Empowering communities to share and use energy for a better tomorrow

2022-23 Annual Network Pricing Report

March 2022

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Background

The Australian Energy Regulator (AER) has responsibility for the economic regulation of Distribution Network Service Providers (DNSPs) in all jurisdictions except Western Australia. The AER requires Essential Energy to publish an Annual Network Pricing Report. This report is part of the annual Pricing Proposal and establishes a process of price notification and review by the AER for annual price changes.

The Annual Network Pricing Report complies with the requirements of the AER – Final decision - Essential Energy Distribution Determination 2019-24 (the Determination), the Electricity DNSP's annual information reporting requirements, and section 6.18 of the National Electricity Rules (the Rules).

This pricing report specifically addresses the following:

- Prices for network distribution services
- Forthcoming changes in network prices
- Compliance with the regulatory arrangements relating to limits on price and revenue movements
- Impacts of the proposed changes on customers
- Pricing principles and the allocation of costs

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networkpricing@essentialenergy.com.au

Our Proposal

Essential Energy is proposing an overall nominal increase in average prices for network services from 1 July 2022 of 2.85 per cent. The increase in prices for network services is driven by:

- Inflation (CPI) increase of 3.50 per cent;
- adjustments for the Service Target Performance Incentive Scheme; and
- increases in transmission use of system (TUoS) charges from TransGrid and Powerlink.

These increases are partially offset by:

- a decrease in real distribution use of system (DUoS) charges of 0.09 per cent; and
- accounting for the forecast over recovery of DUoS revenue in prior years, and
- adjustments accounting for the over recovery of TUoS revenue in prior years.

Tariff Structure Statement

We will continue with the tariff assignment changes introduced 1 July 2018, including:

- Any new small customer connecting to the network will be assigned to a Time-of-Use (ToU) tariff.
- Any small customer whose meter is upgraded to a smart or interval type meter will be assigned to a ToU tariff.
- These customers will have the ability to opt out to an anytime flat rate tariff if they choose to.
- Large customers (consumption over 160MWh per annum) will continue to be assigned to a demand-based tariff with no opt out.

The AER Final Decision on Essential Energy's TSS for 2019-24 can be viewed HERE

Customer Classes

Rule Requirement

Clause 6.18.2(b)(2) of the National Electricity Rules (the Rules) requires that a pricing proposal must set out the proposed tariffs for each tariff class that is specified in the Distribution Service Network Provider's tariff structure statement for the relevant regulatory control period.

In addition, when developing procedures for assigning customers to tariff classes the AER is required to have regard to the following principles:

1. Customers should be assigned to tariff classes on the basis of one or more of the following factors:
    a. The nature and extent of their usage;
    b. The nature of their connection to the network;
    c. Whether remotely-read interval metering or other similar metering technology has been installed at the customer's premises as a result of a regulatory obligation or requirement;
2. Customers with a similar connection and usage profile should be treated on an equal basis;
3. However, customers with micro-generation facilities should be treated no less favourably than customers without such facilities but with a similar load profile.

Clause 6.18.3(d) requires that a tariff class be constituted with regard to the need to group customers together on an economically efficient basis, and the need to avoid unnecessary transaction cost.

Customers for Essential Energy's services are divided into service groups and classes for the purposes of assigning distribution network charges.

Standard Control Services

We established our customer classes for Standard Control Services by considering:

- historical pricing structures;
- existing metering capability and the cost-effectiveness of metering options;
- the connected voltage level of customers; and
- the cost-benefit of providing further disaggregation into additional customer classes.

There are five customer classes.

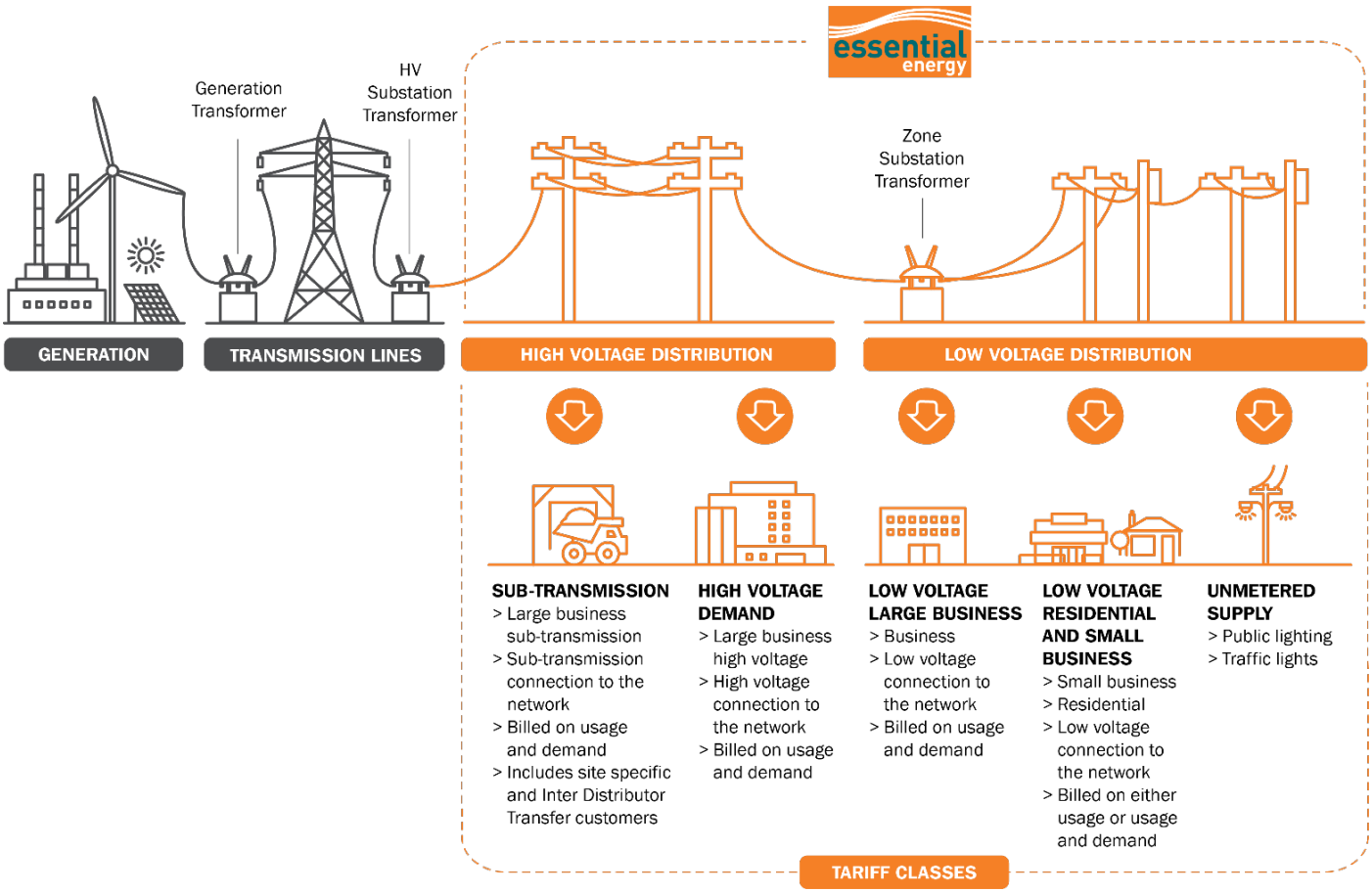
1. 1. Subtransmission (including inter-distributor transfers)
2. 2. High Voltage Demand
3. 3. Low Voltage Large Business (previously Low Voltage Demand)
4. 4. Low Voltage Residential and Small Business (previously Low Voltage Energy)
5. 5. Unmetered supply.

The threshold for the Large Business customer class is 160MWh a year.

Apart from our largest customers, who have site-specific charges, all customer prices are averaged for their class.

The network charges for these customer classes are included in Attachment 1a Network Price List.

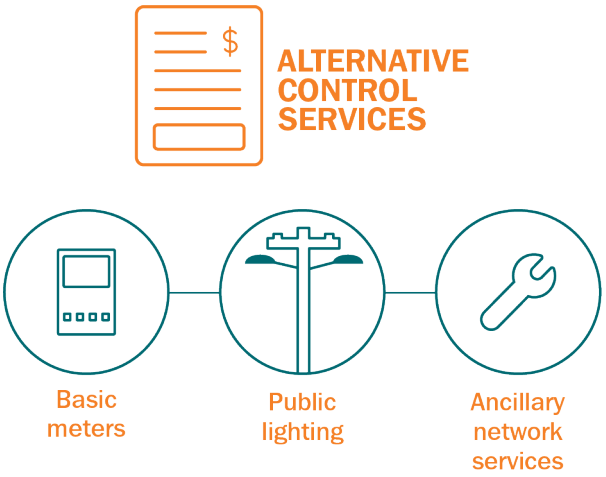
Standard Control Services customer classes



User pays services

We charge for our Alternative Control Services (ACS) on a user pays basis, so they are organised into three groups based on the type of service provided rather than customer characteristics.

Alternative Control Services customer classes



Basic meters service refers to services for Type 5 & 6 meters installed before 30 March 2018

Basic meters service refers to services for Type 5 & 6 meters installed before 30 November 2017.

There may be some level of competition for these services, but the market is not yet fully competitive. Therefore, costs are attributable to specific customers who pay for the service.

The prices for these services are included in Attachments 2a, 2b and 2c.

Proposed Tariffs and Charging Parameters

Rule Requirement

Clause 6.18.2(b)(3) of the Rules requires that the pricing proposal must set out, for each proposed tariff, the charging parameters and the elements of service to which each charging parameter relates.

This is the second step in designing distribution network charges. All new customers have a default pricing assignment for their customer type. Most new and existing customers can also choose other pricing options if they meet the eligibility criteria. We reassign customers if their characteristics change.

Default charging assignment

Default distribution network charge assignment happens when a customer starts consuming electricity from a new connection point (greenfield site) or they receive a meter upgrade.

We assign each customer to their appropriate default customer class based on technical properties such as their estimated load (demand and/or usage), the voltage level at which they are connected to the network and their meter type.

To assign (or reassign) customers to an appropriate customer class, we combine our own information with information from the retailer's service in order to:

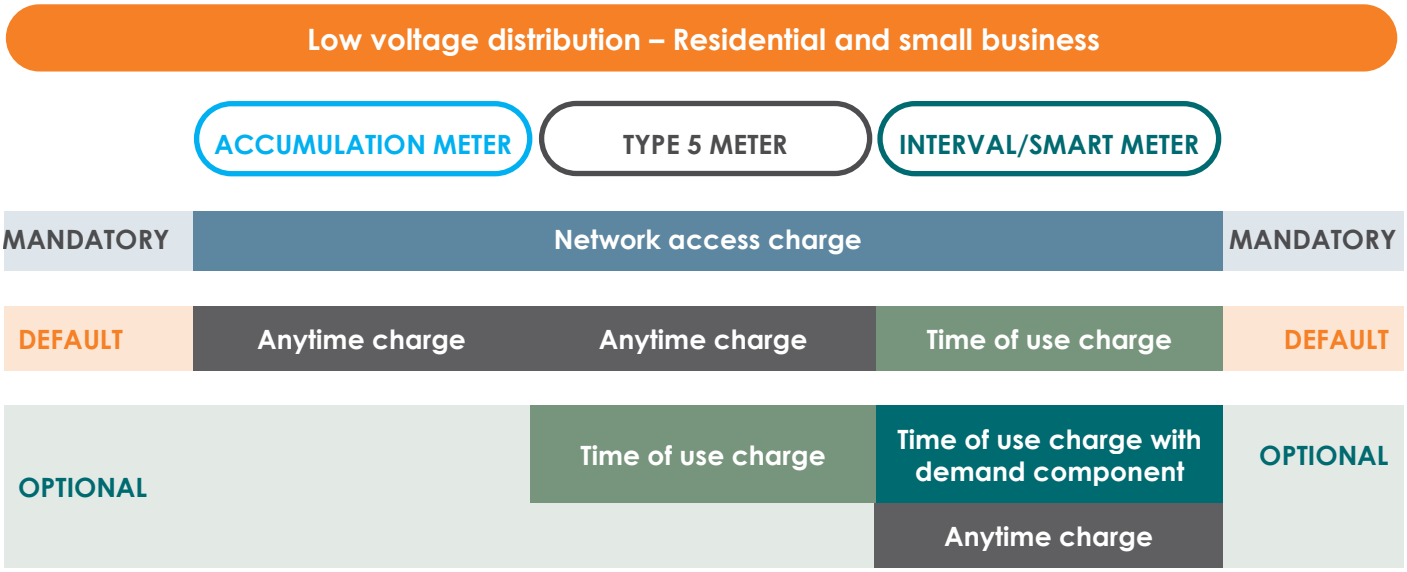
- assign the customer to the appropriate customer class, based on the class criteria; and
- assign the customer to an appropriate distribution network charge within the class, based on their connection, load and metering characteristics, and customer type e.g. residential or business.

