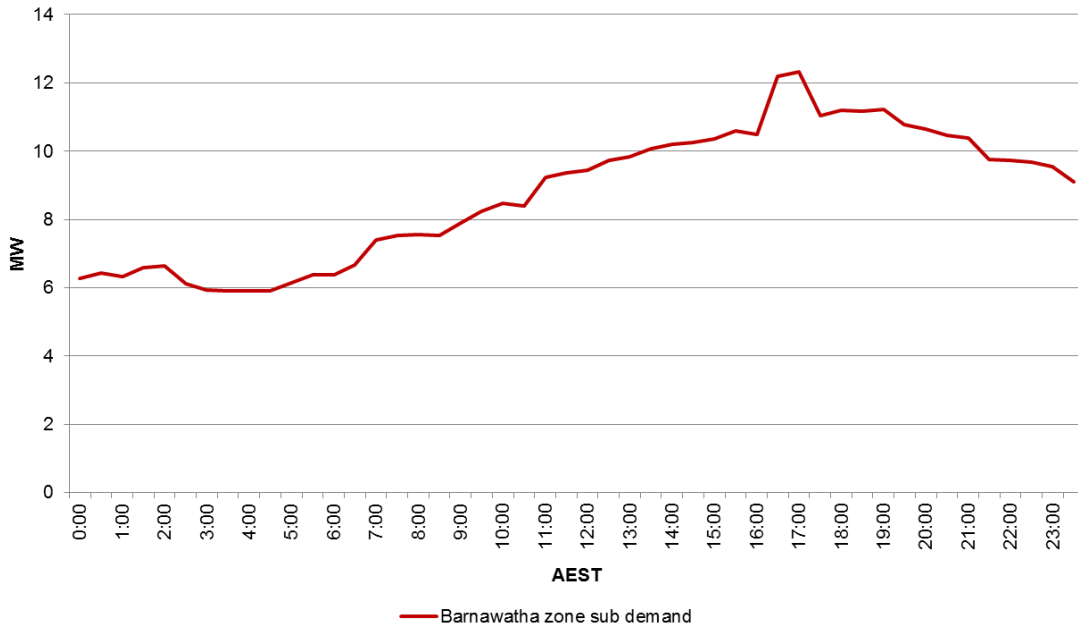
Figure 5-6 presents the Barnawatha zone substation demand profile for which residential customers make up only 13 per cent of total electricity consumption, the rest being commercial and industrial customers and a small number of farms.

This shows that the 3pm to 9pm charging window is appropriate for AusNet Services' overall network. In aligning the charging windows, AusNet Services is targeting network-wide effects rather than separating non-residential and residential effects.

Its system peak demand occurs over the period December through March, hence why these months have been identified as the peak period for charging purposes.

We are satisfied that AusNet Services' proposed charging window reflects the higher cost of meeting customer demand during times of greatest network utilisation and therefore contributes to compliance with the distribution pricing principles.¹⁰⁴

Figure 5-6: AusNet Services – small business customer demand profile, MW



Source: AusNet Services – Information request response provided to the AER, 17 June 2016.

Common charging windows, 10am to 6pm

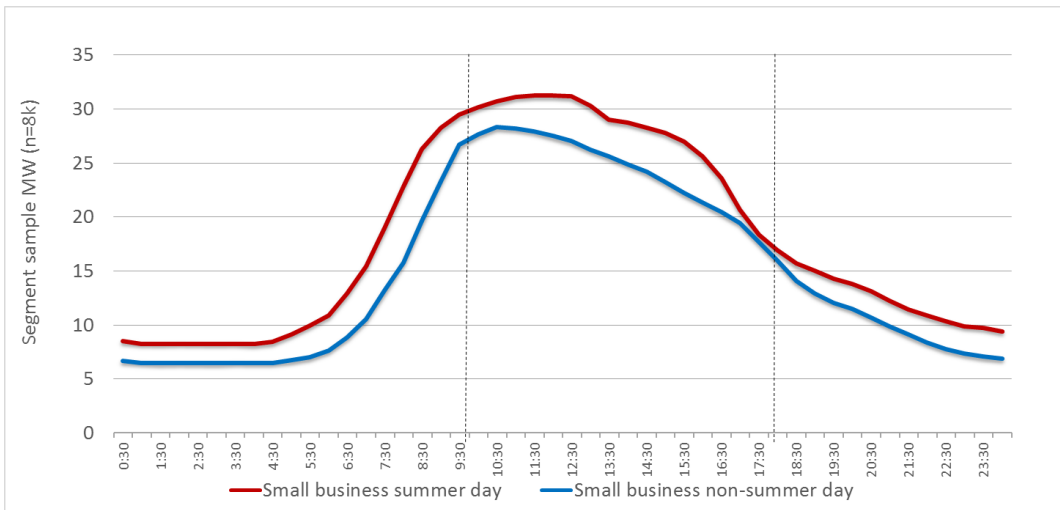
United Energy

Figure 5-7 presents United Energy's small business demand profile for summer and non-summer months. The summer peak demand time period is roughly the same as the non-summer demand period but it is higher in terms of consumption, which we consider gives support for seasonal variation in demand charges. United Energy has determined that a demand charge window of 10am to 6pm workdays is most appropriate in meeting the desire for cost reflectivity balanced against other requirements, including minimising the customer impacts of the transition. We are satisfied that United Energy's proposed charging window reflects the higher cost of meeting customer demand during times of greatest network utilisation.¹⁰⁵

¹⁰⁴ NER, cl. 6.18.5(f)(2).

¹⁰⁵ NER, cl. 6.18.5(f)(2).

Figure 5-7: United Energy - sample small business customer demand profile, MW



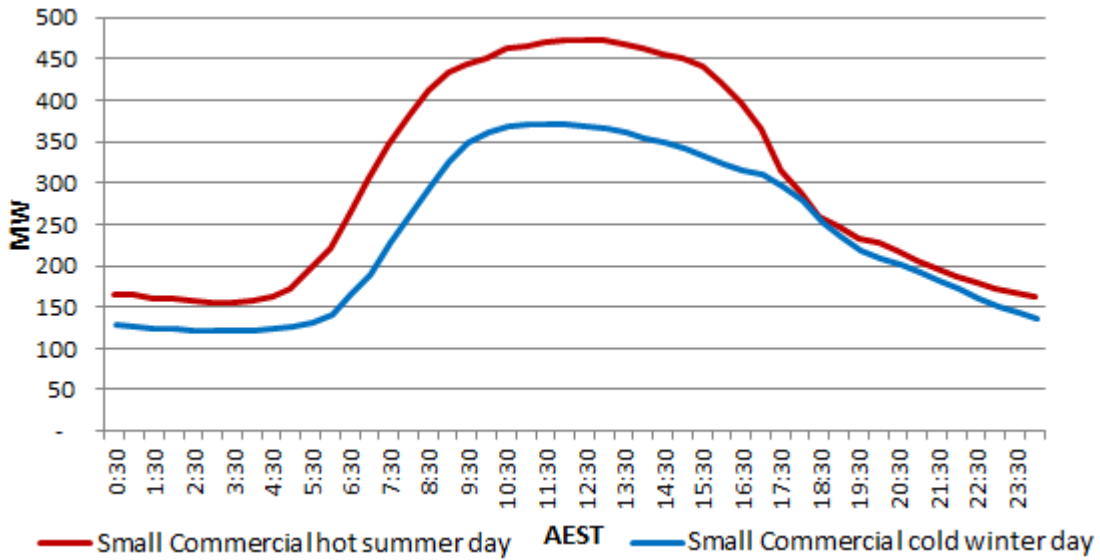
Source: United Energy, Revised Tariff Structure Statement, 29 April 2016, p.10.

CitiPower and Powercor

CitiPower and Powercor have proposed to measure demand between 10am and 6pm for small and medium business customers. This period reflects the timing of maximum demand on each of their networks, as shown in Figure 4-8 and Figure 5-9. CitiPower and Powercor have proposed to set higher demand charges for summer months than non-summer months as the networks experience more demand pressure during this period, shown by the red line in Figure 5-8 and Figure 5-9. We are satisfied that CitiPower and Powercor's proposed charging windows reflect the higher cost of meeting customer demand during times of greatest network utilisation.¹⁰⁶

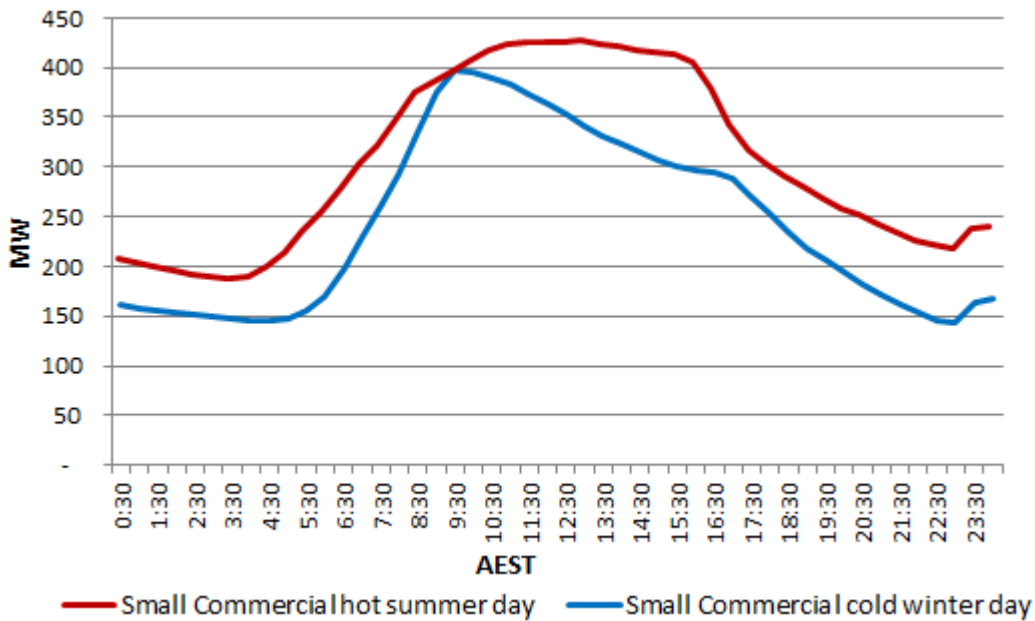
¹⁰⁶ NER, cl. 6.18.5(f)(2).

Figure 5-8: CitiPower – sample small business customer summer/winter demand profile, MW



Source: CitiPower – Information request response provided to the AER, 17 June 2016.

Figure 5-9: Powercor – sample small business customer summer/winter demand profile, MW



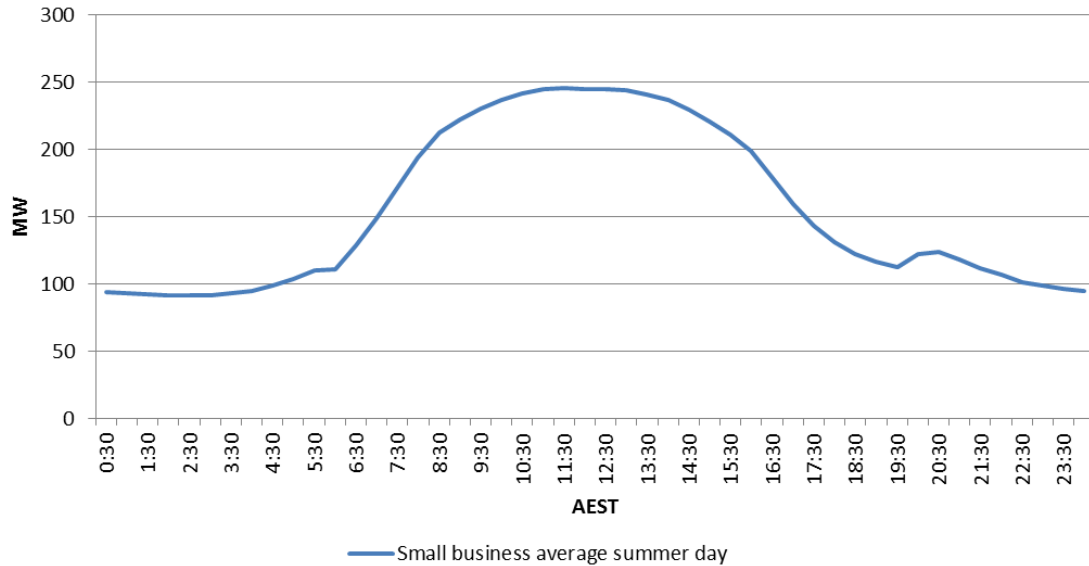
Source: Powercor – Information request response provided to the AER, 17 June 2016.

JEN

JEN proposed to introduce a workday maximum demand charge for small business customers where maximum demand is measured during 10am and 8pm. We consider this reflects the characteristics of its network and will cover the 95 per cent probability interval of times a peak will likely occur. Figure 5-10 presents the average of the five highest peaks on JEN's network for small business customers in the 2014 summer.

We consider this provides support for the 10am to 8pm small customer tariff charging window. We are satisfied that JEN's proposed charging windows reflect the higher cost of meeting customer demand during times of greatest network utilisation.¹⁰⁷

Figure 5-10: JEN – sample small business customer demand profile, MW



Source: JEN – Information request response provided to the AER, 20 June 2016.

For the reasons above, we consider each distributor has sufficiently justified their cost reflective tariff peak charging windows. The charging windows appear to target the broad network peaks for residential and small business customers while providing opportunity for customers to shift usage to manage their bills.

We are satisfied that these charging windows contribute to the achievement of compliance the distribution pricing principles, and in particular, compliance with the pricing principles in clause 6.18.5(f)(2), which requires that the method in which tariffs are calculated—based on the long run marginal cost of providing the service—be determined having regard to the additional costs likely to be associated with meeting customers’ demand at times of greatest utilisation of the network.

5.2.3 Large customer charging windows

As large commercial and industrial customers generally use a much higher proportion of the network infrastructure that they are connected to, the infrastructure needs to be sized to the needs of the customers regardless of the time of peak demand.

Some of the distributors’ proposed large customer tariffs incorporate demand charging windows that align to broader network peak demand, in order to give customers the opportunity to reduce their bills by shifting usage out of these periods.

¹⁰⁷ NER, cl. 6.18.5(f)(2).

Other distributors' proposals for large customer tariffs do not incorporate charging windows. Rather, the kVA demand charge is based on the customer's highest demand during the relevant period regardless of when it was recorded. The incentive is to minimise the kVA demand, to reduce charges.

Large customers are more likely than small customers to have network assets dedicated specifically to their use, or predominantly for their use. Their actions can also heavily impact demand. It is therefore reasonable to base demand tariffs on the highest demand recorded at any time of the day, or year. Overall, we are satisfied the distributors' large customer charging windows contribute towards the achievement of compliance with the distribution pricing principles.

AusNet Services

As discussed in section 4.1, AusNet Services' critical peak demand charge measures a large customer's demand on five specific critical peak demand days, as nominated by the distributor. Demand is measured as the highest demand over a 30 minute interval that occurs between 3pm and 7pm. The demand component for large customer tariffs also includes a capacity charge based on installed connection assets. The two demand components are charged as \$/kVA/month.

United Energy

United Energy has proposed two demand based tariffs with separate demand calculation windows. The peak rolling demand calculation window is 7am to 7pm workdays and the Summer Demand Incentive Charge demand calculation window is 3pm to 6pm summer workdays. A customer's demand is measured as the maximum kW recorded and billed based on the corresponding kVA for the 30 minute period of maximum demand. Customers can make savings by reducing their energy consumption during these defined peak periods. Off-peak energy is all day weekends and public holidays and 7pm to 7am workdays. United Energy customers are charged for their peak demand at \$/kVA/day.

CitiPower and Powercor

CitiPower and Powercor do not set a specified measurement period for the demand component of their large customer network tariffs, submitting that the non-coincident maximum demand of a large customer can be material for the capacity of network assets supplying that customer. As such, the demand tariff is an anytime demand tariff that is measured over 24 hours a day, 7 days a week. The demand component is charged as \$/kVA/pa.

JEN

Likewise, JEN measures maximum demand as that set at any 15 minute period in the month and therefore has an anytime demand tariff which measures demand 24 hours a day, 7 days a week. JEN currently measures maximum demand of its large customers as the highest of the maximum demand recorded for the month and the billed demand for the previous month, charged as \$/kVA/pa.

The demand of large commercial customers can impact the network regardless of the time of day. Large users might cause localised network congestion at a particular point in time which may differ from when the network experiences overall peak demand. We consider this gives weight to basing time varying tariffs on the highest demand recorded at any time rather than at times aligned to broader network peak demand.

We consider the Victorian distributors' proposed charging windows for large customers comply with the distribution pricing principles, specifically clause 6.18.5(f)(2). As large customers have historically faced demand charging, they are better able to understand and adapt to cost reflective price signals than those customers who have only been charged on the basis of energy volume (in kWh) to date. There are no transition issues that need to be addressed.

6 Tariff levels

This chapter sets out our considerations of the Victorian distributors' approach to calculating long run marginal costs, passing those costs through to customers and dealing with residual costs.

We are satisfied the Victorian distributors' tariff structure statement proposals are compliant with the distribution pricing principles, specifically (as per the distribution determination) and clause 6.18.5 of the NER. The proposed tariff statements exhibit movement along the cost reflectivity spectrum, incorporating demand based tariff options for small customers and complementing existing cost reflective tariffs for large customers.

The pricing principles in the Rules state that each tariff must be based on the long run marginal cost of providing the services to which it relates to the retail customers assigned to that tariff.¹⁰⁸ A key concept that underpins the distribution pricing principles and the design of efficient network tariffs is the use of long run marginal costs. The Rules define long run marginal cost as the cost of an incremental change in demand over a period of time in which all factors of production can be varied.¹⁰⁹ This is also known as the forward looking cost.

6.1 Calculation and recovery of long run marginal cost

When tariffs accurately reflect the marginal or forward-looking cost of increasing demand, consumers may make informed choices about their electricity usage. Tariff reform seeks to promote additional investment in the network by distributors only when consumers value increased demand more than the cost of delivering the additional network capacity necessary to meet that demand.

We approve the Victorian distributors' approach to calculating long run marginal costs and passing those costs through to customers in the form of tariff structures. We are satisfied these proposals contribute to the achievement of compliance with the distribution pricing principles.¹¹⁰ This is because we are satisfied the proposals comply with the rule requirements for tariffs to be based on long run marginal costs and for the tariffs for each tariff class to be between stand alone and avoidable costs.¹¹¹

CitiPower, Powercor, AusNet Services and United Energy adopted a 10 year planning horizon over which to assess their augmentation expenditures. JEN used a 20 year period to derive their estimates. We consider this captures the essence of 'long run' in the methodology.

¹⁰⁸ NER, cl. 6.18.5(f).

¹⁰⁹ NER, Chapter 10—Glossary.

¹¹⁰ NER, cl. 6.18.5(f).

¹¹¹ NER, cl. 6.18.5 (f)(1)(2)(3) and 6.18.5(e)(1)(2).

'Long run marginal costs' is defined in the NER to mean the cost of an incremental change in demand for direct control services provided by a distributor over a period of time in which all factors of production required to provide those direct control services can be varied. We consider there is no ideal, or correct, "period of time" over which to base these estimates. This is because the longer the estimation period is, the more difficult it becomes to estimate and forecast long run costs. Assumptions about future growth at zone substation and/or terminal stations also become more problematic with a longer planning horizon.

The Rules do not prescribe a particular method for estimating and calculating long run marginal costs. Historically, electricity distributors in the national electricity market have calculated their long run marginal cost using the average incremental cost approach. This methodology estimates long run marginal cost as the average change in forward looking operating and capital expenditure resulting from a change in demand. It is estimated by:

- Initially, estimating future operating and capital costs to satisfy expected increases in demand
- Then estimating the anticipated increase in the relevant charging parameter
- Finally, dividing the present value of future costs by the present value of the charging parameter over the time horizon chosen.

The distributors included augmentation costs plus operational costs associated with those upgrades to establish long run marginal cost estimates. Long run marginal costs were calculated by voltage level.

All Victorian distributors have linked their long run marginal costs of demand to the proposed kW or kVA demand charges, for residential and business customers as presented in table 6-1.

Table 6-1: LRMC estimates, by distributor, \$/kVA

	LV residential	LV business	HV business	Sub-transmission
AusNet Services	88.73	88.73	24.60	16.09
CitiPower	94.20	103.20 to 109.90	67.30	24.80
JEN	57.63	54.62 to 55.86	27.97	30.97
Powercor	96.60	109.50 to 112.70	77.00	9.80
United Energy	64.73	73.59 to 77.58	46.61	9.36

Source: Distributors' analysis.

Notes: JEN's LRMC ranges are raw estimates based on tariff type within the tariff class, 29 April 2016, Appendix E, p.E3-E4
 Ranges in LV business relate to LV small and LV large business estimates

6.2 Consideration of long run marginal cost in future determinations

We observe there are elements of the distributors' proposed average incremental cost approach which we consider could be revisited in the future to better promote compliance with the distribution pricing principles. In particular, the inclusion of replacement costs in long run marginal cost estimates.

These are the first tariff structure statements submitted for Victoria. Tariff reform is a long term project. We consider the distribution pricing principles require movement towards more cost reflective tariffs with every tariff structure statement proposal over upcoming regulatory control periods.

We have identified the elements of the proposed methodologies that we consider are less reflective of the distribution pricing principles. This is to provide guidance to the Victorian distributors on our views on the direction the industry should be heading in order to maintain compliance with the distribution pricing principles in the future.

We consider that calculation of long run marginal costs is about how much it would cost to deliver additional capacity at certain locations within the network. It ensures that the impact of a change in demand on the network, and the associated investment required to meet that demand, is reflected in the tariff that customers face. As a consequence, it sends a signal to customers about the impact of their use of the network at certain times (typically during period of peak demand). Red and Lumo Energy supported use of the average incremental cost approach.¹¹²

In the long run, the level of capacity is variable. When assets come to the end of their useful life, distributors have a choice of maintaining their current level of capacity, increasing capacity or decreasing capacity, depending on demand trends and forecasts. Distributors should not adopt a default position of maintaining existing capacity levels. To promote network capacity in the long run at levels that consumers value, it is desirable that replacement capex should also be included in long run marginal cost estimates. Red and Lumo Energy also held a similar view.¹¹³

The more robust long run marginal cost can be made, the more a distributor will be able to send the sharpest possible price signal to its customers. Moreover, it will also enable a distributor to further amend the fixed and energy volume charging parameters, to make them more cost reflective too. This opens up additional possibilities for customers to benefit from further improvements in energy efficiency and demand management or home energy automation initiatives.

6.3 Recovery of residual costs

¹¹² Red and Lumo Energy, *Re: Victorian Tariff Structure Statement Proposals*, 16 June 2016, p. 3.

¹¹³ Red and Lumo Energy, *Re: Victorian Tariff Structure Statement Proposals*, 16 June 2016, p. 4.

In addition to signalling the long run marginal costs of demand, all five Victorian distributors have sought to recover residual costs from either fixed charges or energy consumption charges.

We approve all the Victorian distributors' proposals to recover residual costs apportioned across the fixed charge and variable energy consumption tariff, rather than being included in the demand tariffs. We are satisfied that recovery of residual costs in this manner contributes to the achievement of compliance with the distribution pricing principles.¹¹⁴ We consider the distributors have thus minimised distortions to the forward looking cost signal, while at the same time provided customers with an ability to respond to tariff changes.¹¹⁵

All the Victorian distributors proposed to reduce the energy (kWh) charge and increase the fixed charge, signalling to customers the value of being connected to the network. That is, regardless of the level of energy consumption or demand, a distributor will incur costs to supply a connected customer. As such, despite some stakeholder opposition to increases in fixed charges, we consider them a legitimate tool for revenue recovery.¹¹⁶

Residual costs are sometimes referred to as sunk costs. They are expenditures that have already been incurred by the distributor, and will not be affected by a change in customers' future consumption behaviour or their level of demand. Examples of these include corporate overheads, regulatory costs and past capital investments included in the regulatory asset base (for which the distributor receives a return on capital and depreciation).

We note also that retaining usage charges in some form, rather than abolishing them altogether, may be more comfortable for customers to understand in the short term. Existing customers are familiar with usage based tariffs. It may also be less distortionary for usage charges to recover some portion of a distributor's residual costs than to disturb the forward looking price signal established by the demand charge. Red and Lumo Energy agreed that the residual costs should be recovered through fixed charges and volume based charging parameters.¹¹⁷

United Energy minimum demand charge

United Energy took a different approach to that of its peers, choosing to recoup residual costs only through an energy charge. United Energy's minimum 1.5kW of chargeable demand will be used in place of the fixed charge that is levied on legacy tariffs. We are satisfied this approach ensures the recovery of fixed costs from residential customers with intermittent demand profiles and does not significantly

¹¹⁴ NER, cl. 6.18.5(g)(3).

¹¹⁵ NER, Clause 6.18.5(h)(3) and 6.18.5(i).

¹¹⁶ Clean Energy Council, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 2.

¹¹⁷ Red and Lumo Energy, *Re: Victorian Tariff Structure Statement Proposals*, 16 June 2016, p. 3.

disadvantage any particular customer class, and therefore contributes to the achievement of compliance with the distribution pricing principles.¹¹⁸ In principle, minimum levels (or charges) for either the demand charge or usage charges are equivalent to a fixed charge. Customers cannot avoid the charge, regardless of their consumption behaviour.