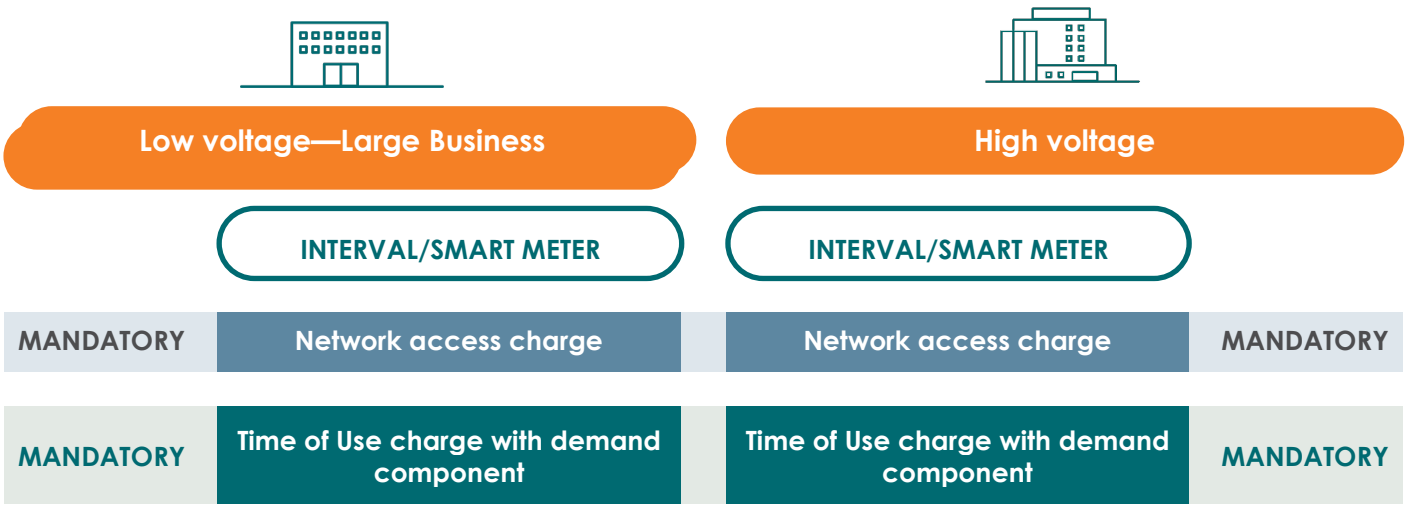
If there is a change of occupancy, we will assign the new customer to the most appropriate default distribution network charge, depending on the type of meter and customer.

Large Business customers who consume over 160MWh a year do not have the option to opt out of a demand-based charge.

The diagram shows our proposed distribution network charge structure for the 2019–24 regulatory period.

Essential Energy will begin trialling new tariffs for the 'Low voltage distribution – Residential and small business' customer class in the 2022-23 year. See section 16 Tariff Trials.





Distribution network charge reassignment

Customers will remain on their current distribution network charge unless:

- their meter is upgraded (although they may opt to move to a different distribution network charge);
- the customer or their retailer requests reassignment; or
- we request reassignment.

Reassignment to a different distribution network charge can be requested by a customer or retailer as a result of:

- a customer request, for example they want to move to an opt-in demand-based charge; or
- a change in the customer's load, connection and/or metering characteristics.

Reassignment can also occur through Essential Energy's review process if we identify that a customer's load, connection and/or metering characteristics have changed and it is no longer appropriate for them to be assigned to their current distribution network charge.

This review process is undertaken quarterly and compares each customer's billed consumption over the preceding 12 months to the conditions (MWh limits) of their current tariff using various software tools. A notification is sent to both customers and their retailer advising that their network tariff will be changed in six months' time if their consumption stays at the same level. This eliminates changing tariffs when consumption may change over a short time period. A final check is done on consumption levels before the network tariff is changed.

If a customer does not have the appropriate metering for the network tariff they should be assigned to, notification is sent to both the customer and their retailer advising they should have their meter upgraded to a smart meter. For example, if a customer is consuming over 160MWh in a year and only has a basic accumulation meter, they are advised they need a smart meter and should contact their retailer to arrange this.

A customer or retailer may only seek reassignment once a year unless they can prove mitigating circumstances.

Full details of our network charging assignment and reassignment processes can be found in Network Tariff Assignment and Reassignment Procedure.

Opt-in charging assignment options

Most new and existing customers have the option to choose another distribution network charge. However, our opt-in demand charges are the most efficient of our cost-reflective distribution network charges, so we have made them an attractive option.

Export tariffs

Export tariffs are assigned to small customers with solar or other forms of generation. Under the

current Rules, networks are not permitted to charge for energy exports until 1 July 2025.

However we plan to trial export charges for small customers as part of Essential Energy's 'Low voltage distribution – Residential and small business' customer class tariff trials that will begin in the 2022-23 year. For more information, see section 16 Tariff Trials.

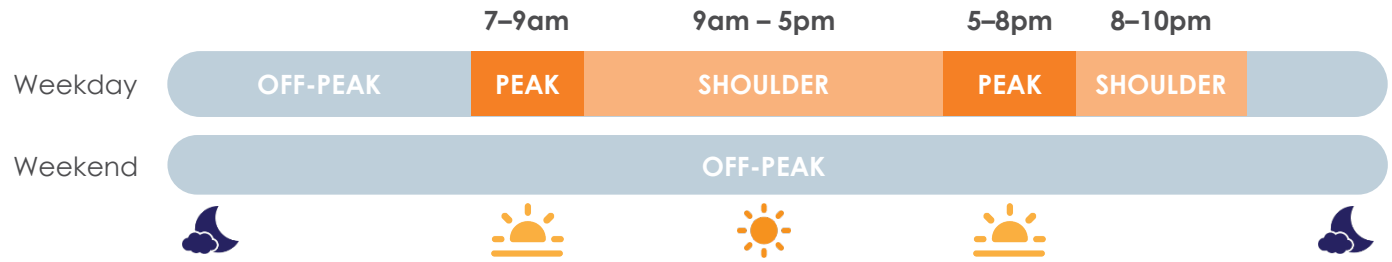
Charging windows

Our Time-of-Use (ToU) charging windows for consumption and demand charges are set to different time windows, according to the type of meter a customer has.

Basic accumulation meters with ToU capability (Type 5 meters) cannot be cost-effectively reprogrammed, so they still record a morning peak between 7am and 9am on weekdays.

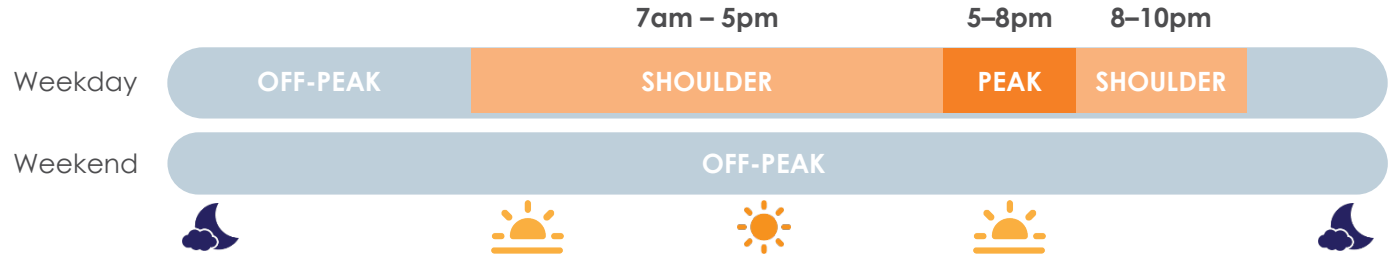
This additional peak window also applies to our obsolete charges (historical charges that are not cost-reflective and not available to new customers).

Charging windows for Type 5 meter



Interval/smart meters can be remotely reprogrammed. There is just one peak period for these types of meters.

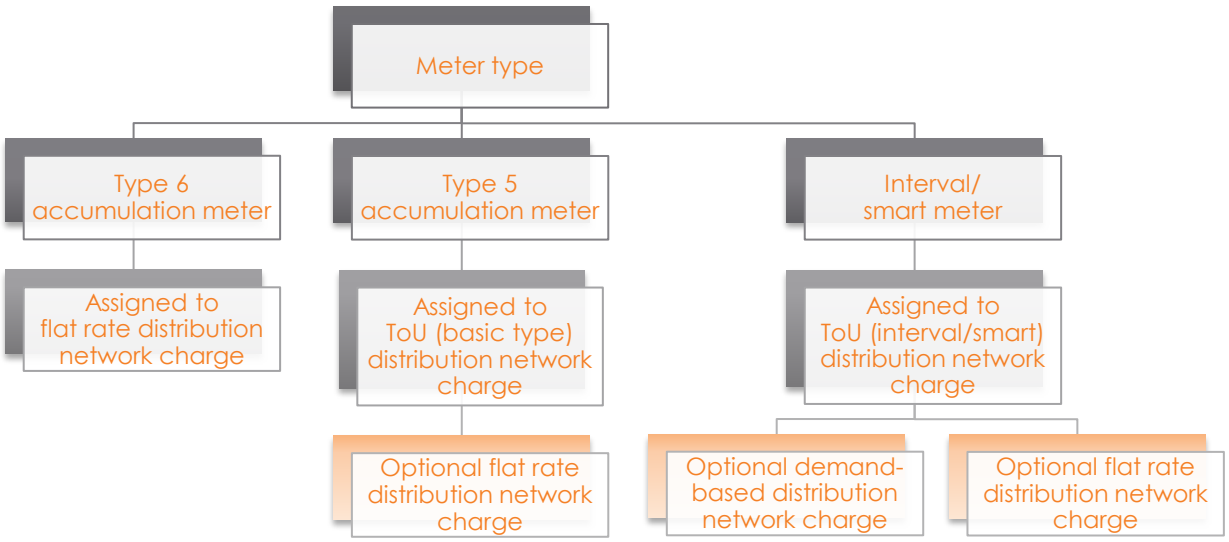
Charging windows for interval/smart meters



Distribution network charge structures by customer class

Residential and Small Business customers are assigned to different distribution network charges based on their meter type. There are three categories of meters that define our distribution network charges: Basic accumulation meter (Type 6 meter), Type 5 meters and smart/interval meters. The distribution network charge structures for each of these distribution network charge types are shown in the following tables.

Additional charge structures, other than those shown below, will be trialled for the 'Low voltage distribution – Residential and small business' customer class beginning in the 2022-23 year. For more information see section 16 Tariff Trials.



Low voltage distribution—Residential and Small Business

(residential premises wholly used as private dwelling and business premises where business consumption does not exceed 160MWh a year)

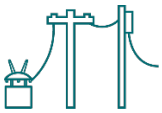
	DISTRIBUTION NETWORK CHARGE	NETWORK ACCESS Fixed dollar per day charge	CONSUMPTION			DEMAND
Anytime <100MWh		✓	Flat rate regardless of time of day			
ToU (basic type 5 meter) < 100MWh		✓	Peak weekdays 7–9am and 5–8pm	Shoulder weekdays 9am – 5pm and 8–10pm	Off-peak All other times	Does not apply
ToU (interval/smart meter)		✓	Peak weekdays 5–8pm	Shoulder weekdays 7am – 5pm and 8–10pm	Off-peak All other times	
ToU with Demand component		✓				One charge for maximum demand during the peak period in the month

✓ Applies

Energy Saver (previously Controlled Load)

DISTRIBUTION NETWORK CHARGE

LOW VOLTAGE RESIDENTIAL AND SMALL BUSINESS



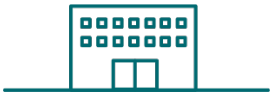
NETWORK ACCESS

Fixed dollar per day charge

CONSUMPTION

Flat cents per kWh rate

	Eligibility	Consumption charging
Energy Saver 1	> Premise has another primary metering point at the same metering point as the secondary load and the load is remotely controlled > Load is permanently connected or on a dedicated power circuit with indicators to show when supply is available > The load types connected shall not exceed more than 25 Amps resistive > Other conditions apply, as detailed in the Network Pricelist and Explanatory Notes published as part of our annual pricing proposal	Between five and nine hours on weekdays and extra hours at the weekend, except where the load is controlled by a clock
Energy Saver 2		Between 10 and 18 hours a day on weekdays and extra hours at weekends, except where the load is controlled by a clock



Low voltage—Large Business

(low voltage connection where consumption exceeds 160MWh a year)

DISTRIBUTION NETWORK CHARGE

NETWORK ACCESS
Fixed dollar per day charge

CONSUMPTION
Cents per kWh rate based on time of day

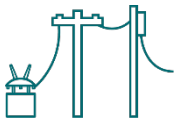
DEMAND
Dollars per kVA per month

	Eligibility Peak weekdays 5–8pm Shoulder weekdays 7am – 5pm and 8–10pm Off-peak All other times	Demand charging
Low voltage – ToU three rate Demand	> Low voltage connection > Business premises where consumption exceeds 160MWh a year	Charge based on the highest measured half-hour kVA demand registered in each of the peak, shoulder and off-peak periods during the month
Low voltage – ToU Demand alternative	> Low voltage connection > Business premises where consumption exceeds 160MWh a year	One charge based on the highest measured half-hour kVA demand registered in either the peak or shoulder periods during the month
Transitional – Demand	> This has expired with rates now fully transitioned to the same rates as our standard ToU three rate demand tariff	
Low voltage – ToU average daily Demand	> Not available to new customers > Low voltage connection > Business premises where consumption exceeds 160MWh per year > Monthly load factor greater than 60% for at least four of the most recent 12 months coinciding with a minimum on-season Anytime monthly demand of 1500 kVA > Intended for customers with a seasonal demand	Demand charge calculated on the average daily ToU demand for peak, shoulder and off-peak periods for the month

High voltage

(high voltage connection and metering point)

DISTRIBUTION NETWORK CHARGE



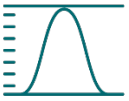
NETWORK ACCESS

Fixed dollar per day charge

CONSUMPTION

Cents per kWh rate based on time of day

	Peak weekdays 5–8pm	Shoulder weekdays 7am – 5pm and 8–10pm	Off-peak All other times



DEMAND

Dollars per kVA per month

	Eligibility	Demand charging
High voltage – ToU monthly Demand	> Business premises connected and metered at high voltage network	Charge based on the highest measured half-hour kVA demand registered in each of the peak, shoulder and off-peak periods during the month
High voltage – ToU average daily Demand	> Not available to new customers > Monthly load factors greater than 60% for at least four of the most recent 12 months coinciding with a minimum on-season Anytime monthly demand of 1500kVA. The minimum demand and load factor requirements will be waived where a generator supports a substantial part of the load on the load side of the meter > Intended for customers with seasonal demand	Demand charge calculated on the average daily ToU demand for peak, shoulder and off-peak periods for the month

Subtransmission

(connected at a subtransmission voltage network, including site-specific and inter-distributor transfer customers)

DISTRIBUTION NETWORK CHARGE

NETWORK ACCESS
Fixed dollar per day charge

CONSUMPTION
Cents per kWh rate based on time of day

DEMAND
Dollars per kVA per month

	Eligibility	Peak weekdays 5–8pm	Shoulder weekdays 7am – 5pm and 8–10pm	Off peak All other times	Demand charging
Subtransmission – ToU monthly Demand	> Subtransmission connection (as defined by Essential Energy) > Not applicable for connection to dual purpose subtransmission/ distribution circuits				Charge based on the highest measured half-hour kVA demand registered in each of the peak, shoulder and off-peak periods during the month
Site-specific	> Large Business customers on a case-by-case basis by application to Essential Energy				Various combinations of fully cost-reflective structures

Unmetered

(Type 7 metering installation. Applies to loads detailed in the AEMO National Electricity Market Load Tables[1])

DISTRIBUTION NETWORK CHARGE

NETWORK ACCESS

CONSUMPTION
Cents per kWh rate based on time of day

	Eligibility		Peak weekdays 7–9am and 5–8pm	Shoulder weekdays 9am – 5pm and 8–10pm	Off-peak All other times
LV unmetered supply	All new unmetered supply connections will have this pricing	Fixed dollar per day charge	Flat rate not based on time of day		
LV Public Lighting ToU	All new public street lighting connections will have this pricing	Does not apply			

1 https://www.aemo.com.au/-/media/Files/Electricity/NEM/Retail_and_Metering/Metering-Procedures/NEM-Load-Tables-For-Unmetered-Connection-Points.pdf

Forecasting Methodology

Essential Energy have engaged Frontier Economics to prepare electricity forecasts for the remaining years of the 2019-24 regulatory determination period and the upcoming 2024-29 regulatory period. These forecasts have been used as the basis for 2022-23 volumes. Forecast for 2022-23 is based on;

- Customer numbers – based on straight line trend, demonstrating strong continued growth in both residential and small business customer numbers
- Average customer use – showing either growth or decline in consumption based on the various customer segments, with drivers such as solar uptake and industry growth considered.

The forecasts prepared by Frontier take into consideration the shift of residential and small business customers between our legacy time of use tariffs and the default interval time of use tariffs for new connections and meter upgrades. The residential and small business customer number trends by tariff type can be seen in Chart 1 and Chart 2

Chart 1: Residential customer count

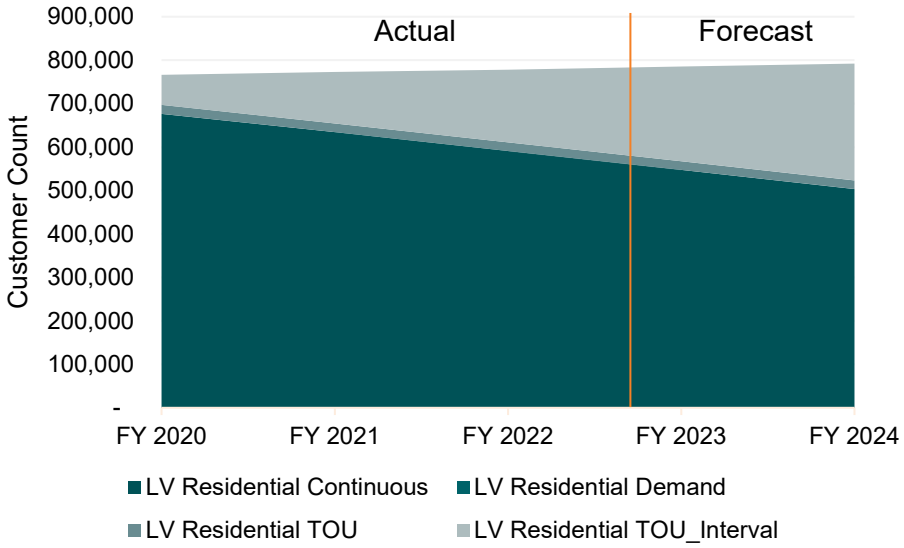
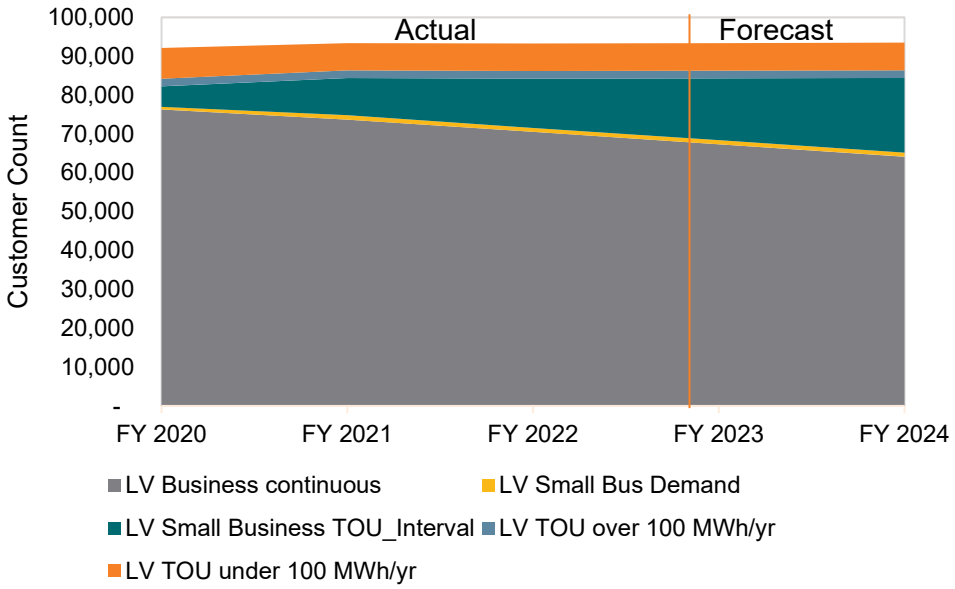
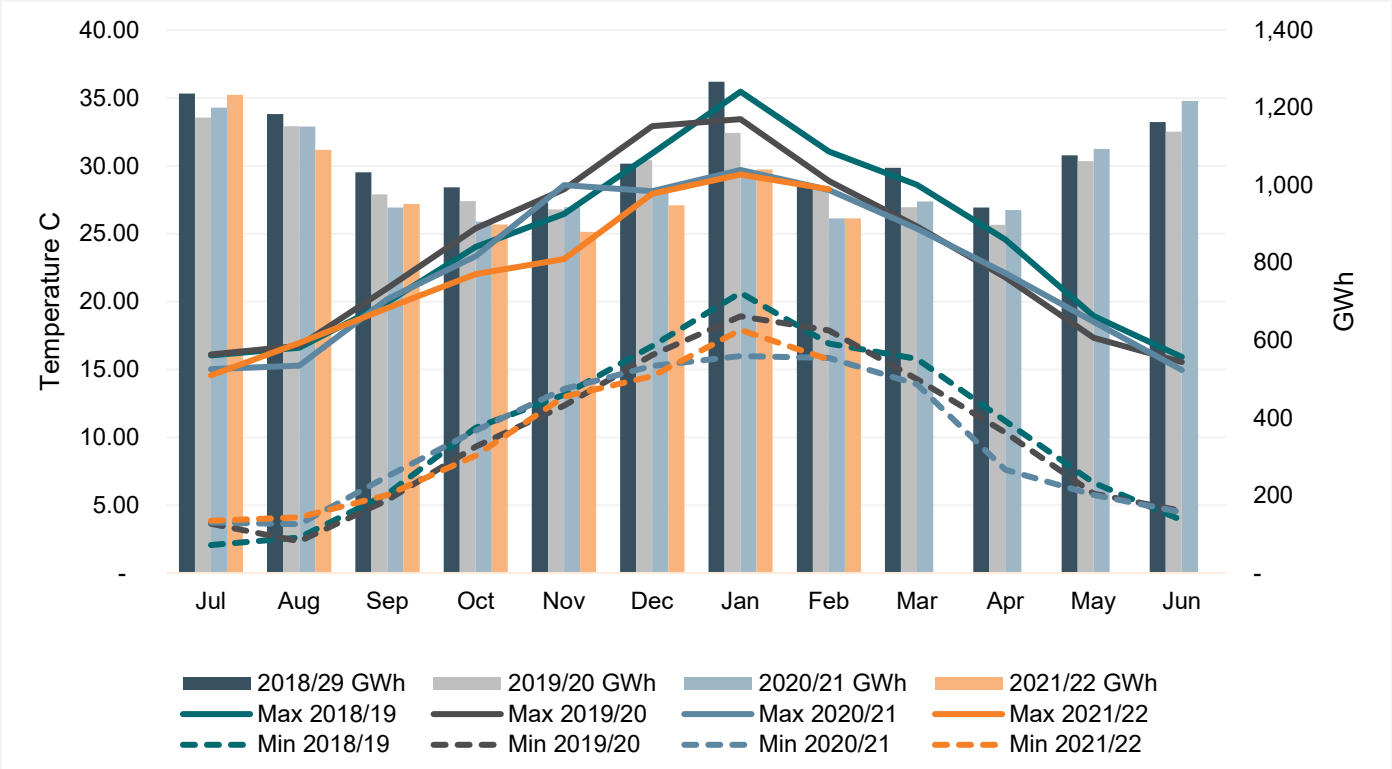


Chart 2: Small Business customer count



One of the main drivers for reduced consumption for the current 2021-22 year continues to be the milder temperatures, particularly over the summer period. Chart 3 below shows the variation in temperatures for 2021-22 compared to previous years and the close co-relation to consumption levels.