United Energy's rationale is to make tariff design simple—by reducing the number of charging parameters—and to acknowledge that it has made past investments to provide and maintain capacity to households. Red and Lumo Energy were not convinced that this was a superior approach to charging a fixed charge to customers instead.¹¹⁹

However, we understand that a typical residential customer's maximum load is around 3.5kW to 4.5kW. Thus, United Energy's minimum 1.5kW of chargeable demand appears reasonable and is considered unlikely to cause any significant disadvantage for customers, even those who use relatively little electricity during the day and whose demand is minimal.

Further, a minimum level of charging is akin to a fixed charge by another name and fixed charges are considered an appropriate mechanism for recovering residual costs.

6.4 Tariff-rebalancing

Moves towards cost reflective pricing invariably involve a change in the relative mix between fixed charges, energy charges and the new cost reflective tariff.

As the new demand tariff is introduced for small customers (residential and business), there needs to be a restructure of the charging parameters that existed before the adoption of cost reflective prices. This section sets out our views on how the Victorian distributors have gone about this and considered the impact on customers. We consider the proposed tariff re-balancing policies encourage relatively cost-reflective pricing whilst managing the bill impacts for customers, in accordance with clause 6.18.5(h)(3) of the NER.

6.4.1 Low voltage customers

We are satisfied that the proposed re-balancing of tariff structures provide a relatively more cost-reflective price by reducing the proportion of variable charges as a component of the total network tariff. The Victorian distributors will gradually reduce the energy consumption charge during 2017–20 and increase the fixed charge, to ensure they comply with the distribution pricing principles.

¹¹⁸ NER, cl. 6.18.5(g); NER, cl. 6.18.5(i).

¹¹⁹ Red and Lumo Energy, *Re: Victorian Tariff Structure Statement Proposals*, 16 June 2016, p. 2.

This is to ensure that these elements of tariffs do not over recover revenues in accordance with clause 6.18.5(g)(2) of the NER—and therefore cease to be cost reflective—as the demand charge is introduced .

In order to mitigate customer bill impacts, these charges (which recover distributors' residual costs) will be gradually realigned, occurring at the same time as the transition to demand tariffs for medium business customers, in accordance with clause 6.18.5(h) of the NER.

We consider that the change in the mix between the various charging parameters proposed by each Victorian distributor will contribute to the achievement of the national electricity objective and the national pricing objective and the distribution pricing principles.¹²⁰

Small business and residential customers' fixed and variable energy charges will vary over the tariff statement period depending on the rate of opt-in demand tariff take up.

The greater the take up, the more non-demand tariffs for those who do not opt-in will need to increase to compensate for the loss of revenue associated with the lower demand recovered through the demand charge. This is because in the early years of tariff reform only customers who will be better off are expected to opt-in, and with a fixed revenue requirement that would mean distributors under recover their revenue each year, perhaps by a significant amount. All things equal, this would lead to large under recoveries of revenues, increasing tariff volatility. To compensate, fixed and variable charges will be adjusted.

The distributors' indicative pricing schedules set out the proposed rates to apply during 2017–20 to provide transparency and certainty to retailers and customers about the trajectory of all charges.

6.4.2 Medium business customers

We are satisfied that the proposed re-balancing of tariff structures provide a relatively more cost-reflective price by reducing the proportion of variable charges as a component of the total network tariff. For medium business customers, there will be a transition to cost reflective demand tariffs over the 2017–20 period. Like small customers, there will be tariff rebalancing towards the fixed charges to signal connection to the network, while consumption based charges will fall relative to these fixed charges.

6.4.3 High voltage customers

We are satisfied that the proposed re-balancing of tariff structures provide a relatively more cost-reflective price by reducing the proportion of variable charges as a component of the total network tariff. High voltage and sub-transmission customers will

¹²⁰ NER, cl. 6.18.5.

not receive a transition to cost reflective pricing. This is because their tariffs have historically been set based on demand—on either a kW or kVA basis—and this will continue under the tariff statements.

Commercial and industrial customers taking supply at high voltages are also accustomed to demand charges and are aware of the actions they can take to minimise their demand. Examples of this include power factor correction equipment. Some of these customers have network assets dedicated to their connection, and so need to face an appropriate price signal reflecting this.

CitiPower and Powercor, for instance, have account managers assigned to the largest customers to provide advice and assistance with managing demand and corrective measures that can alleviate energy bills.

7 Tariff assignment policies

We approve the tariff assignment policies proposed by the Victorian distributors, as we are satisfied the policies comply with clause 6.18.5 of the NER, incorporating the AMI Tariffs Order in Council.¹²¹

We also consider the policies comply with the procedures governing the assignment and re-assignment of small customers in our 2017-20 distribution determination for each distributor.¹²² We consider that the tariff assignment policies sufficiently transition customers towards cost reflective charging, while managing the billing impact to customers by offering alternative charging structures. That is, customers who choose a new cost reflective demand-based tariff can also opt-out to their previous legacy tariff. These tariff assignment policies will apply to customers over the 2017–20 period, from 1 January 2017.

Customers may be assigned or re-assigned to a tariff in the following circumstances:

- Connecting to the distribution network for the first time (i.e. new dwelling connections)
- Take over an existing supply point (i.e. change of dwelling occupancy)
- Upgrades or modifies a connection (i.e. solar installation)
- Request a change of tariff through a retailer.

Customers will be automatically assigned to a demand tariff if customers exceed certain consumption or demand thresholds.

7.1 Tariff classes

The Victorian distributors have proposed the tariff classes listed in **Error! Reference source not found.** based on consumption thresholds, connection voltage and the consumption profile of customers.

We consider this complies with the procedures governing the assignment and re-assignment of small customers in our distribution determination for each distributor which require that tariff assignment policies are to be based upon one or more of the following factors relating to the small customer¹²³:

¹²¹ Victorian Government, Order in Council, Advanced Metering Infrastructure (AMI Tariffs) Order 2013, 19 June 2013.

¹²² AER, *Final decision, CitiPower distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, Powercor distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, Jemena distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, AusNet Services distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, United Energy distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3.

¹²³ AER, *Final decision, CitiPower distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, Powercor distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3;

- The nature and extent of customer usage
- The nature of their connection to the network
- Whether remotely-read interval metering has been installed at the customers' premises as a result of a regulatory obligation or requirement.

These tariff classes are identical to those in place prior to the proposed 2017–20 tariff structure statements. The tariffs reflect the long established definitions offering tariff classes based on customers' connection type and annual energy consumption.

7.2 Tariff assignment policies

We consider that the proposed tariff assignment policies offer customers sufficient choice between alternative charging structures and treat customers with similar connection and usage profiles on an equal basis. Thus, we are satisfied the Victorian distributors have complied with clauses 6.18.5(h)(2) and with the procedures governing the assignment and re-assignment of small customers in our 2017-20 distribution determination for each distributor.¹²⁴

However, we observe that United Energy has not made clear in its revised tariff structure statement, its assignment policy for applying this tariff to small customers.

In accordance with the Victorian Government's revised AMI Tariffs Order, residential and small business customers consuming less than 40MWh per annum can choose to be charged according to a demand-based charge or a consumption-only tariff offered by their retailer.

Small and medium business customers will be mandatorily assigned to cost reflective tariffs for the 2017–20 period where they exceed this annual consumption threshold or a higher threshold nominated by the distributor. Large business customers that are already on a demand-based charge will continue to face a similar charging structure for the 2017–20 period.

Due to the operation of the AMI Tariffs Order, for the 2017–20 period for which this tariff structure statement approval covers, we determine that United Energy's demand tariff may only be applied on an opt-in basis. Clause 10A(9)(b) of the AMI Tariffs Order precludes Victorian distributors from assigning small customers to a cost reflective

AER, *Final decision, Jemena distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, AusNet Services distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, United Energy distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3.

¹²⁴ AER, *Final decision, CitiPower distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, Powercor distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, Jemena distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, AusNet Services distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3; AER, *Final decision, United Energy distribution determination 2016 to 2020*, May 2016, Attachment 14–Appendix D.3.

flexible AMI distribution tariff without first obtaining the assigned small customer's explicit informed consent. We consider United Energy's demand tariff falls within the AMI Tariffs Order's definition of "cost reflective flexible AMI distribution tariff". Since the distribution pricing principle clause 6.18.5(k) of the NER requires that tariffs must comply with the Victorian AMI Tariffs Order, we are reasonably satisfied that an opt-out or mandatory assignment policy to the United Energy demand tariff would not comply with the distribution pricing principles, and accordingly we have not approved it.

In order to approve United Energy's demand tariff, we substitute an opt-in assignment policy for this tariff. We are satisfied United Energy's demand tariff with an opt-in assignment policy contributes to the achievement of compliance with the distribution pricing principles in the NER. The NER clause 6.12.3(l) requires us to approve a compliant tariff structure statement. We consider our substituted assignment policy amends United Energy's proposal to the extent necessary to enable it to be approved in accordance with the Rules.

7.2.1 Victorian policy background

The Victorian Government mandated a widespread installation of remotely-read interval (smart) meter infrastructure in 2009. This infrastructure is now connected to the vast majority of the Victorian customers' premises.

This infrastructure enables the Victorian distributors to remotely collect customers' consumption and demand data every thirty minutes to better identify when and where the distribution network is most constrained. This infrastructure also enables distributors' to offer cost reflective pricing by measuring and charging customers according to their monthly maximum demand.

On 14 April 2016, the Victorian Government gazetted a revision to the AMI Tariffs Order to give some residential and small business customers the option to choose either cost reflective or existing charging structures offered by their retailers. This is a unique jurisdictional requirement that distinguishes Victorian customers from other jurisdictions in the NEM.

7.2.2 Implementing customer's choice of charging structures

Residential and small business customers consuming less than 40MWh per annum who are contemplating changing tariffs should consult their retailer for information about billing impacts under the range of tariffs offered. Additionally, customers may use the Victorian Government's energy comparator website to compare the bill impact between retail offers.¹²⁵ If the customer or retailer makes no decision to opt-in to demand-based tariffs, they will remain on their existing tariff. Customers requesting a change in tariff should contact their retailer to assess the tariff options available to

¹²⁵ Victorian Government, Energy compare website, Retrieved 24 June 2016, from <https://compare.switchon.vic.gov.au/>

them. This is because there are no requirements on Victorian retailers to offer demand tariffs as a component of a total electricity bill, and consequently, Victorian retailers may decide not to fully pass through the distributors' charging structures to customers.

The Victorian distributors have established annual consumption thresholds which dictate whether customers will be automatically assigned to demand-based tariffs. Customers being automatically assigned to demand-based tariffs should be notified via their retailer.¹²⁶ In their submission, the Consumer Utilities Advocacy Centre (CUAC) queried how customers would be notified of tariff changes from legacy to demand-based tariffs.¹²⁷ It is our understanding that retailers have traditionally provided information about potential reassignments to customers. At any point during the 2017–20 period, customers that are not mandatorily assigned to demand-based tariffs may switch between demand or non-demand based tariff packages, as offered by their retailer.

7.2.3 Differences between distributors' tariff assignment policies

With the exception of United Energy, the Victorian distributors have uniformly adopted the same opt-in policy for residential and small business customers consuming less than 40 MWh per year. There are some differences between assignment policies for small and medium business customers over the 2017–20 period which are outlined below:

AusNet business customers

AusNet Services have proposed that new and existing small and medium business customers consuming more than 40 MWh per annum will be automatically allocated to a demand-based tariff.

JEN business customers

JEN has proposed that only business customers who consumed more than 40 MWh and exceed an annual maximum demand of 60kW over the past 12 months will be automatically assigned to a demand tariff.¹²⁸ If only one or neither of these consumption or demand thresholds is exceeded, JEN business customers will be eligible to opt-in to a demand tariff or remain on their legacy tariff.

CitiPower and Powercor business customers

¹²⁶ Victorian Government, Energy Retail Code Version 11, Retrieved 24 June 2016, from <http://www.esc.vic.gov.au/wp-content/uploads/esc/2a/2a0c8726-1a0b-4671-ba4e-da14178f92fe.pdf>, p. 47, 91.

¹²⁷ Consumer Utilities Advocacy Centre and Alternative Technology Association, *Submission to the Australian Energy Regulator - Preliminary Views on Victorian 2017–20 Tariff Structure Statements*, 28 June 2016, p. 2–3.

¹²⁸ Jemena Electricity networks, *Response to AER information request: RE AER TSS information request - large customer charging*, 30 June 2016.

CitiPower and Powercor will only automatically assign business customers to a demand tariff that consumed more than 60MWh and exceeded an annual maximum demand of 120 kW over the past 12 months.¹²⁹ If only one or neither of these consumption or demand thresholds is exceeded, CitiPower and Powercor business customers will be eligible to opt-in to a demand tariff, or remain on their legacy tariff.

United Energy residential and business customers

United Energy confirmed its position to mandatorily assign new customers to a demand tariff with us in a meeting after submitting its revised tariff structure statement. United Energy's tariff policy proposed to automatically assign all new customers to a demand-based tariff from 1 January 2017.