Chart 3: Total Essential Energy Network load vs Temperature



The forecast volumes by tariff class have been summarised in Table 1 below.

Table 1: Actual and Forecast consumption by tariff class (GWh)

Tariff class	2019-20 Actual	2020-21 Actual	2021-22 Forecast	2022-23 Forecast	2023-24 Proposed	Reasoning
Low voltage - Residential and Small Business	6,143	6,228	6,212	**6,126**	6,096	Reduced volumes in 2022-23 reflect milder temperatures and increasing solar PV
Low voltage - Large Business	2,359	2,279	2,220	**2,274**	2,257	
High voltage – Demand	933	871	901	**863**	863	
Subtransmission	369	385	396	**465**	498	
Site Specific (including IDTs)	2,559	2,603	2,526	**2,594**	2,589	Consistent consumption seen across Mines
Unmetered Supply	87	75	75	**72**	72	
Total GWh	**12,450**	**12,440**	**12,331**	**12,394**	**12,374**	

Compliance

Rule Requirement

Clause 6.18.2(b)(4) of the Rules requires that the pricing proposal must set out, for each tariff class related to standard control services, the expected weighted average revenue for the relevant regulatory year and also for the current regulatory year.

Revenue allowance

The determination allows us to recover DUoS revenue of $1,030.95 million in the 2022-23 year. The 2022-23 prices have been set to recover this amount of DUoS revenue - being $1,030.95 million.

Assuming the same level of energy consumption, this DUoS revenue recovery implies an average increase in nominal price terms for distribution prices for 2022-23 of 2.23 per cent, including a CPI of 3.5 per cent. The following table demonstrates the weighted average change in DUoS revenue by tariff class.

Table 2: DUoS average tariff class revenue change ($'000)

Tariff class	Weighted average revenue 2021-22	Weighted average revenue 2022-23	Change %
Low voltage - Residential and Small Business	751,386	768,747	2.31%
Low voltage - Large Business	181,379	184,921	1.95%
High voltage – Demand	53,600	54,759	2.16%
Sub-transmission (including IDTs)	17,322	17,688	2.11%
Unmetered Supply	4,741	4,834	1.98%
Total DUoS revenue	**1,008,428**	**1,030,950**	**2.23%**

Variations to Tariffs

Rule Requirement

Clause 6.18.2(b)(5) of the Rules requires that the pricing proposal must set out the nature of any variation or adjustment to the tariff that could occur during the course of the regulatory year and the basis on which it could occur.

Essential Energy does not propose to vary or adjust our proposed Network tariffs during the course of the 2022-23 regulatory year. However we are planning to start some trials of new tariffs as described in 16 Tariff Trials.

Jurisdictional Schemes

Rule Requirement

Clause 6.18.2(b)(6A) of the Rules requires that the pricing proposal must set out how jurisdictional scheme amounts for each approved jurisdictional scheme are to be passed on to customers and any adjustments to tariffs resulting from over or under recovery of those amounts.

Clause 6.18.2(b)(6B) requires that the pricing proposal must describe how each approved jurisdictional scheme that has been amended since the last jurisdictional scheme approval date meets the jurisdictional scheme eligibility criteria.

Climate change levy

Legislation requires Essential Energy to contribute $57.2 million to the New South Wales Climate Change Fund (CCF) in 2022-23. Essential Energy is permitted to collect this contribution from its customers through network prices and is required to take into account any under or over recovery from previous years. It is also a requirement that only 25 per cent of this contribution is collected from residential customers.

Expected climate change fund revenue and expense for 2022-23 is summarised in Table 3 below.

Table 3: Climate change fund levy unders and overs account ($'000)

Component	2022-23 (forecast)
Revenue from CCF Tariffs	62,526
CCF Payments	57,173
Opening balance of (unders)/overs account	(5,194)
CCF unders and overs account	
Nominal WACC	6.21%
Opening balance	(5,194)
Interest on opening balance (365 days)	(323)
(Under) / over recovery for financial year	5,353
Interest charged on (under)/over recovery for financial year	164
Closing balance	**0**

Queensland Solar Bonus Scheme

Legislation requires Essential Energy to pay eligible customers located in Queensland and connected to Essential Energy's network an amount for their solar export. As this scheme is a designated jurisdictional scheme under the Rules, Essential Energy is recovering the amount paid to these customers back through tariffs in a similar manner to the Climate Change Fund.

Expected Queensland Solar Bonus Scheme revenue and expense for 2022-23 is summarised in Table 4 below.

Table 4: Queensland Solar Bonus Scheme unders and overs account ($'000)

Component	2022-23 (forecast)
Revenue from QLD Solar Bonus Scheme Recovery (QSS) Tariffs	695
QSS Payments	914
Opening balance of (unders)/overs account	213
QSS unders and overs account	
Nominal WACC	6.21%
Opening balance	213
Interest on opening balance (365 days)	13
(Under) / over recovery for financial year	(219)
Interest charged on (under)/over recovery for financial year	(7)
Closing balance	**0**

Transmission Use of System

Rule Requirement

Clause 6.18.2(b)(6) of the Rules requires that the pricing proposal must set out how designated pricing proposal charges are to be passed on to customers and any adjustments to tariffs resulting from over or under recovery of those charges in the previous regulatory year.

In addition, clause 6.18.7 states that the amount to be passed on for a particular regulatory year must not exceed the estimated amount of the designated pricing proposal charges adjusted for over or under recovery.

Transmission-related cost recovery arrangements

The AER allows Essential Energy to recover transmission-related costs by setting TUoS prices to recover:

- Transmission charges paid to transmission network service providers (TNSPs)
- Avoided TUoS payments to embedded generators calculated in accordance with the Rules
- Inter-distributor transfer payments to other network distribution businesses.

The Determination allows Essential Energy to recover those costs and take account of any under or over recovery of TUoS revenue. As part of the 2022-23 price approval process, the AER has been provided with the expected cost of transmission related payments which includes a price increase of 9 per cent for payments to TransGrid.

Essential Energy also recovers avoided TUoS payments to large embedded generators who have advised they will be supplying energy into our Network. As this effectively represents less transmission from TransGrid's network, Essential Energy is required to pay avoided TUoS to these generators under section 5.5 of the Rules.

The total transmission revenue Essential Energy require in 2022-23 has only increased by 1.0 per cent from the revenue forecast amount to be recovered for 2021-22 due to over recovered amounts in prior years that are handed back to customers in 2022-23. Expected transmission revenue and expense for 2022-23 is summarised in Table 5 below.

Table 5: Transmission use of system unders and overs account ($'000)

Component	2022-23 (forecast)
Revenue from TUoS charges	*259,459*
Less total transmission related payments	**264,888**
Transmission charges to be paid to TNSP	*247,227*
Inter-distributor payments	*14,254*
Avoided TUoS payments	*3,407*
(Under)/over recovery for regulatory year	(5,428)
TUoS unders and overs account	
Nominal WACC	6.21%
Opening balance	5,267
Interest on opening balance	327
(Under)/over recovery for regulatory year	(5,428)
Interest on (under)/over recovery for regulatory year	(166)
Closing balance	**0**

8 Transmission Use of System

Transmission charges are not in a form that readily translates into network price structures. Essential Energy translates historical kilowatt demand and daily locational charges from transmission authorities into equivalent anytime or peak, shoulder and off-peak energy rates in order to allocate those charges to the network use of system tariffs.

Essential Energy allocates transmission charges to network prices using the following principles:

- The total TUoS allocated to network prices aligns with total expected transmission related payments to be made by Essential Energy
- Transmission charges are allocated to network prices in a way that reflects the cost drivers present in transmission
- The pass through of transmission charges and the structure of network prices have been aligned wherever possible by Essential Energy
- Site specific customers have transmission charges allocated in a way that preserves the location and time signals of transmission pricing as per chapter 6 of the Rules. These charges are passed through as closely as possible to reflect the way the charges are levied on Essential Energy
- Network prices for standard customer classes have transmission charges allocated on an average consumption level basis. This is due to the difficulties associated with equitably allocating the general and common service fixed charge as a fixed network access charge and passing through location price signals which cannot be preserved when the end price is applied to many customers within the network.

For large customers with individual prices, the individual cost of transmission is directly assigned to the customer. The balance is allocated to standard customer classes.

Distribution Use of System

Rule Requirement

Clause 6.18.2(b)(7) of the Rules requires that the pricing proposal must demonstrate compliance with the Rules and any applicable distribution determination, including the Distribution Network Service Provider's tariff structure statement for the relevant regulatory control period.

Distribution Use of System

DUoS revenue to be recovered in 2022-23 is set out in the determination and for 2022-23 this amount is $1,030.95 million. This DUoS revenue includes CPI of 3.5 per cent and an X factor of 0.09 per cent (decrease). The 2022-23 prices have been set to recover this amount of DUoS revenue.

Table 6: Distribution use of system unders and overs account ($'000)

Component	2022-23 (forecast)
Revenue from DUoS charges	1,030,950
Less TAR for the relevant year	**1,035,644**
Smooth revenues (AAR*t*)	*1,020,125*
STPIS adjustment (S*t*)	*15,518*
(Under)/over recovery for regulatory year	**(4,694)**
DUoS unders and overs account	
Nominal WACC	6.21%
Opening balance	4,554
Interest on opening balance (dealt with @ B above)	283
(Under)/over recovery for regulatory year	(4,694)
Interest on (under)/over recovery for regulatory year	(144)
Closing balance	**0**

Changes From Previous Regulatory Year

Rule Requirement

Clause 6.18.2(b)(8) of the Rules requires that the pricing proposal must describe the nature and extent of change from the previous regulatory year and demonstrate that the changes comply with the Rules and any applicable distribution determination.

The changes to tariffs or tariff assignment for 2022-23 from 2021-22 are summarised below.

Table 7: Summary of changes from previous regulatory year

Component	Network charge type	Annual update
DUoS	ToU network charges	Differentiate peak and shoulder rates by applying:
		> a 2 per cent increase to the peak component; and
		> a 2 per cent decrease to the shoulder component each year.
	Residential and Small Business customers	The fixed charge component is given a $5 increase then the average percentage increase/decrease in revenue is applied to each of the fixed charge, consumption and demand components.
	LV ToU <100 MWh and >100MWh	Apply a 2.5 per cent decrease to the fixed charge to transition this component down to same fixed rate charge as other Small Business customers.
	Small Business Opt-in Demand	Apply a 20 per cent increase to the energy consumption components to take into account the removal of the shoulder period from the demand component put forward in our Revised Proposal and Revised TSS.
	Obsolete network charges	To incentivise customers to move to more cost-reflective network charges:
		> if there is an increase in overall DUoS prices, the percentage increase in revenue is doubled for obsolete network charges; and
		> if there is an overall decrease to DUoS prices then rates are held flat.
	All	Average increase or decrease to recover required revenue, including adjustment for any over-recovery or under-recovery.
TUoS	Site-specific	Rates provided by transmission companies applied as closely as possible.
	All other	Average increase to recover required revenue, including adjustment for any over-recover or under-recovery.
	ToU network charges	Differentiate peak and shoulder rates by applying a 2.5 per cent increase to the peak component each year.
NSW Climate Change Fund Levy	All	Average increase or decrease to recover required revenue, including adjustment for any over-recovery or under-recovery, with only 25 per cent from Residential customers.
Queensland Solar Scheme	All	Average increase or decrease to recover required revenue, including adjustment for any over-recovery or under-recovery.

Customer Impacts

Rule Requirement

Clause 6.18.2(b)(7) requires that the pricing proposal demonstrates compliance with the Rules and applicable distribution determination, and takes into account 6.18.5 Pricing principles to reflect efficient costs.

This report explains how Essential Energy's prices meet regulatory arrangements. This section demonstrates the impact of the forthcoming changes in network tariffs on typical customers' bills. Each tariff will have a different change in their average rate due to the mix of DUoS, TUoS, CCF and QSS as part of the overall NUoS tariff rates.

Table 8 demonstrates the average impact of the proposed prices on the residential and business customer classes. It shows the average increases expected for each of the consumption types for residential and business network prices based on average annual consumption. These include standard supply, Time-of-Use, controlled load (Energy Saver), and demand network prices for business customers.

Table 8: Average increases for residential and small non-residential customers.

		Average annual MWh	Average annual account 2021-22	Average annual account 2022-23	Average change per customer	Average increase (%)	Average c/kWh 2021-22	Average c/kWh 2022-23
Residential	Anytime	5.00	$875.85	$898.97	$23.12	2.64%	$17.52	$17.98
	Time-of-Use	8.12	$1,134.19	$1,161.20	$27.02	2.38%	$13.96	$14.30
	Time-of-Use - Interval	4.20	$719.91	$738.27	$18.37	2.55%	$17.15	$17.59
	Energy Saver 1	1.98	$83.45	$85.09	$1.64	1.96%	$4.20	$4.29
Non-Residential	Anytime	23.00	$3,839.90	$3,920.51	$80.61	2.10%	$16.70	$17.05
	Time-of-Use	39.67	$6,040.91	$5,952.43	-$88.48	-1.46%	$15.23	$15.00
	Time-of-Use - Interval	25.50	$3,263.41	$3,317.73	$54.32	1.66%	$12.80	$13.01
	Energy Saver 2	1.95	$134.54	$137.18	$2.64	1.96%	$6.90	$7.04
	Optional Demand	60.40	$4,904.57	$5,153.01	$248.44	5.07%	$8.12	$8.53

The average residential customer connected to an anytime tariff, without energy saver, in Essential Energy's distribution area will see an increase of approximately $23.12 or 2.64 per cent for the 2022-23 year based on an annual consumption of 5 MWh.

The average small non-residential customer connected to an anytime tariff in Essential Energy's distribution area will see an increase of approximately $80.64 or 2.10 per cent for the 2022-23 year based on an annual consumption of 23 MWh.

A typical residential customer living in Essential Energy's distribution area would generally be connected to the following network prices:

- BLNN2AU: Residential Anytime Tariff
- BLNC1AU: Residential Energy Saver 1

Table 9 below provides an analysis of the impacts of price increases for a low usage customer and a typical usage customer.

Table 9: Impact of price increases for typical residential customers of Essential Energy

Customer type	Energy saver load %	2021-22 Quarterly network bill	2022-23 Quarterly network bill	Change in quarterly network bill
Low usage (3,500 kWh)	35%	$159.47	$164.05	$4.58
Typical usage (6,500 kWh)	35%	$220.12	$225.91	$5.79

A typical small non-residential customer operating in Essential Energy's distribution area would generally be connected to the following network price:

> BLNN1AU: Small Business Anytime Tariff

Table 10 below provides an analysis of the impacts of price movements for a customer that consumes 20 MWh per annum and a customer that consumes 40 MWh per annum.

Table 10: Impact of prices for typical non-residential customers of Essential Energy

Customer type	2021-22 Monthly network bill	2022-23 Monthly network bill	Change in Monthly network bill
20 MWh	$281.74	$287.71	$5.97
40 MWh	$536.75	$547.70	$10.95

The examples provided above for typical residential and small non-residential customers all fall within the Low voltage Residential and Small Business tariff class.

Table 11 below shows the expected movement in the average rate for each of Essential Energy's tariff classes for DUoS charges only.

Table 11: Impact of DUoS prices for each tariff class

Tariff class	2021-22		2022-23	
	Forecast Revenue $'000	Forecast average rate c/kWh	Forecast Revenue $'000	Forecast average rate c/kWh
Low voltage Residential and Small Business	751,386	12.27	768,747	12.56
Low voltage Large Business	181,379	7.98	184,921	8.13
High voltage Demand	53,600	6.21	54,759	6.34
Sub-transmission	17,322	0.57	17,688	0.58
Unmetered Supply	4,741	6.62	4,834	6.76
Total average DUoS rate		**$8.14**		**$8.32**

Network price increases 2021-22 to 2022-23

The 2022-23 year is the fourth year of the current regulatory determination period. The revenue we are allowed to recover in this year for DUoS charges is provided by the AER in their Final Determination and is $1,030.95 million. As detailed in Table 6 above this revenue allowance includes adjustments for any over or under recovery of revenue in prior years and the application of STPIS. It also includes update for cost of debt and WACC rates and the approved pass through costs related to bushfire and cyber security events.

Under a revenue price cap control mechanism, the same units are used to calculate the prices for network

charges. Taking this into account, along with adjustments for over or under recoveries, the average change in prices for 2022-23 is an increase of 2.2 per cent. This differs to the change in revenue we expect to recover year on year due to a different forecast of unit sales. The change in revenue to be recovered is an increase of 2.85 per cent. This difference is demonstrated in Table 12 below.

Table 12: Network price increase ($M nominal)

Charge component	2021-22		2022-23	Year on Year Price change %	
	Forecast Revenue	Calculated Revenue	Revenue to be recovered	Forecast Revenue	Calculated Revenue
Distribution use of system charges	1,003.2	1,008.4	1,030.9	2.23%	2.77%
Transmission use of system charges	257.0	254.4	259.5	2.00%	0.96%
Climate change levy	54.9	60.7	62.5	3.03%	13.82%
QLD Solar Scheme	1.0	1.0	0.7	-31.63%	-31.60%
Network use of system charges	**1,316.1**	**1,324.5**	**1,353.6**	**2.20%**	**2.85%**
GWh sales	***12,686.74***	***12,393.73***	***12,393.73***		

Tariff Structure Statement

Rule Requirement

Clause 6.18.2(b)(7A) of the Rules requires that the pricing proposal must demonstrate how each proposed tariff is consistent with the corresponding indicative pricing levels for the relevant regulatory year as set out in the relevant indicative pricing schedule, or explain any material differences between them.

Comparison of proposed and indicative prices

Our proposed prices for 2022-23 are in line with those approved by the AER in our TSS. The only differences are due to:

- Updated X factor (revenue allowed to be recovered)
- Updated cost of debt
- Inclusion of 3.5% CPI for 2022-23, 0.86% CPI for 2021-22, 1.84% CPI for 2020-21 and 1.78% for 2019-20 (Indicative prices in TSS are in $2018-19)
- Increases in TUoS charges as advised by TransGrid and Powerlink
- True up for under recovery of actual revenues in 2021-22 and forecast revenue for 2022-23
- STPIS adjustments
- Cost pass through amounts
- Increase to the amount we are required to contribute to the CCF in 2022-23 of approximately $0.9 million.

These changes can be seen in Table 13 below.

Table 13: Comparison of Essential Energy's Proposed vs Indicative NUOS charges 2022-23

Tariff Code	Description		Network Access $/year	Energy Anytime c/kWh	Energy Peak c/kWh	Energy Shoulder c/kWh	Energy Off-Peak c/kWh	Peak Demand $/kVA/M	Shoulder Demand $/kVA/M	Off-Peak Demand $/kVA/M
Tariff Class A; Low voltage Residential and Small Business										
BLNN2AU	Residential Anytime	Proposal	332.67	11.3262						
		Indicative	298.05	9.9613						
		% difference	11.6%	13.7%						
BLNT3AU	Residential ToU	Proposal	332.67		15.5509	12.5379	4.8957			
		Indicative	298.05		13.5890	11.0236	4.2766			
		% difference	11.6%		14.4%	13.7%	14.5%			
BLNT3AL	Residential ToU_Interval meter	Proposal	332.67		16.1216	12.0800	4.8957			
		Indicative	298.05		14.0990	10.6143	4.2766			
		% difference	11.6%		14.3%	13.8%	14.5%			
BLND1AR	Residential – Opt-in Demand	Proposal	332.67		5.0692	3.8961	2.4179	4.1960		
		Indicative	298.05		4.2204	3.2995	2.0620	3.7504		
		% difference	11.6%		20.1%	18.1%	17.3%	11.9%		
BLNC1AU	Energy Saver 1	Proposal	34.84	2.5316						
		Indicative	31.14	2.1636						
		% difference	11.9%	17.0%						
BLNC2AU	Energy Saver 2	Proposal	34.84	5.2501						
		Indicative	31.14	4.5582						
		% difference	11.9%	15.2%						
BLNN1AU	LV Small Business Anytime	Proposal	332.67	15.5993						
		Indicative	300.07	13.7646						
		% difference	10.9%	13.3%						

Tariff Code	Description		Network Access $/year	Energy Anytime c/kWh	Energy Peak c/kWh	Energy Shoulder c/kWh	Energy Off-Peak c/kWh	Peak Demand $/kVA/M	Shoulder Demand $/kVA/M	Off-Peak Demand $/kVA/M
BLNT2AU	LV ToU < 100MWh	Proposal	1,507.01		16.5629	13.4496	7.1302			
		Indicative	1,507.01		14.4775	11.8224	6.2578			
		% difference	0.0%		14.4%	13.8%	13.9%			
BLNT2AL	LV Business ToU_Interval meter	Proposal	569.08		17.1589	12.9714	6.9061			
		Indicative	509.36		15.0102	11.3949	6.0575			
		% difference	11.7%		14.3%	13.8%	14.0%			
BLNT1AO	LV ToU > 100MWh	Proposal	1,507.01		16.5629	13.4496	7.1302			
		Indicative	1,507.01		14.4775	11.8224	6.2578			
		% difference	0.0%		14.4%	13.8%	13.9%			
BLND1AB	Small Business – Opt-in Demand	Proposal	569.08		7.9609	5.9583	3.4259	6.8185		
		Indicative	509.36		7.1413	5.3468	3.0294	6.0522		
		% difference	11.7%		11.5%	11.4%	13.1%	12.7%		
Tariff Class B; Low voltage Large Business										
BLND3AO	LV ToU Demand 3 Rate	Proposal	5,770.11		5.0624	4.1956	2.7850	10.2257	9.2519	2.3064
		Indicative	5,157.37		4.2360	3.5744	2.3774	9.5833	8.7468	2.0614
		% difference	11.9%		19.5%	17.4%	17.1%	6.7%	5.8%	11.9%
BLND3TO	LV ToU Demand – alternate tariff	Proposal	5,770.11		14.7726	11.6818	5.2590	12.5134		
		Indicative	5,157.37		12.9150	10.2657	4.5887	11.1845		-
		% difference	11.9%		14.4%	13.8%	14.6%	11.9%		
BLNDTRS	Transitional Demand	Proposal	5,770.11		5.0624	4.1956	2.7850	10.2257	9.2519	2.3064
		Indicative	5,157.37		4.2360	3.5744	2.3774	9.5833	8.7468	2.0614
		% difference	11.9%		19.5%	17.4%	17.1%	6.7%	5.8%	11.9%

Tariff Code	Description		Network Access $/year	Energy Anytime c/kWh	Energy Peak c/kWh	Energy Shoulder c/kWh	Energy Off-Peak c/kWh	Peak Demand $/kVA/M	Shoulder Demand $/kVA/M	Off-Peak Demand $/kVA/M
BLNS1AO	LV ToU Avg Daily Demand	Proposal	6,195.02		4.7047	3.9198	2.6592	12.2166	11.0531	2.8249
		Indicative	5,374.35		3.9034	3.3179	2.2634	10.5982	9.5888	2.4507
		% difference	15.3%		20.5%	18.1%	17.5%	15.3%	15.3%	15.3%
Tariff Class C; High voltage demand										
BHND3AO	HV ToU mthly Demand	Proposal	7,142.47		3.8543	3.2336	2.6832	9.2950	8.4098	2.5166
		Indicative	6,384.00		3.2393	2.7638	2.2941	8.3079	7.5167	2.2493
		% difference	11.9%		19.0%	17.0%	17.0%	11.9%	11.9%	11.9%
BHNS1AO	HV ToU Avg Daily Demand	Proposal	6,942.27		3.7879	3.2606	2.6753	9.8426	8.9052	2.6648
		Indicative	6,205.05		3.1799	2.7879	2.2871	8.7974	7.9595	2.3818
		% difference	11.9%		19.1%	17.0%	17.0%	11.9%	11.9%	11.9%
Tariff Class D; Sub-transmission										
BSSD3AO	Sub Trans 3 Rate Demand	Proposal	7089.96		4.6365	2.7706	2.3089	3.5869	2.5571	1.0194
		Indicative	6337.05		3.8535	2.3163	1.9298	3.2060	2.2856	0.9111
		% difference	11.9%		20.3%	19.6%	19.6%	11.9%	11.9%	11.9%
Tariff Class E; Unmetered Supply										
BLNP1AO	LV Unmetered NUoS	Proposal	332.67	16.8625						
		Indicative	300.07	14.8887						
		% difference	10.9%	13.3%						
BLNP3AO	LV Public Lighting ToU NUoS	Proposal			18.8472	14.8338	7.4336			
		Indicative			16.5143	13.0546	6.5240			
		% difference			14.1%	13.6%	13.9%			

Compliance with the National Electricity Rules

Rule Requirement

Clause 6.18.2(b)(7) of the Rules requires that a pricing proposal demonstrates compliance with the Rules and any applicable distribution determination, including the Distribution Network Service Provider's tariff structure statement for the relevant regulatory control period.