We do not accept United Energy's proposal to mandatorily assign new customers to a demand tariff because it does not offer new customers the flexibility to opt in to demand tariffs and therefore is not compliant with the amended AMI Tariffs Order. We have substituted an opt-in tariff assignment which will apply to United Energy's revised tariff structure statement.

United Energy's proposed tariff assignment policy was made on the basis that it has offered this tariff prior to 1 January 2017 and is not bound by the revised AMI Tariffs Order which requires cost reflective tariffs be offered on an opt-in basis only.

United Energy proposed that it could use this time to effectively trial the number of customers moving onto demand-based tariffs and observe their behavioural responses in managing electricity demand and consumption over time. United Energy proposed that this information should prove useful to the Victorian Government as it assesses in 2019 whether to continue with the AMI Tariffs Order's opt-in arrangements beyond the 2017–20 period.

CUAC and ATA made a joint submission in support of United Energy's proposed mandatory assignment of residential and business customers to demand tariffs. In addition, CUAC and ATA highlighted the need for consumers to be provided with clear and understandable explanation of changes to the charging methodology.¹³⁰ A submission from Red Energy and Lumo Energy disagrees with United Energy's proposed mandatory assignment of new customers to demand tariffs. The submission notes that United Energy's proposal is not compliant with the revised AMI Tariffs Order, or the policy intent by offering consumers a choice of tariff which suits their needs.¹³¹

As explained above, we do not consider United Energy's mandatory assignment of new connection customers to demand tariffs from 1 January 2017 complies with clause

¹²⁹ CitiPower, *Revised proposed tariff structure statement*, 29 April 2016, p. 31; Powercor, *Revised proposed tariff structure statement*, 29 April 2016, p. 31.

¹³⁰ Consumer Utilities Advocacy Centre and Alternative Technology Association, *Submission to the Australian Energy Regulator - Preliminary Views on Victorian 2017–20 Tariff Structure Statements*, 28 June 2016, p. 3–4.

¹³¹ Red Energy and Lumo Energy, *Re: Victorian tariff structure statement proposals*, 15 June 2016, p. 2–3.

6.18.5(k) of the NER, as we do not consider that United Energy could implement its proposed mandatory assignment policy in accordance with the AMI Tariffs Order.¹³²

¹³² Victorian Government, *Advanced Metering Infrastructure (AMI Tariffs) Order 2013*, cl. 10A(9)(b), 19 June 2013.

A Our consultation process

We published an issues paper in December 2015. This summarised key aspects of the five Victorian distributors' proposals, highlighted issues we consider relevant to our assessment and invited stakeholder submissions. We received submissions from a cross section of stakeholders, including major retailers, consumer advocacy bodies and individual customers.

We held a forum in December 2015 to outline key themes we had observed from the tariff structure statements proposed in September 2015 and posed questions for stakeholders to respond to.

We released a draft decision in February 2016 which took into account policy announcements by the State Government that demand tariffs should be offered to small customers only on a voluntary opt-in basis. Our draft decision gave each distributor time to respond to the government policy announcement and amend their tariff statements to promote compliance.

On 31 May 2016 we held a forum to outline our preliminary views about the distributors' 29 April revised tariff structure statements. We advised that we were broadly supportive of the proposals. We received a submission from Red and Lumo Energy on our preliminary views, and a response from Consumer Utilities Advocacy Centre and the Alternative Technology Association.

B Distributors' customer consultation and customer impact analysis

This section sets out the consultation process that Victorian distributors undertook when developing their 2017–20 tariff structure statements and how they responded to customer and stakeholder feedback. The Rules require that distributors consult with their customers in order to help them understand the new tariffs and thereby how they might mitigate the tariffs' impact on them.¹³³

A common theme through consultation was stakeholders' desire for consistency between the five Victorian distributors where possible on tariff design and implementation. This included the use of similar terminology when explaining and communicating tariff structures to retailers and consumer representatives.

This section sets out the consultation that distributors have undertaken to establish proposed tariffs, how stakeholder views were taken into account in formulating the tariff statements, and our views on these.

We are of the view that distributors' stakeholder engagement contributes to the achievement of compliance with the distribution pricing principles and the national pricing objective.

B.1 Customer consultation and impact analysis

In table b.1-1, we have set out how distributors responded to what stakeholders asked.

We find that the consultations undertaken over the last few years to develop each distributor's tariff statements have been wide ranging, generally clear and understandable and that stakeholders comments have been taken up, where possible, in development of the statements.

With many issues to cover, and in some cases complex material to convey, it is not possible for 100 per cent of issues raised by either stakeholders or the networks to be agreed, much less implemented. Inevitably there are trade-offs between the needs of different customer groups and tariff classes, and within tariff classes.

¹³³ NER, clauses 6.18.5(h)(2) and (3) and 6.18.5(i)(1) and (2).

Table B.1-1 Stakeholders' messages and distributors' responses

What stakeholders said	How distributors responded
Sought consistent charging windows	All five distributors aligned the residential peak demand charging windows to 3pm-9pm, weekdays only, during Dec-March. Maximum demand based on monthly maximum 30 minutes usage. Demand is reset each month.
Consumers wanted weekends to be off peak, given that demand on weekends does not typically contribute to network constraints.	All distributors have made weekends and public holidays not subject to the demand charge.
Keep the demand charge window to a reasonable time frame, to enable customers to respond	Common charge window of 3pm to 9pm; wide enough to ensure customers can shift usage to outside peak charging window, but not so short as to just move overall peak demand to a different time period.
Time of use network tariffs are also cost reflective	Existing time of use tariff will remain available to residential customers.
Locational tariffs are complex for consumers to understand	Locational tariffs have not been proposed by any distributor.
Communication of tariff reform is important. Who will do this?	Victorian distributors have committed to working with government and retailers, to design appropriate communication materials. Fact sheets, website already used to convey clear and simple message.
Move to cost reflective prices as fast as possible but taking account of customer impacts.	Full signalling of long run marginal costs of demand for opt-in cost reflective tariffs. Transition medium business customer to full cost reflectivity by 2019 or 2020.. CitiPower, Powercor and United Energy flagged the possibility of critical peak rebates or critical peak pricing trials, to assess the merits of these more pointed price signals.
Incentives for users to reduce peak demand are important, and likely to change customer energy usage. Industrial customers still looking for detail about how a kVA charge operates.	Introduction of demand tariffs, to reduce cross subsidies and incentivise efficient use of network services. Distributors will work with retailers to provide information to assist consumers understand new charges. Meet with business customers to explain how kVA charging works and ways to improve power factor, which will help to reduce overall energy bills.
Residential customers were concerned about "bill shock" that might occur with demand charging compared to energy only charges.	Demand tariffs are now opt-in, giving consumers the chance to observe their current energy patterns to determine if they should opt-in to demand tariffs. Demand will be reset each month, so one-off events that drive up demand will not penalise residential customers on an on-going basis. Work with retailers to explain how demand charges impact customers, to aid informed end user decision making.
Customer understanding and acceptance of new charging arrangements	Use of network maps, fact sheets and diagrams to explain or show how demand charges operate. Work with government, retailers and representative bodies (industry and stakeholder) to communicate tariff reform.

Source: Victorian distributors' tariff structure statements.

We find that all five Victorian distributors have made substantial efforts to engage with their customer groups and stakeholders over the course of developing their tariff structure statements. Much work was underway at about the time the Australian Energy Markets Commission was finalising the new distribution pricing rules. The distributors recognised the benefits of consulting as a collective group where possible with stakeholders and the Victorian Government. This related to issues such as charging windows, whether peak charges should apply on weekdays and weekends and ensuring that consistent definitions were used when describing tariffs.

It appears that distributors put more effort into placing customers at the forefront of their tariff structure statements, rather than focussing only on government or regulators as the key stakeholders.

This is a welcome development, as consumers are driving changes to the electricity market, through uptake of solar, integration of battery storage and in future, electric vehicle recharging from the grid. Such fundamental changes shape the way consumers will interact with networks and retailers in coming years. They also put consumers in greater control of their energy needs. Cost reflective tariffs that signal the cost and the value of using the network at certain times is part of this suite of changes and should enable more effective use of these new technologies by consumers. For example, charging an electric car during off-peak periods, thereby making bill savings and avoiding the network being heavily used during times of high demand.

Distributors' objectives in engaging with their stakeholders were broadly the following:

- Help customer groups understand the need for tariff reform
- Explain proposed changes to network tariffs and the rationale for their introduction
- Advise retailers and consumer representatives how consumers might save on electricity bills under the proposed new cost reflective tariffs.

Focus groups, internet based surveys, dedicated tariff reform websites and electronic newsletters, forums and workshops on specific tariff issues were part of the distributors' communications packages.

Consumer consultative committees, reference groups, consumer advocacy groups and interactions with government agencies were also used as a means to gather and share pertinent information.

United Energy advised that their consultation was more effective and targeted because it was dealing with one priority area—tariff structure statements and tariff implementation—rather than trying to address multiple issues.¹³⁴ AusNet Services similarly observed that its consultative approach was helping to build positive relationships and make engagement more business as usual, rather than once-off.¹³⁵

¹³⁴ United Energy, *Tariff Structure Statement: Stakeholder Engagement Initiatives and Outcomes*, 25 September 2015, p. 8.

¹³⁵ AusNet Services, *Revised Tariff Structure Statement 2017–20*, 29 April 2016, p. 53.

United Energy also observed that discussions about transition of customers to new cost reflective tariffs were often the most complex and contentious. It modelled the impacts on 200,000 residential customers.

During 2014, CitiPower and Powercor engaged an external research company to run focus groups that sought stakeholder views about existing consumption based tariffs and potential new tariff designs. They also sought via surveys consumers' desire to pay higher tariffs in exchange for service level improvements. Interviews with major energy users were also conducted to ascertain views on critical peak rebates, locational tariffs and, for the purposes of charging, alternative ways of measuring demand.

Customer groups informed CitiPower and Powercor that they did not favour locational based tariffs, on the grounds that this would disadvantage regional customers and may lead to price volatility.¹³⁶ The two distributors did not introduce locational tariffs in their tariff structure statements.

In 2015, CitiPower and Powercor continued its engagement with retailers, government departments and consumer advocates through forums and bilateral meetings. Newsletters were also used to play a role in keeping interested stakeholders informed of upcoming events, developments in tariff setting and significant issues. A market research company was also utilised to gather information and provide advice to CitiPower and Powercor about how to formulate issues and communicate with stakeholders.

During this period, CitiPower and Powercor heard its customers advise that a peak demand charging window from 3pm to 9pm was acceptable but that it should not apply on weekends or public holidays.¹³⁷ Further, retailers were keen for consistency among all distributors in tariff charging windows and tariff design for small customers. Some support was also advanced for the introduction of cost reflective tariffs to occur sooner rather than later.¹³⁸

By 2016, CitiPower and Powercor engaged with their consultative committee and retailers about the revised tariff structure, in light of the State Government amendments to the AMI Tariffs Order requiring opt in tariffs be applied to small customers. A dedicated retailer forum was hosted in March 2016 to share proposed changes to the tariff statements and seek retailer feedback. The approach to transition for business customers was also discussed. CitiPower and Powercor held a joint forum with the other three distributors in April to outline their proposed approach for business and residential customers.

AusNet Services noted that it has observed improved customer engagements and interaction as a result of its tariff consultations. Advising consumers about how energy

¹³⁶ Powercor, *Revised Proposed Tariff Structure Statement 2017–20*, 29 April 2016, p. 25.

¹³⁷ Powercor, *Revised Proposed Tariff Structure Statement 2017–20*, 29 April 2016, p. 26.

¹³⁸ Powercor, *Revised Proposed Tariff Structure Statement 2017–20*, 29 April 2016, p. 26.

prices are structured now and improvements for the future were a positive way of expanding general understanding of energy networks' pricing. Explaining that cross subsidies exist in current pricing helped customers to at least hear that many were paying through their tariffs the costs associated with the actions of others. AusNet Services advised that it aimed for consistent treatment of residential customers with the other Victorian distributors; sought to balance efficiency and effectiveness when transitioning medium business customers to demand tariffs; and explained the social and public policy aspects associated with tariff reform to stakeholders.¹³⁹

JEN communicated with its customer council via regular meetings. This group comprised of key, and generally well informed, stakeholders, such as consumer representative bodies and retailers.

Residential customer communication occurred through website updates and well laid out fact sheets. Workshops and forums for these customers were also used to target matters of interest to them, such as minimising "bill shock".

JEN also published an approach to pricing document in 2014, and a draft tariff structure statement for comment, as part of its 2016–20 regulatory control period revenue proposal.¹⁴⁰ This was to help customers understand JEN's proposed tariff approach and enabled dialogue between it and customers on further refining the tariff structures during 2015. JEN preferred to use face to face engagement for more complex tariff issues, like design and charging windows, where providing information upfront was more important to ensuring customers had a rich engagement experience.