Rule 6.18.5 sets out the pricing principles that are relevant to determining tariffs and charging parameters.

The pricing principles of the Rules:

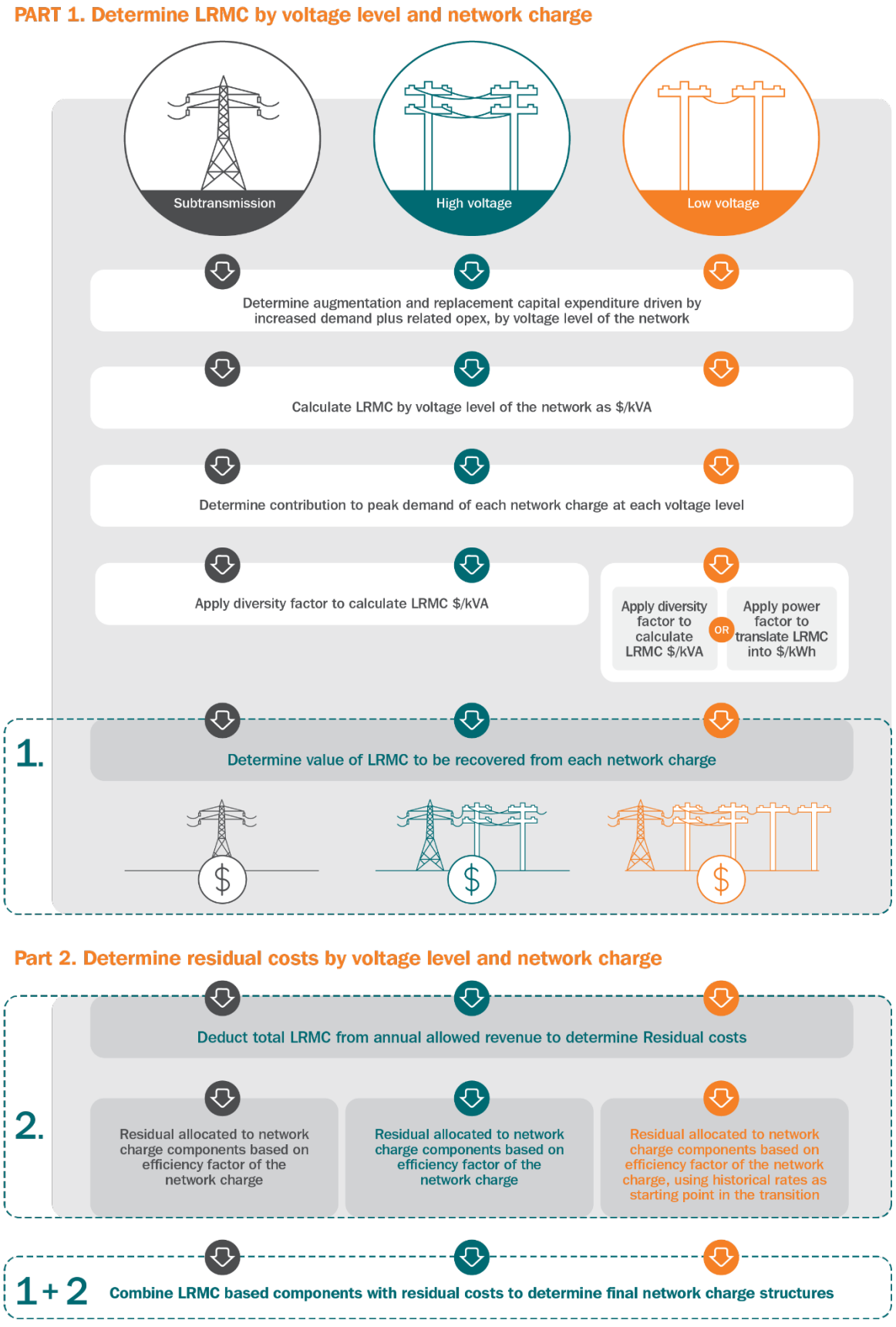
Clause	Principle
6.18.5(e)	The revenue expected to be recovered for each tariff class must lie on or between: > an upper bound representing the stand-alone cost of serving the retail customers who belong to that class; and > a lower bound representing the avoidable cost of not serving those retail customers
6.18.5(f)	Each tariff is based on the Long Run Marginal Cost (LRMC) of providing the service
6.18.5(g)	Tariffs reflect the efficient costs of serving customers and minimise distortions in price signals for efficient usage
6.18.5(h)	The need to consider the impact on customers of tariff changes
6.18.5(i)	Tariff structures must be reasonably capable of being understood by customers
6.18.5(j)	Tariffs must comply with all applicable regulatory instruments

Pricing Principles and Cost Allocation

The network prices we charge each customer should reflect our business' efficient costs of providing network services to that customer. Specifically, each tariff must be based on the Long Run Marginal Cost (LRMC) of providing the service to which it relates to the retail customers assigned to that tariff. Efficient pricing preserves the LRMC (the cost of consuming or adding one more unit) while also allocating costs that have already been incurred (residual costs) in a way that will provide minimal demand distortion.

Efficient pricing needs to signal to customers the future network cost of consuming the next unit of electricity. Where there are no network constraints, such as in off-peak times, this cost will be very low. However, if the network is reaching capacity at peak times, the cost to the network of consumers using more energy/demand at that time will grow until it requires us to augment the network to continue to meet demand. These additional costs should, under the Rules, be reflected in the relevant variable usage charge of the tariff structure.

Using only a LRMC calculation to set tariffs would not allow us to recover all our network costs. There are residual costs that are not recovered when prices are set to equal marginal cost. How we recover these residual costs has implications for efficiency. The method we have used for setting prices based on LRMC and how residual costs have been allocated is explained below.


PART 1. Determine LRMC by voltage level and network charge
Subtransmission
High voltage
Low voltage
Determine augmentation and replacement capital expenditure driven by increased demand plus related opex, by voltage level of the network
Calculate LRMC by voltage level of the network as $/kVA
Determine contribution to peak demand of each network charge at each voltage level
Apply diversity factor to calculate LRMC $/kVA
Apply diversity factor to calculate LRMC $/kVA
OR
Apply power factor to translate LRMC into $/kWh
1.
Determine value of LRMC to be recovered from each network charge
$
$
$
Part 2. Determine residual costs by voltage level and network charge
2.
Deduct total LRMC from annual allowed revenue to determine Residual costs
Residual allocated to network charge components based on efficiency factor of the network charge
Residual allocated to network charge components based on efficiency factor of the network charge
Residual allocated to network charge components based on efficiency factor of the network charge, using historical rates as starting point in the transition
1+2
Combine LRMC based components with residual costs to determine final network charge structures

Clause 6.18.5(e) of the Rules establishes limits on the residual costs that can be recovered from any one tariff class, with the revenue expected to be recovered for each tariff class lying between an upper bound (the stand-alone cost) and a lower bound (the avoidable cost).

More detail on our pricing principles and cost allocation can be found in the Explanatory Statement to our Revised TSS found at: http://www.essentialenergy.com.au/content/tariff-structure-statement

Network prices based on incremental and stand-alone cost principles

There are two principles that can be used to test for cross subsidisation in monopoly services:

- **Stand-alone costs**

  Cross subsidisation exists when customers pay more for a service than the costs that would be incurred to build a network to provide supply to that class of customer only.

- **Incremental costs**

  Cross subsidies do not exist when the revenues received for a service are less than the stand-alone cost or are greater than the incremental or marginal cost of providing the service. The incremental cost test is appropriate when the goal is to show that prices for services are not 'unfair'.

The range of prices that lies between incremental cost and stand-alone cost is known as the subsidy-free pricing zone. Cross subsidisation occurs when prices lie outside this zone. Essential Energy has developed a marginal cost and stand-alone Cost of Supply model for this purpose. The Explanatory Statement to our Revised TSS provides details of the methodology used, incremental cost and stand-alone cost of supplying network distribution services to customers connected to Essential Energy's network.

Table 14: How our proposed 2022–23 revenue ($m) by customer class complies with the NER

Customer class	Avoidable	Stand-alone	Proposed	Proposed revenue lies between stand-alone and avoidable cost?
Low voltage Residential & Small Business customers	354	2,824	769	Yes
Low voltage Large Business	84	678	185	Yes
High voltage Demand	30	258	55	Yes
Sub-transmission	16	136	18	Yes
Unmetered Supply	3.3	437	4.8	Yes

Network prices based on fully distributed cost principles

Network costs are largely fixed and sunk, and due to the meshed nature of electricity distribution networks, pricing must involve a substantial degree of averaging.

For these reasons, Essential Energy's approach to allocating costs to customers is primarily founded on equity considerations, where there is some degree of averaging present in the calculation of standard network prices for the majority of customers belonging to general customer classes.

Essential Energy has adopted the average or fully distributed cost approach for the allocation of the revenue requirement. Network revenue as a cost is allocated to standard customer classes based on the use of network assets, with prices averaged by customer class. It is applied to individual prices for very large customers and standard published network prices.

We believe this average allocation approach best reflects the way costs are incurred by customer classes and provides equitable and reasonably efficient outcomes.

Marginal and stand-alone cost allocation process

Essential Energy's Cost of Supply model assesses cost allocations to customer classes both on a LRMC and stand-alone basis. It is inappropriate for network distribution service charges to be below the incremental cost (or LRMC) of supply as it results in inefficient pricing signals. It is also inappropriate for charges to exceed that which the customer could pay for the stand-alone cost to supply that customer class.

The stand-alone cost of supply is the total cost that would be required to serve those customers if we were to build the network anew to meet their specific requirements. This upper bound ensures that customers in any given tariff class do not pay more as a result of the provision of services to other customers.

Marginal costs are established by assessing the marginal component of the cost pools and allocating these costs to customer classes. This process considers the usage of the distribution network and other distribution network services and the impact on future capital expenditure made by each customer class. The LRMC of the distribution network is determined by separately identifying capacity related expenditure and averaging this over a forecast change in output (the Average Incremental Cost Approach). Further details on the LRMC calculations are contained in the Addendum to our TSS.

The network price for each customer class is then compared with the stand-alone costs and LRMC to determine if any cross-subsidisation exists.

Table 15 of this report demonstrates the relationship between current network prices and LRMC.

Table 15: Proposed transition of peak prices to efficient levels

Tariff	Description	Current 2021-22	Proposed 2022-23	LRMC Price Level
ToU tariffs				
BLNT3AU	Residential ToU	10.9556	11.4122	4.9721
BLNT3AL	LV Residential ToU_Interval meter	11.5034	11.9828	5.1760
BLNT2AU	LV ToU <100MWh	11.4429	11.9198	4.3380
BLNT2AL	LV Business ToU_Interval meter	12.0150	12.5158	7.2301
Demand tariffs				
BLND1AR	Residential - Opt-in Demand	4.1087	4.1960	5.6292
BLND1AB	Small Business - Opt-in Demand	6.6766	6.8185	5.6292
BLND3AO	LV ToU Demand 3 Rate	10.1188	10.2257	2.7471
BLNDTRS	Transitional Demand	8.4323	10.2257	2.5156
BHND3AO	HV ToU mthly Demand	9.1016	9.2950	2.8758
BSSD3AO	SUB TRANS Demand 3 rate	3.5123	3.5869	0.7006

Table 16: Detailed checklist of the National Electricity Rules

Rule	Relevant requirement	Relevant section
6.18.1C	**Sub-threshold tariffs**	
6.18.1C(a)	No later than four months before the start of a regulatory year (other than the first regulatory year of a regulatory control period), a Distribution Network Service Provider may notify the AER, affected retailers and affected retail customers of a new proposed tariff (a relevant tariff) that is determined otherwise than in accordance with the Distribution Network Service Provider's current tariff structure statement, if both of the following are satisfied:	Section 16 and Attachment 6
6.18.1C(a)(1)	the Distribution Network Service Provider's forecast revenue from the relevant tariff during each regulatory year in which the tariff is to apply is no greater than 0.5 per cent of the Distribution Network Service Provider's annual revenue requirement for that regulatory year (the individual threshold); and	Section 16
6.18.1C(a)(2)	the Distribution Network Service Provider's forecast revenue from the relevant tariff, as well as from all other relevant tariffs, during each regulatory year in which those tariffs are to apply is no greater than one per cent of the Distribution Network Service Provider's annual revenue requirement for that regulatory year (the cumulative amount)	Section 16
6.18.2(b)	**A Pricing Proposal must:**	
6.18.2(b)(2)	set out the proposed tariffs for each tariff class that is specified in the Distribution Network Service Provider's tariff structure statement for the relevant regulatory control period;	Section 2 & Attachment 1
6.18.2(b)(3)	set out, for each proposed tariff, the charging parameters and the elements of service to which each charging parameter relates;	Section 3 & Attachment 1
6.18.2(b)(4)	set out, for each tariff class related to standard control services, the expected weighted average revenue for the relevant regulatory year and also for the current regulatory year;	Section 4
6.18.2(b)(5)	set out the nature of any variation or adjustment to the tariff that could occur during the course of the regulatory year and the basis on which it could occur;	Section 5
6.18.2(b)(6)	set out how designated pricing proposal charges are to be passed on to customers and any adjustments to tariffs resulting from over or under recovery of those charges in the previous regulatory year;	Section 7
6.18.2(b)(6A)	set out how jurisdictional scheme amounts for each approved jurisdictional scheme are to be passed on to customers and any adjustments to tariffs resulting from over or under recovery of those amounts;	Section 6
6.18.2(b)(6B)	describe how each approved jurisdictional scheme that has been amended since the last jurisdictional scheme approval date meets the jurisdictional scheme eligibility criteria;	n/a
6.18.2(b)(7)	demonstrate compliance with the Rules and any applicable distribution determination, including the Distribution Network Service Provider's tariff structure statement for the relevant regulatory control period;	Section 8 and Appendices
6.18.2(b)(7A)	demonstrate how each proposed tariff is consistent with the corresponding indicative pricing levels for the relevant regulatory year as set out in the relevant indicative pricing schedule, or explain any material differences between them; and	Section 11 & Attachment 3
6.18.2(b)(8)	describe the nature and extent of change from the previous regulatory year and demonstrate that the changes comply with the Rules and any applicable distribution determination.	Section 9
6.18.2(c)	The AER must on receipt of a pricing proposal from a Distribution Network Service Provider publish the proposal.	Noted
6.18.2(d)	At the same time as a Distribution Network Service Provider submits a pricing proposal under paragraph (a), the Distribution Network Service Provider must submit to the AER a revised indicative pricing schedule which sets out, for each tariff and for each of the remaining regulatory years of the regulatory control period, the indicative price levels determined in accordance with the Distribution Network Service Provider's tariff structure statement for that regulatory control period and updated so as to take into account that pricing proposal.	Attachment 4 to this pricing Report
6.18.2(e)	Where the Distribution Network Service Provider submits an annual pricing proposal, the revised indicative pricing schedule referred to in paragraph (d) must also set out, for each relevant tariff under clause 6.18.1C, the indicative price levels for that relevant tariff for each of the remaining regulatory years of the regulatory control period, updated so as to take into account that pricing proposal.	Attachment 4 to this pricing Report
6.18.5	**Pricing principles**	
6.18.5(e)	For each tariff class, the revenue expected to be recovered must lie on or between:	

Rule	Relevant requirement	Relevant section
6.18.5(e)(1)	an upper bound representing the stand alone cost of serving the retail customers who belong to that class; and	Section 12
6.18.5(e)(2)	a lower bound representing the avoidable cost of not serving those retail customers.	Section 12
6.18.5(f)	Each tariff must be based on the long run marginal cost of providing the service to which it relates to the retail customers assigned to that tariff with the method of calculating such cost and the manner in which that method is applied to be determined having regard to:	Section 12& TSS
6.18.5(f)(1)	the costs and benefits associated with calculating, implementing and applying that method as proposed;	Section 12 & TSS
6.18.5(f)(2)	the additional costs likely to be associated with meeting demand from retail customers that are assigned to that tariff at times of greatest utilisation of the relevant part of the distribution network; and	Section 12 & TSS
6.18.5(f)(3)	the location of retail customers that are assigned to that tariff and the extent to which costs vary between different locations in the distribution network.	Section 12 & TSS
6.18.5(g)	The revenue expected to be recovered from each tariff must:	
6.18.5(g)(1)	reflect the Distribution Network Service Provider's total efficient costs of serving the retail customers that are assigned to that tariff;	Section 12
6.18.5(g)(2)	when summed with the revenue expected to be received from all other tariffs, permit the Distribution Network Service Provider to recover the expected revenue for the relevant services in accordance with the applicable distribution determination for the Distribution Network Service Provider; and	Section 8
6.18.5(g)(3)	comply with sub-paragraphs (1) and (2) in a way that minimises distortions to the price signals for efficient usage that would result from tariffs that comply with the pricing principle set out in paragraph (f).	Section 8 & 12 & TSS
6.18.5(h)	A Distribution Network Service Provider must consider the impact on retail customers of changes in tariffs from the previous regulatory year and may vary tariffs from those that comply with paragraphs (e) to (g) to the extent the Distribution Network Service Provider considers reasonably necessary having regard to:	Section 10 & TSS
6.18.5(h)(1)	the desirability for tariffs to comply with the pricing principles referred to in paragraphs (f) and (g), albeit after a reasonable period of transition (which may extend over more than one regulatory control period);	Section 12 & TSS
6.18.5(h)(2)	the extent to which retail customers can choose the tariff to which they are assigned; and	Attachment 1a & TSS
6.18.5(h)(3)	the extent to which retail customers are able to mitigate the impact of changes in tariffs through their usage decisions.	TSS

Network Charge Assignment and Reassignment

This chapter sets out our policies and procedures governing assignment or reassignment of Essential Energy's retail customers for direct control services.

Procedures for assigning and reassigning retail customers to customer classes

1 The procedure outlined in this section applies to direct control services.

Assignment of existing customers to customer classes at the commencement of the regulatory control period

2 Essential Energy's customers will be taken to be assigned to the customer class to which they were assigned immediately prior to 1 July 2019, if:

- They were a customer prior to 1 July 2019, and
- Continue to be a customer as at 1 July 2019.

Assignment of new customers to a network charge class during the regulatory control period

3 New connection or a change of occupancy will trigger assignment.

4 For new connections, Essential Energy will use the estimated information collected from the retailer's B2B service order, in conjunction with the system of assessment described here, to assign the new customer to the appropriate network charge.

5 New residential and small business customers connecting to the network, will be assigned to the default cost-reflective network charge relevant to their metering technology.

6 Change of occupancy will lead to assignment to the default cost-reflective network charge where the appropriate metering technology is available at the premises. If the premises do not have a smart or interval meter, the customer will be assigned the network charge that previously existed at the premises. Where a network price change is required in connection with a change of occupancy, the retailer must request a network charge reassignment in accordance with the section on Network charge reassignment procedure below.

7 These customers will have the choice to opt out to an alternative network charge if they satisfy the necessary eligibility requirements.

Reassignment of existing customers to another existing or a new customer class during the regulatory control period

8 Reassignment can be triggered when an existing customer's load, connection and/or metering characteristics have changed such that it is no longer appropriate for that customer to be assigned to the network charge to which the customer is currently assigned. Existing residential and small business customers who:

- upgrade their connection, through installing three-phase power or embedded generation, will be assigned to the default cost-reflective network charge relevant to their metering technology.
- change their meter characteristics with the installation of a smart metering, with no other change to their connection, will be assigned to the default cost-reflective network charge relevant to their metering technology

9 Reassignment can be triggered by Essential Energy or a customer's retailer.

10 Customers may notify their retailer or Essential Energy if they identify that their current assignment is no longer appropriate.

11 If notified by a customer directly, Essential Energy is obliged to investigate, and where it finds the assignment is no longer appropriate, to initiate reassignment. In these instances Essential Energy is obliged to provide all notifications otherwise only sent to the customer's retailer, to both the customer's retailer and the customer directly.

12 In general, customers and customer's retailers may make one application for reassignment in any 12-month period per connection point. Essential Energy will consider exceptions on a case-by-case basis.

13 Whether the customer's retailer or Essential Energy initiates a network charge reassignment, Essential Energy will use the system of assessment described above to reassign the customer to the appropriate network charge.

14 The network charge change being applied from the last actual meter read date. For Smart Meters where daily reads occur, the last meter read date will be taken as the last invoiced meter read date (therefore end of month).

Reassignment triggered by the customer or customer's retailer

15 Customers and the customer's retailer should monitor the suitability of the network charge applied. Where a customer or customer's retailer identifies the existing network charge is not suitable, they must advise Essential Energy of the need for reassignment. Additionally, where it identifies a need for reassignment, Essential Energy can initiate reassignment.

16 Where the customer's retailer requests a network charge reassignment (on its own initiative or at the customer's request):

- the customer's retailer applies in writing by submitting the Supply Service Works Service Order (SSW-SO) for Network Charge Change via the Energy Market B2B processes; or
- if the request requires a metering configuration or update the customer's retailer would need to raise the appropriate B2B service order (Metering Service Works Service Order MSW-SO).

Reassignment triggered by Essential Energy

> Where Essential Energy initiates the network charge reassignment, it will provide a notice to the customer's retailer prior to the actual network charge reassignment. Essential Energy will also advise the customer prior to the assignment if they are a business customer.

> The obligation to notify a customer's retailer does not apply if the customer has agreed with its retailer and Essential Energy that its network charges are to be billed by Essential Energy directly to the retail customer, in which case Essential Energy must notify the customer directly.

Obsolete network charge

17 An obsolete network charge is a network charge that may apply to existing Essential Energy customers but is not available to new customers. Customers who choose to transfer off an obsolete network charge will lose all rights to all obsolete network charges on that premise, therefore the entire site will be required to move onto a currently available network charge. Exceptions apply when customers connect to additional services. Refer to Essential Energy's Network Price List and Explanatory Notes which is available on www.essentialenergy.com.au for further details in relation to obsolete network charge.

18 Customers may not go back onto an obsolete network charge once they have transferred off it.

Energy Saver (Controlled load)

19 Where a customer wishes to change from Energy Saver 1 to Energy Saver 2 (or vice-versa) the customer must notify its retailer.

20 To change Energy Saver network charge, the customer's retailer is required to submit the relevant Metering Service Works (Meter reconfiguration) B2B service order to trigger the necessary meter / relay re-configuration. Once the meter / relay reconfiguration has taken place, Essential Energy will perform the appropriate network charge reassignment without requiring the retailer to submit a SSW-SO.

21 The network charge will be changed as at the date of the Meter reconfiguration (therefore Frequency Injection Relay channel change).

Notifications

22 Essential Energy will notify the customer's retailer in writing of the network charge to which the customer will be assigned or reassigned prior to the network charge assignment or reassignment occurring:

- in the event Essential Energy initiates the network charge reassignment, Essential Energy will notify the customer's retailer in writing prior to the actual network charge reassignment occurring; and
- in the event the customer's retailer initiates the network charge reassignment, Essential Energy will notify the retailer in writing of the success or otherwise of the application. Where the application is not successful or where Essential Energy has decided to assign a network charge other than that proposed by the retailer, Essential Energy will advise the retailer of the reasons for the decision.
- The obligation to notify a customer's retailer does not apply if the customer has agreed with its retailer and Essential Energy that its network charges are to be billed by Essential Energy directly to the retail customer, in which case Essential Energy must notify the customer directly.