Notably, JEN was able to incorporate comments and feedback from stakeholders for its September 2015 tariff structure statement submission. Examples included aligning the charging windows and peak periods with that of the other four Victorian distributors. The degree of transition to cost reflective charges was also taken into account in developing proposed charging structures.

We note that a joint distributor forum was held in April 2016 to outline the intended positions of each distributor for residential customers and small and large businesses. That forum sought feedback on the approach to estimating the take up of cost reflective pricing under the opt-in arrangements mandated by the Victorian Government. This was an important element of stakeholder consultation because it assisted users to understand how the distributors were likely to amend their tariff proposals in light of the State Government's policy announcement that mass market customer demand tariffs must be opt-in. From this forum, it emerged that communication from retailers, distributors and government will be relevant to effectively encouraging demand tariff take up by small residential and business customers.

¹³⁹ AusNet Services, *Revised Tariff Structure Statement 2017–20—Overview Paper*, 29 April 2016, p.p. 20-21.

¹⁴⁰ Jemena Electricity Networks, *How we engaged with our customers and stakeholders in developing our tariff structure statement*, 29 April 2016, p. 2.

Comments from stakeholders during the AER's own consultation were generally complimentary of the distributors' approaches to information sharing and tariff analysis. There was a general feeling, although not a universal one, among stakeholders that the introduction of demand tariffs represented a step towards cost reflectivity compared to current consumption based tariffs. Communication with all customers once new tariffs are introduced remained an ongoing theme.

Generally, the distributors have taken into account stakeholder comments by:

- Aligning their peak demand charging windows to 3pm to 9pm for small customers, and charging off-peak rates for weekends and public holidays
- Setting the demand charge for small customers to fully reflect long run marginal costs from 1 January 2017, or 1 January 2018 in the case of AusNet Services
- Used common terminology where possible to enable clearer understanding of each networks separate tariff statements, such as describing the demand charge as \$/kW per month
- Transition demand charges for medium business customers, to enable these first time users of demand tariffs time to understand how they might respond to these price signals, and so minimise their electricity charges
- Not introduce location based tariffs in 2017–20 because these were seen as unpopular in this initial phase of tariff reform
- Signalled the possibility of offering peak time rebate trials and critical peak pricing trials, to offer even more cost reflective price signals to selected groups of customers.

An important theme picked up by both submitters and distributors alike was communicating the changes in tariff structures to customers over the next few years. The Clean Energy Council noted the importance of building public support for tariff reform throughout the transition.¹⁴¹

We do note that governments are planning joint communication efforts with industry—distributors and retailers—to find the best means of communicating tariff change.

A co-ordinated approach was important to customer representatives Consumer Utilities Advocacy Centre and the Alternative Technology Association.¹⁴² This seems to be an area where more work will be undertaken by all segments of the electricity supply chain, as new tariffs begin to be rolled out to customers.

¹⁴¹ Clean Energy Council, *Submission on the AER's Issues paper and the Victorian DNSPs' Tariff Structure Statement Proposals*, 20 January 2016, p. 2.

¹⁴² Consumer Utilities Advocacy Centre and Alternative Technology Association, *Submission to the Australian Energy Regulator - Preliminary Views on Victorian 2017–20 Tariff Structure Statements*, 28 June 2016, p. 2.

Distributors' tariff structure statements made commitments to helping retailers explain the new charging regimes to customers, given that the latter is still the main interface with customers.

B.2 Customer impact analysis

The Victorian distributors detailed customer bill impact analysis within their tariff structure statements. This analysis set out the bill impacts for residential and small business customers moving from existing consumption tariffs to demand-based tariffs.

The customer impact analysis assumed that customers did not alter electricity usage in response to the pricing signals sent by demand tariffs. That is, the analysis measures the bill impact resulting from customers shifting from a legacy consumption-based tariff to a demand tariff, without changing energy usage. We note that it is expected that there will be a degree of behavioural change associated with new pricing structures over the 2017–20 period. However, the extent of that is largely unknown at present.

Stakeholders, including retailers, were generally of the view that more customer impact analysis would always be beneficial.¹⁴³ This would help retailers to craft their electricity retail plans to consumers.

In addition to the customer bill impact analysis provided by distributors, we sought the following information from the distributors for a sample of customers:

- the minimum and maximum customer bill savings and increases
- the percentage of customers who benefit, or do not benefit when switching from consumption to demand tariffs
- the percentage of customers that are assumed to take up demand tariffs
- modelling to demonstrate the relationship between customers' load factor and demand tariff charging.

Information provided generally supported or confirmed the analysis that was set out in the tariff structure statements. We do note that the impacts on residential and some small business customers by applying cost reflective demand charges will vary. This is due to the tariffs being opt-in and there being some uncertainty about retailers passing demand tariff structures onto customers.

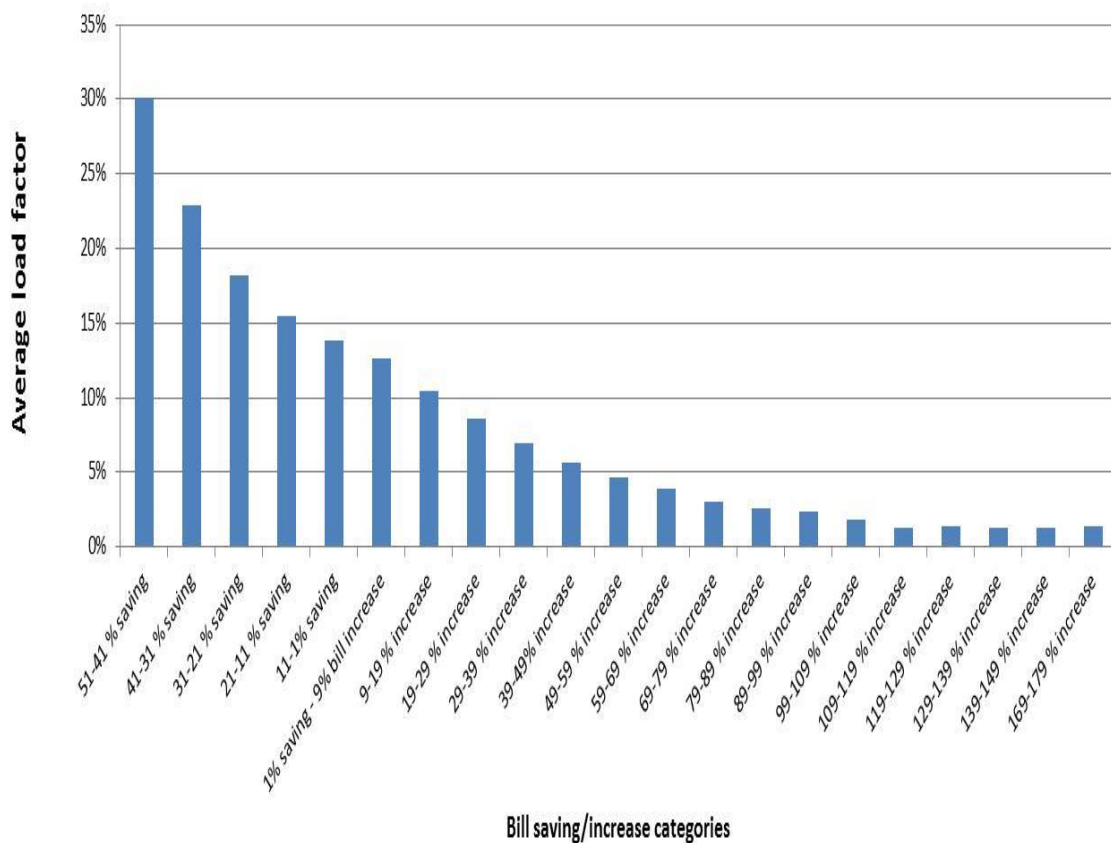
We did observe that there are variations in the degree to which customers are either better or worse off under either the demand tariff or the legacy consumption tariffs that most customers are expected to remain on. Customers with relatively flat demand profiles that have peak demand closer to average consumption are expected to benefit from the move to demand tariffs. Customers with peaky demand profiles that have

¹⁴³ Consumer Utilities Advocacy Centre and Alternative Technology Association, *Submission to the Australian Energy Regulator - Preliminary Views on Victorian 2017–20 Tariff Structure Statements*, 28 June 2016, p. 5–6; Red and Lumo Energy, *Re: Victorian tariff structure statement proposals*, 15 June 2016, p. 4.

peak demand far in excess of average consumption and use more in peak times are expected to see higher bills under a demand tariff.

In particular, the Victorian distributors have provided us with modelling that demonstrates how the proposed demand tariffs are linked to customers' load factors. Load factors express a customer's consumption as a proportion of maximum demand. Generally, those customers with a low load factor place a higher cost on the network, as higher network capacity must be available to meet their peak demand but which is under-utilised to meet average consumption, compared to customers with a higher load factor. The graphs below demonstrate the relationship between residential and small business customers' load factors relative to the bill difference for customers who move to demand tariffs from consumption tariffs:

Figure B.2-1 Typical relationship between load factor and bill movement



Source: AusNet, CitiPower, JEN, Powercor, United Energy.

Notes: This data has been highly aggregated over a large sample of customers.

This is a general representation of the typical relationship between load factor and bills movement across each of the Victorian distributors.

The relationship between each distributor's actual load profile and bill impact may vary from this representation. The relationship between the load profile and bill impact of individual customers may vary from this representation.

We consider that the distributors have taken account of the need to balance the move to cost reflectivity with mitigating customer impacts over the 2017–20 period. However, we do note that any quantification of customer impacts needs to assume that the tariffs are passed on fully by retailers. There is no guarantee that this will be the case.

Retailers will reasonably have the task of deciding how to tailor retail plans to customers who might want greater or less exposure to cost reflective signals that demand tariffs provide. Therefore, some caution is required so as not to potentially overstate the likelihood of distributor identified bill impacts materialising for customers. In this respect, the real beneficiaries of customer impact information are likely to be retailers, in helping them consider the right energy plan to offer customers.

Victorian distributors expect a low proportion of customers to opt-in to demand tariffs over the 2017–20 period, and all forecast an uptake rate of 2.5 per cent or less. This is largely the distributors' expectation given the Victorian Government policy which allows customers to choose either demand or consumption-based tariffs. The low uptake forecast of demand tariffs is also based upon the historic take-up of time of use tariffs, which are seen as a proxy for the uptake of demand-based tariffs. The Victorian distributors have provided data to show the materiality of customer bill impacts under both a consumption tariff and a demand tariff, given customers' existing consumption and demand characteristics and assuming no behavioural shift. A summary of the data has been presented in the tables below:

Table B.2-1 AusNet Services bill impact summary

	Residential customers	Small business customers
Max bill saving	\$5,849	\$468
Max bill increase	\$801	\$1,709
Customers worse off	69%	71%
Customers better off	31%	29%
Customers sampled	99,999	3,003
Assumed opt-in p.a	2-2.5%	2-2.5%

Table B.2-2 JEN bill impact summary

	Residential customers	Small business customers
Max bill saving	\$3,337	\$9,154
Max bill increase	\$771	\$3,281
Customers worse off	52%	60%
Customers better off	48%	40%
Customers sampled	129,092	14,414
Assumed opt-in p.a	1.42%	1.42%

Table B.2-3 United Energy bill impact summary

	Residential customers	Small business customers
Max bill saving	\$552	\$6,457
Max bill increase	\$1,181	\$11,379
Customers worse off	56%	46%
Customers better off	44%	54%
Customers sampled	209,740	2,370
Assumed opt-in p.a	2.50%	2.50%

Table B.2-4 Powercor bill impact summary

	Residential customers	Small business customers
Max bill saving	\$5,130	\$2,388
Max bill increase	\$3,660	\$7,218
Customers worse off	37%	39%
Customers better off	63%	61%
Customers sampled	103,480	13,223
Assumed opt-in p.a	2.50%	2.50%

Table B.2-5 CitiPower bill impact summary

	Residential customers	Small business customers
Max bill saving	\$19,392	\$2,017
Max bill increase	\$704	\$2,869
Customers worse off	39%	37%
Customers better off	61%	63%
Customers sampled	43,323	5,957
Assumed opt-in p.a	2.50%	2.50%

Sources: AusNet Services, CitiPower, JEN, Powercor and United Energy information request responses.

Customer billing analysis for a sample of customers is also presented in the graphs below and shows the potential range of increases or savings in customers' bills by switching from a consumption tariff to demand tariff, indicating the number of customers affected:

Figure B.2-2 AusNet Services residential customer bill impact profile

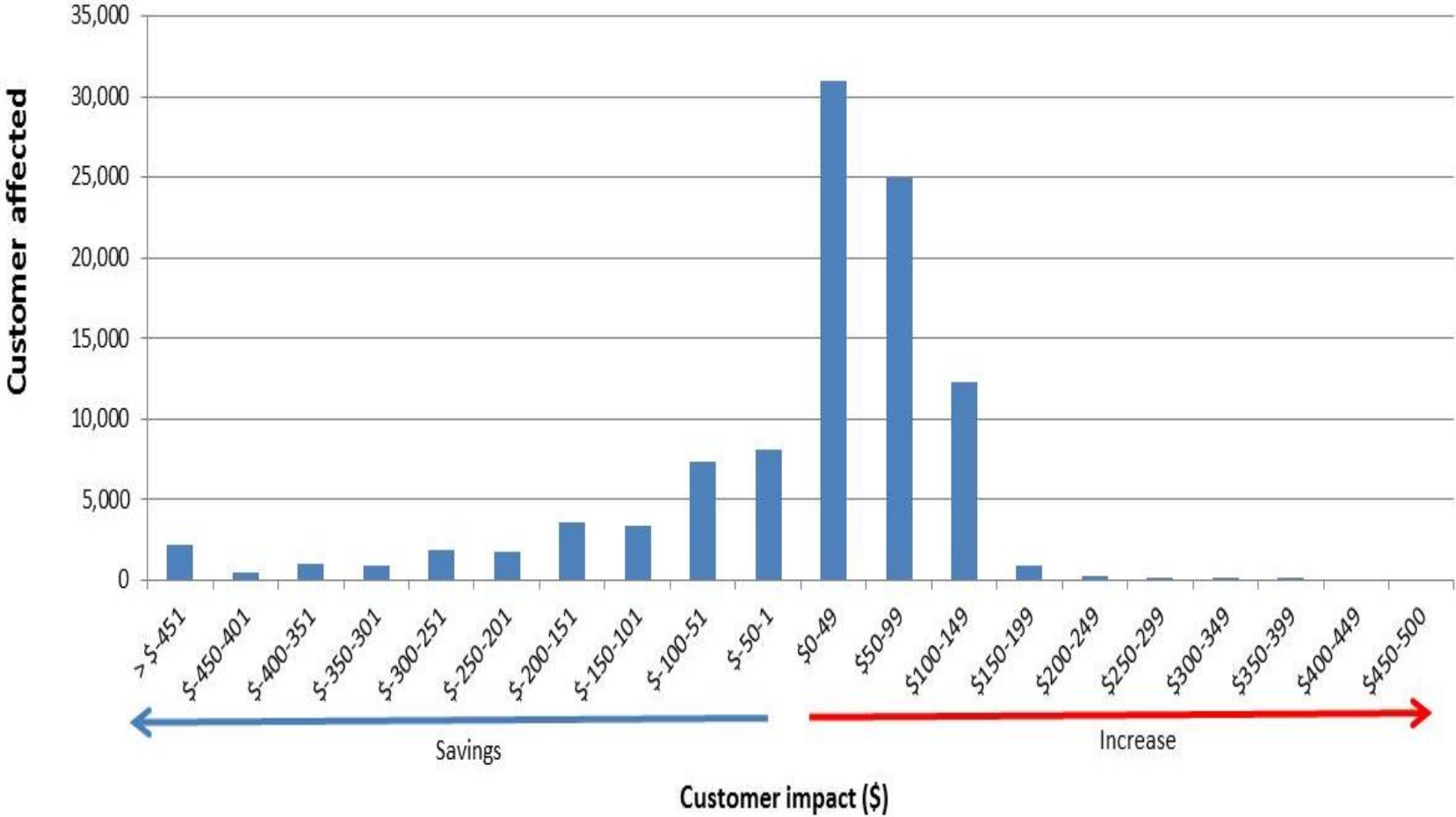


Figure B.2-3 AusNet Services small business customer bill impact profile

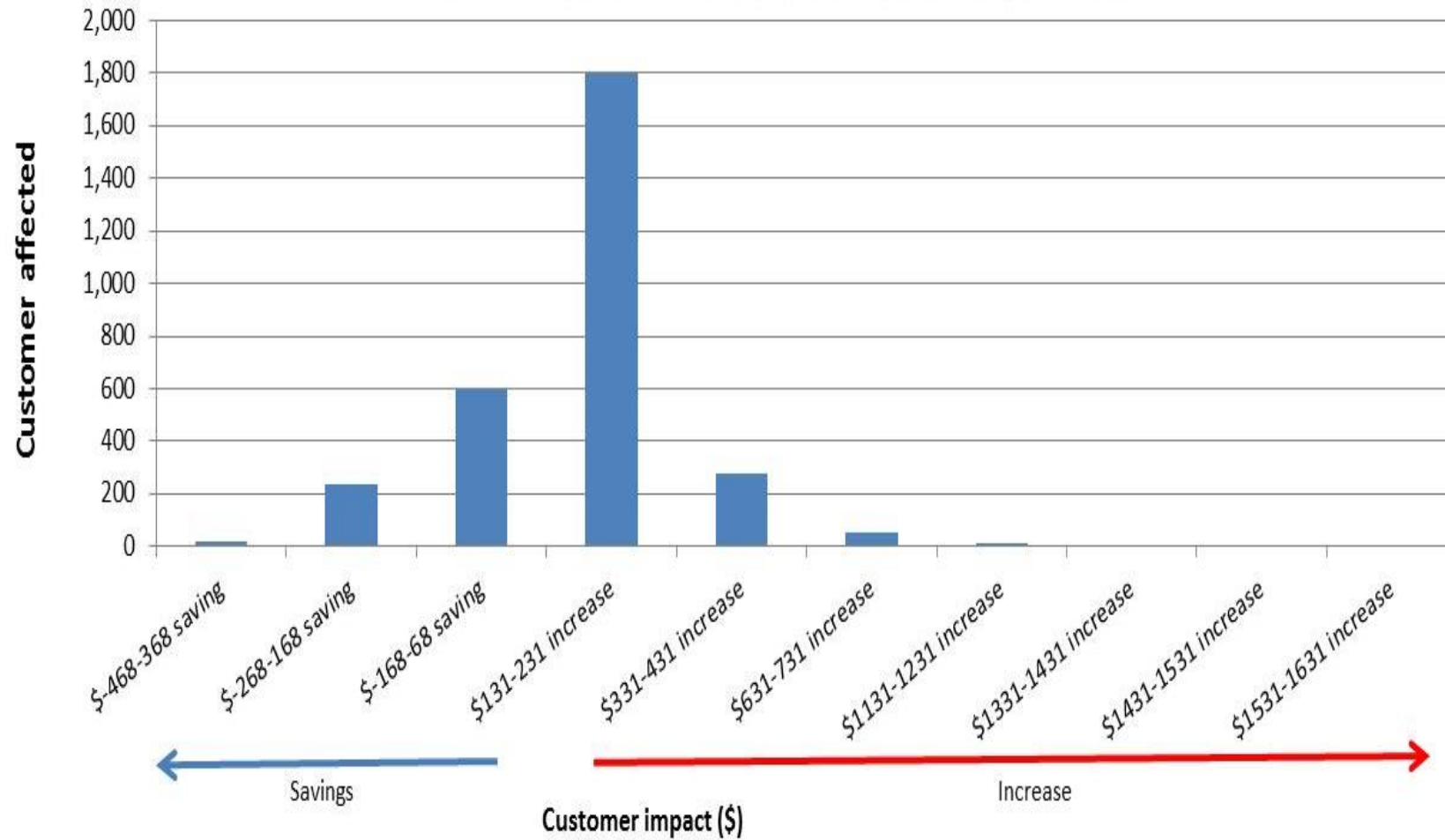


Figure B.2-4 United Energy residential customer bill impact profile

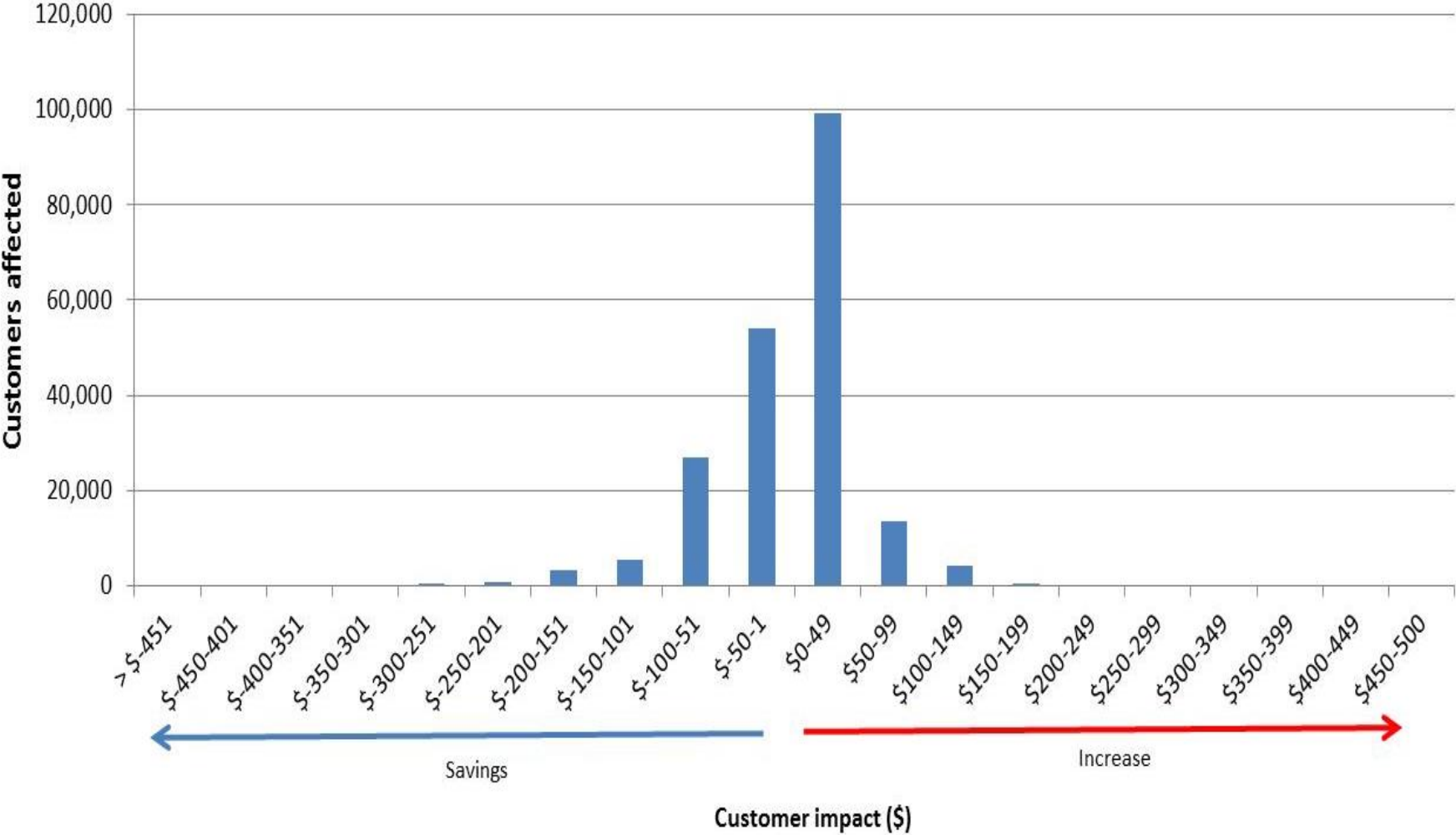


Figure B.2-5 United Energy small business customer bill impact profile