23 As part of its notification procedures, Essential Energy will advise the retailer that they can request further information from Essential Energy and that they may object to the network charge reassignment decision made by Essential Energy. Essential Energy will encourage retailers to request further information or clarification of its network charge reassignment decision before an objection is lodged.

24 If, in response to a notice issued in accordance with paragraph 23 above, Essential Energy receives a request for further information from a customer's retailer or customer, then it must provide such information. If any of the information requested is confidential then it is not required to provide that information to the retail customer.

25 The customer's retailer is wholly responsible for conveying the correct information to Essential Energy and communicating any further requests and decisions made by Essential Energy to the customer.

Objections

26 Essential Energy must allow retailers to object to a network charge reassignment decision made by Essential Energy. The objection procedure allows retailer's to formally request a review of the network charge reassignment decision.

27 The following steps will be applied as part of the objection procedure:

(a) Retailers must submit an objection in writing using Essential Energy's Network Charge Reassignment Objection form. Supporting evidence or documentation related to the decision being reviewed must be provided by the retailer. Retailers should make reference to their customer's load, connection and metering characteristics as part of the network charge reassignment objection. The completed form and supporting information and documentation will be emailed to networktariffchange@essentialenergy.com.au.

(b) Essential Energy's Network Pricing Manager must review the objection, including any documentation provided. In reviewing the objection, the Network Pricing Manager must assess if the original decision complies with this Network Charge Assignment and Reassignment policy, Essential Energy's regulatory obligations and must take into consideration any supporting evidence and documentation provided.

(c) Within 20 days of receiving the completed Network Charge Reassignment Objection form, Essential Energy must notify the customer's retailer, and where appropriate the customer, in writing of the outcome of the Network Pricing Manager's review and reasons for accepting or rejecting the objection. If Essential Energy believes the objection review process will take longer than 20 business days, Essential Energy must advise the retailer, and where appropriate the customer, accordingly.

28 If an objection to an assignment or reassignment is upheld:

(a) If the completed objection form is received within 20 business days from the date the retailer was advised of the original network charge reassignment decision, Essential Energy must apply the changes from the last actual meter read date prior to the original network charge reassignment application.

(b) If the completed objection form is received after 20 business days from the date the retailer was advised of the original network charge reassignment decision, Essential Energy must apply the changes from the last actual read date prior to the date the completed objection form is received.

(c) if Essential Energy requests further information from the retailer pertaining to the objection application, and such information is not provided within 20 business days from the date requested, Essential Energy must apply the changes following a subsequently successful objection from the last actual read date prior to the date the additional requested information is received.

29 Any adjustment to network charges billed to retailers, or directly to customers, because of upholding an objection to an assignment or reassignment, Essential Energy must do as part of the normal billing process, including of any compensation relating to the time value of money.

30 If an objection to a network charge class assignment or reassignment is upheld, then any adjustment which needs to be made to network charge levels will be done by Essential Energy as part of the next annual review of prices.

If any objection is not satisfactorily resolved under Essential Energy's internal review procedure within a reasonable timeframe, then to the extent that the matter relates to a small retail customer and resolution of such disputes are within the jurisdiction of the Energy and Water Ombudsman NSW (EWON) the retail customer is entitled to escalate the matter to the EWON.

31 If the objection is not resolved to the satisfaction of the retail customer under Essential Energy's internal review procedure or EWON processes, then the retail customer is entitled to seek a decision of the AER via the dispute resolution process available under Part 10 of the NEL

Alternative Control Services

Alternative control services are those that are provided by distributors to specific customers. They do not form part of the distribution use of system revenue allowance provided in the Determination. As these services are provided to specific customers, we recover the costs of providing alternative control services through a selection of fees, most of which are charged on a 'user pays' basis.

Public Lighting

Public lighting continues to be classified as an alternative control service in this regulatory control period.

Public lighting prices are set in accordance with the Determination and a full listing of public lighting charges is provided as Attachment 2a Public Lighting Price List.

Ancillary Network Services

Ancillary network services (ANS) are non-routine services distributors provide to individual customers on an 'as needs' basis. ANS may be a 'fee-based service' for tasks that are performed routinely and are based on a labour rate and a set time to perform the task, or a 'quoted service' which are once-off and specific to a customer's request. The cost of these services will depend on the actual time taken to perform the service, however with the hourly rate set, the longer it takes the distributor to perform the service, the more the customer will pay.

ANS fees for 2022-23 are in accordance with the Determination and rates are provided in Attachment 2b Ancillary Network Services (ANS) Price List. No new fees are being introduced.

Type 5 and 6 metering charges

The AER classified type 5 and 6 metering services as alternative control services from 1 July 2015. The control mechanism for alternative control metering services is a cap on the prices of individual services. This means that the costs relating to the provision and maintenance of type 5 and 6 meters have been removed from standard control services and will be recovered through a separate metering charge.

The AER's Determination approves two types of metering service charges:

- Upfront capital charge (for all new and upgraded meters installed from 1 July 2015)
- Annual charge comprising of two components:
  - capital—metering asset base (MAB) recovery
  - non-capital—operating expenditure and tax.

The metering charges for 2022-23 are in accordance with the Determination and rates are provided in Attachment 2c Schedule of Metering Services.

Due to rounding, there may be some discrepancies between the historical approved ACS prices and those presented in the ACS pricing model.

Tariff Trials

Essential Energy is utilising clause 6.18.1C of the Rules to introduce sub-threshold tariffs for the *Low voltage - Residential and Small Business* customer class and in the *Low voltage – Large Business customer class* in the 2022-23 year.

- Four different tariff components will be trialled in a number of ways across small business and residential customers, in conjunction with three retail partners.
- We are looking to trial a tariff for batteries connected directly to our network where there is no additional load behind the meter.
- We are investigating alternative cost-reflective tariff structures for large customers who have seasonal peaky loads. This trial aims to develop tariffs to remove the constraints that our current monthly demand tariff structure has on the operations of these businesses.

  The exact structure(s) for these tariff(s) is yet to be confirmed, but Essential Energy will keep the AER, retailers and customers informed of the trials through the 2022-23 and subsequent years pricing proposals and any other forms of communication that the AER determines appropriate.

  In addition, the business has already been engaging with retailers and customers in designing the tariffs to trial. This engagement will continue in the lead up to the trials. More information on the possible tariff structures can be found in Attachment 6 – Letter to the AER outlining the intended use of sub-threshold tariffs.

All trials will take place within the Essential Energy footprint and are expected to begin from 1 July. Expected revenues from the tariffs have been included in the 2022-23 pricing proposal.

Compliance with 6.18.2C

The amount of revenue expected to be recovered from sub-threshold tariffs in total is $1,031,790 which is less than the five percent of the annual revenue requirement allowed in clause 6.18.1C (a)(2) of the Rules. In addition, The revenue from each trial does not exceed the one percent of annual revenue requirement allowed per clause 6.18.1C (a)(1) of the Rules.

Given the trials will continue through to the end of the current regulatory period (30 June 2024), any over or under-recovery of revenues from the trials in the 2022-23 year will be trued up in the setting of prices in the FY23 and FY24 years.

Table 18 shows how the proposed DUoS revenue from each trial tariff, and the total of all trial tariffs, meet the sub threshold limits as set out in section 6.18.2C of the Rules.

Table 16: Expected 2022-23 revenue from tariff trials

		$'000
Revenue requirement 2022-23		**$1,030,949.76**
Subthreshold total tariffs	5 per cent	$51,547.49
Subthreshold per tariff	1 per cent	$10,309.50
Sun soaker Residential		$309.96
Sun soaker Small Business		$110.74
Export charge		$1.818.65
Critical Peak Rebate		-$450.00
Critical Peak Charge		$250.00
Grid scale battery		$203.154
Peaky load large business		$406.31
Total Trial Tariffs		**$1,031.79**

Alignment with TSS strategy

As part of the 2019-24 TSS, Essential Energy committed to undertaking tariff trials to determine customers' response and the associated bill impacts. Trial evidence will help with gaining customer and stakeholder support for changes to customer tariffs.

These tariff trials align with the tariff strategy and pricing principles outlined in Essential Energy's 2019-24 TSS[2]. The electricity industry is undergoing rapid change driven by changes in the way customers source and use energy, the push to decarbonise energy supply, and the increased decentralisation of the energy supply chain. Tariff trials are essential to the business successfully designing and testing network charges that recognise the characteristics of both our network and our customers, now and for the foreseeable future.

In particular, Essential Energy's 2019-24 TSS specifically identified several factors to encourage the adoption of more cost-reflective network charges including the need for education, collaboration, trials and technology[3], all of which feature within the proposed tariff trials.

Essential Energy is committed to keeping the AER, retailers and customers informed of the project and progress of these tariff trials.

Tariff trial design principles

As part of Essential Energy's co-design engagement to date, the principles that should shape network tariff design were devised and agreed with customers and stakeholders. These principles are shown (in descending order of importance) in Table 16 and will be considered in selecting the composition of the final tariffs to trial.

Table 17: Principles for network tariff design

Principle	This means
AVOID BILL SHOCK	Tariffs minimise the risk of bill shock for customers (especially vulnerable customers)
EASY TO UNDERSTAND	Tariffs are relatively simple to interpret
FAIR	Customers pay their fair share of network costs (cost-reflective)
INTEGRATE RENEWABLES AND NEW TECHNOLOGIES	Tariffs accommodate changing technology, energy flows and greener customer choices
EFFECTIVE	Tariffs do the job - they solve network issues and do not create new ones

[2] Attachment 1 Tariff Structure Explanatory Statement, Essential Energy, January 2019, p. 3 & 4

[3] *Ibid* p.4

The network problems tariffs can 'solve'

Before embarking on the tariff trials journey, Essential Energy determined the network problems that tariffs can help solve. These are shown in Table 17 and are encompassed within the 'Effective' tariff trial design principle shown above.

The trials will allow the business to test whether providing customers the opportunity to benefit (from lower bills) delivers sufficient behavioural response to alleviate these network problems, such that network investment is deferred (or even avoided).

Table 18: Network problems that tariffs could solve

	Network problem	Tariff solution
1.	Improve network utilisation	Reward customers for shifting their demand to other times of the day
2.	Peak demand issues (thermal constraints)	Reward customers for reducing demand at peak times
3.	Voltage and thermal constraints caused by solar exports	Use tariffs to signal to customers to: > stop exporting > increase their demand; or > receive payment to provide support services to the network
4.	Customer's DER is not efficiently utilised	Reward DER customers for providing network support
5.	The level of replacement capex will increase customer prices	> Consider semi-locational tariffs like urban/rural, climatic zones or nodal pricing > Transition uneconomic customers to SAPS solutions with efficient SAPS pricing (out of scope for Tariff Trials project)

Additional information about the residential and small business customer tariff trials project

This project encompasses four phases:

> The first stage of the project involved working with customers and stakeholders to agree the principles for designing new tariffs and co-design acceptable tariffs to trial.

> The second phase involved working with retailers, technology partners, university researchers and behavioural economists to design the scope of the trials, determine the success measurements, recruit customers, install any relevant technologies and develop the business processes to bring the trials to 'go live'.

> The third phase will involve the on-going monitoring and reporting of the trials. This phase will run from the 'go live' date through to the end of the current regulatory period, 30 June 2024.

> The fourth phase entails analysing the trial data and using the results to inform tariffs for consultation with customers and stakeholders as part of the TSS for Essential Energy's 2024-29 regulatory period.

Essential Energy will measure the customer response as the trials progress. Should the desired response not be observed, the prices of the respective tariff components will be refined. The goal is to use the trials to derive the optimum price point for the various tariff components that delivers the desired response to 'solve' the network problems.

In addition, a further trial of simple consumption messages to minimise network impacts (and costs) and information about interpreting appliance energy consumption and how customers can change their behaviour to lower their electricity bill will also be undertaken.

The intention is to determine the level of behavioural change that can be achieved through simple messaging and education alone. The results, of which, will be measured using smart meter data via a desktop study.

Modification History

Version	Date	Description
1	31/03/2022	Original version
2	28/04/2022	Update LRMC values in table 15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