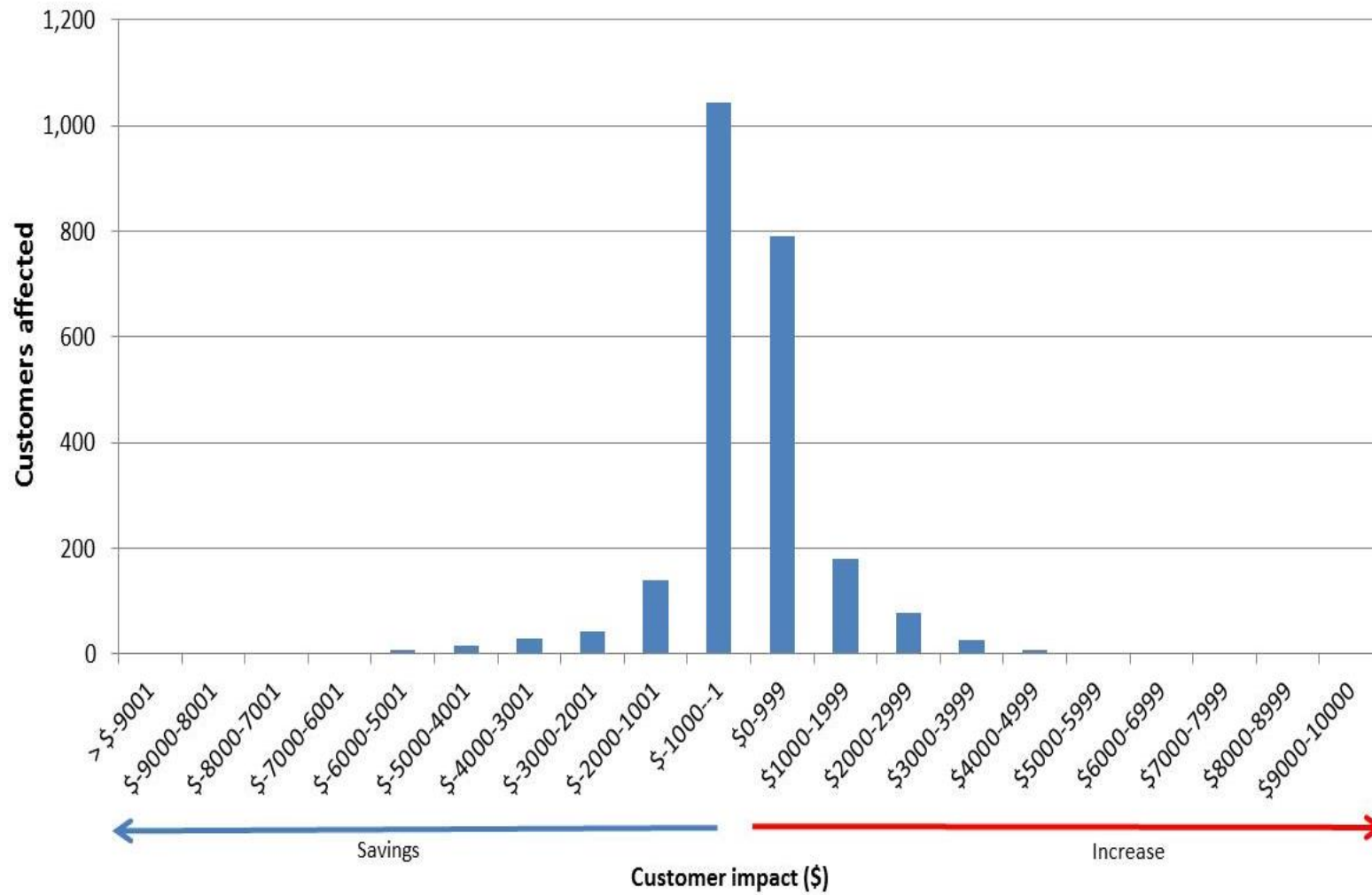


Figure B.2-6 CitiPower residential customer bill impact profile

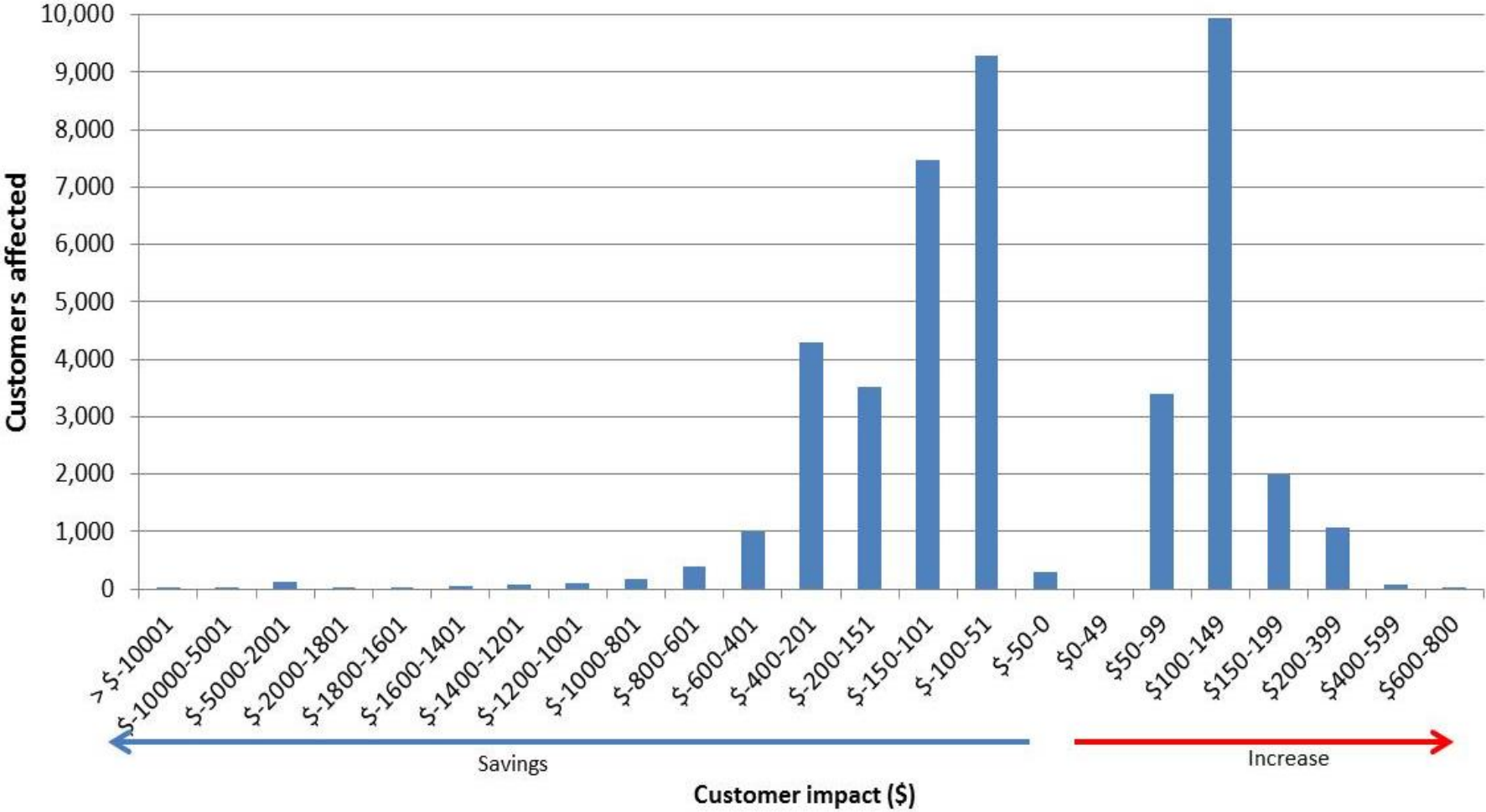


Figure B.2-7 CitiPower small business customer bill impact profile

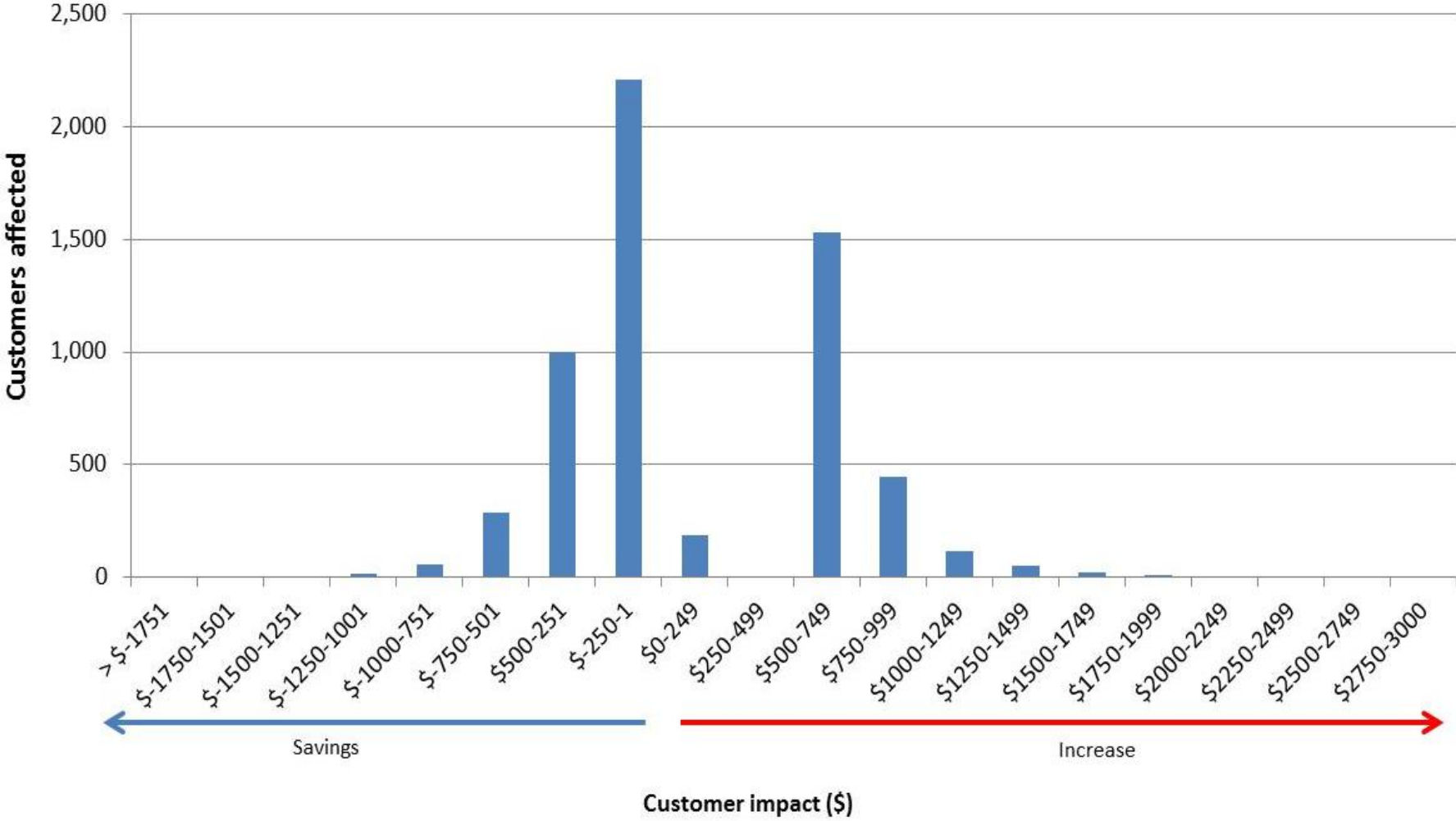


Figure B.2-8 Powercor residential customer bill impact profile

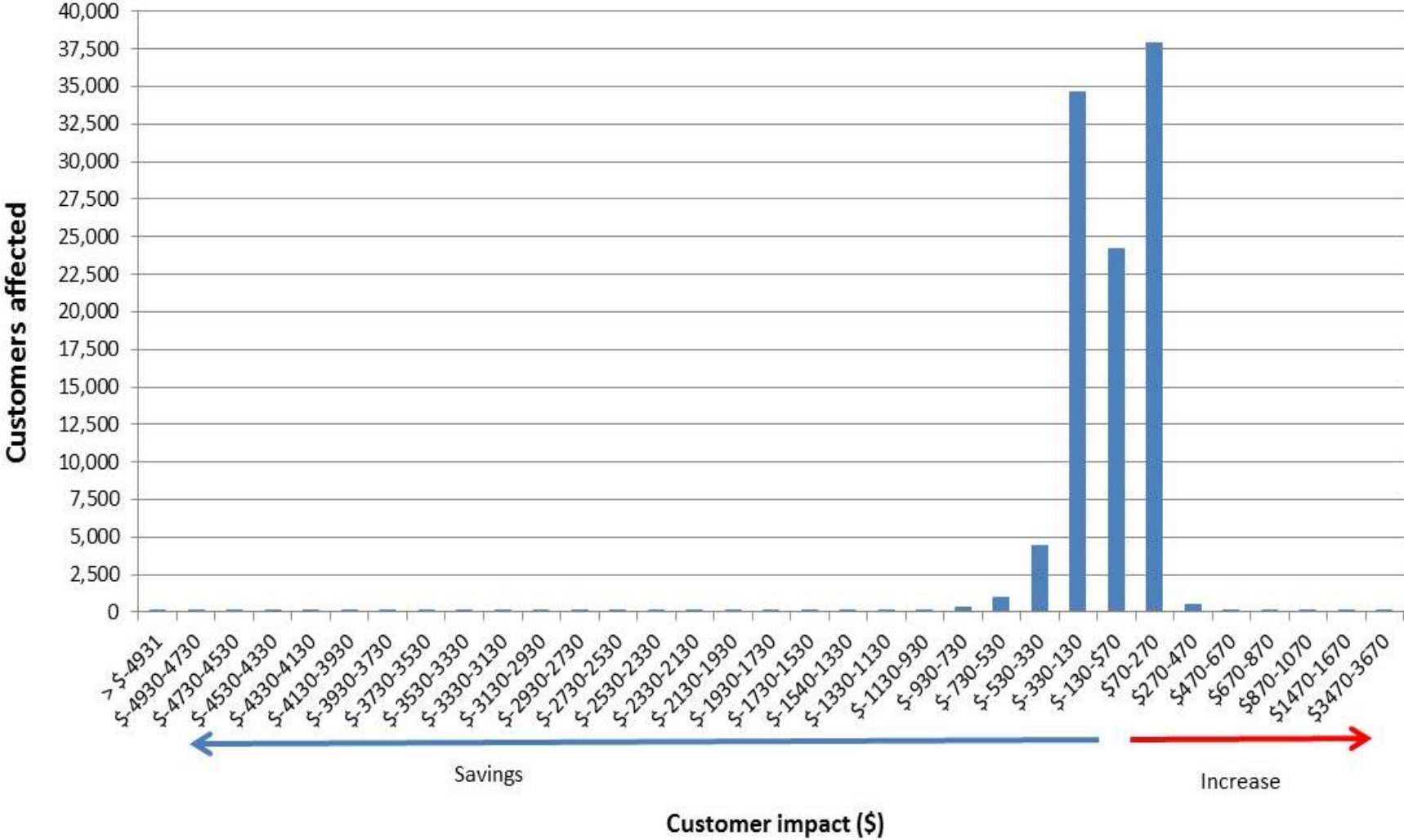


Figure B.2-9 Powercor small business customer bill impact profile

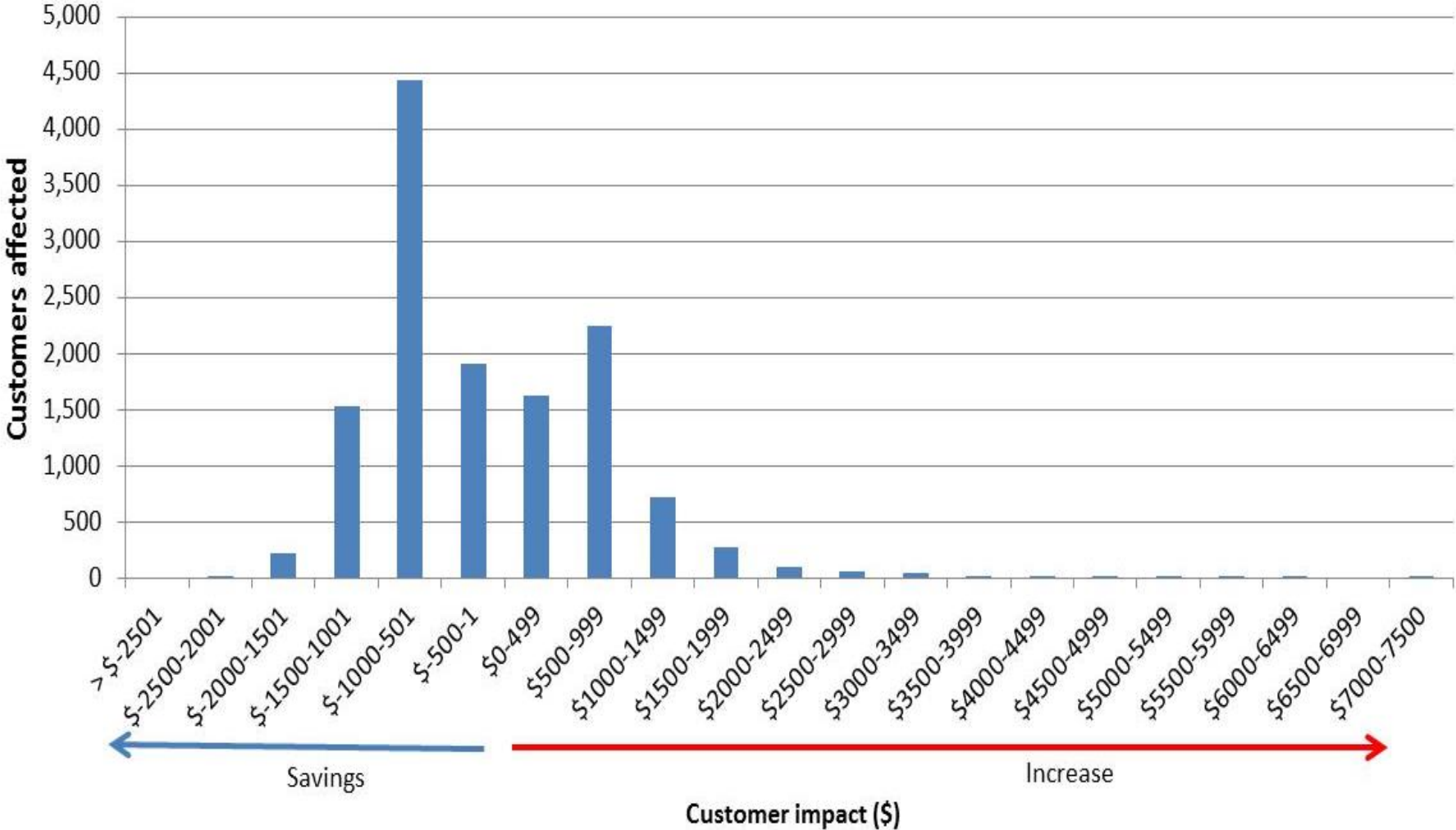


Figure B.2-10 JEN residential customer bill impact profile

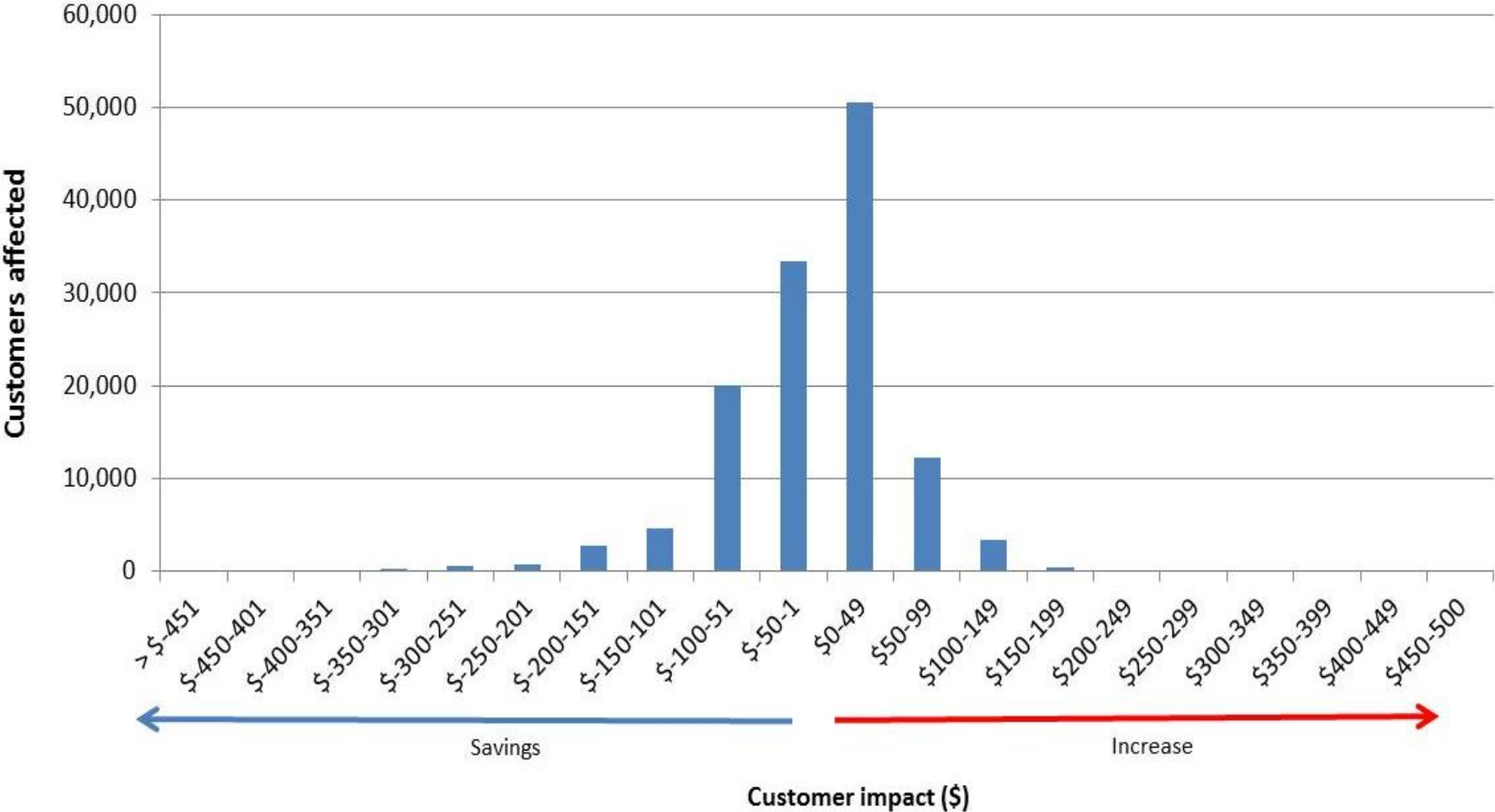
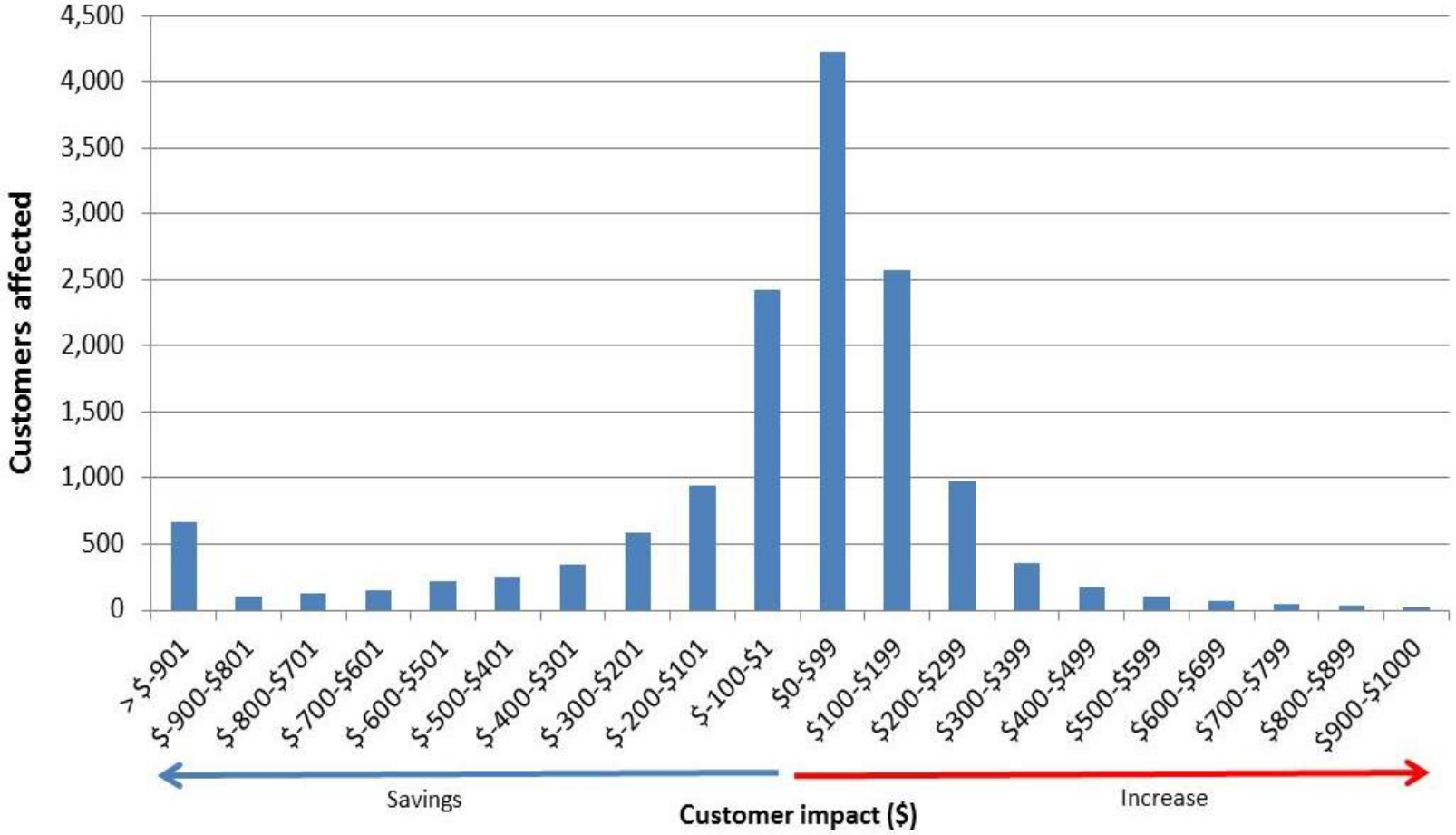


Figure B.2-11 JEN small business customer bill impact profile



The range of bill savings or increases associated with a move to demand tariffs tends to be concentrated, with savings and bill increases for some distribution networks roughly evenly distributed. It does highlight that not all customers can be made better off compared to their existing bill, at least while there are no behaviour changes in response to price changes.

Furthermore, it should be expected that with an unwinding of historic cross subsidies between customers, there will be end users who do face a higher overall charge than at present. The opt-in nature of demand tariffs gives these customers the chance to evaluate how they can alter their demand profile, and energy consumption habits, to eventually make bill savings.