Electricity Distribution Business Pricing Methodology Effective from 1 April 2021

26 February 2021

Summary of our prices from 1 April 2021

Purpose

This document describes Electra Limited's approach to setting electricity distribution prices that will apply from 1 April 2021. The revenue we earn from these charges enables us to safely and reliably build, operate and maintain an electricity network to serve electricity customers in the Horowhenua and Kapiti Coast region.

Electricity distribution prices are likely to evolve over the next five to ten years

The use of Electric Vehicles and distributed energy resources (DER) such as solar photovoltaic generation and battery storage, is increasing. We endeavour to ensure that the operation of our network, and the services that we provide (and the prices we charge for those services), are appropriate to meet the needs of customers.

It is important that prices reflect the benefits and impacts of EV and DER connected in customers premises, together with how they interact with the network and new operational technologies. In the face of these changes, we anticipate there will be an adjustment to consumption patterns and investment decisions by both customers and distribution businesses. Accordingly, there will be adjustments in price options to deliver cost-reflective and service-oriented prices.

Electra expects to receive a positive benefit from the completion of two major roading projects inside our region – Peka Peka to Otaki and Transmission Gully. These roading projects are expected to greatly improve travel times in and out of Wellington and surrounding areas with a prediction this could encourage people to relocate out of Wellington into our region. As larger households move into the region, we anticipate the benefit of increased average consumption plus new ICP connections. It is also expected that heavy transport travel times will reduce across the region and as a result we may see additional industry relocating here.

We will continue to evolve our pricing as technology and customers behaviours change. Electra used this approach in the 2020/21 pricing year; utilising different methods to engage both retailer and customers through a blended media campaign, which was conducted by utilising printed media, radio, and digital marketing channels (Facebook, Stuff, TradeMe and Google) and being locally accessible, for example, by exhibiting at the Levin AP&I show.

For the 2020/21 pricing year we modelled our pricing, focussing on Time of Use (ToU). As a result, we saw a large movement to ToU pricing with the expectation that the pricing signal would be presented to end customers in some form. Unfortunately, this has not had the intended effect, with evidence showing that a significant portion of ToU customers are not seeing the benefits of ToU pricing in their bills or are unable to access a ToU Network pricing plan.

From November 2020 we have attempted to mitigate the effects of this via our 'Money for Jam' media campaign. This looked to ensure customers are aware of the Electra pricing schedule as well as being informed of the tools available (e.g., powerswitch.co.nz) to select an optimum electricity pricing plan. The campaign will evolve to provide further information to customers to enable informed decisions on how to use electricity at the lowest cost time of day, understanding their electricity bill and ways to save energy.

Accordingly, we have developed a pricing strategy to guide the development of our electricity distribution prices over the coming years. In summary, our pricing strategy is:

- Electra will progressively introduce service-oriented and cost-reflective price changes to fairly recover the full cost of the network from all customers that use the network

- Our pricing strategy includes key actions (presented in Section 3.3) and Electra-specific pricing principles (presented in Section 3.2) to guide the implementation of the strategy

- Our pricing strategy has a near-term focus on achieving greater cost-reflective, service-oriented pricing, which we believe will provide the foundation to manage the impact of the growth in alternative energy sources and seeks to insure correct allocation of costs across customer groups

The changes to our prices from 1 April 2021 continue this evolution

Our prices that apply from 1 April 2021 include a number of changes that are consistent with our pricing strategy. Key changes to our prices for this coming year are set out in Table 1 below.

Table 1: Changes to our prices to apply from 1 April 2021

Change	Impact on customers
Refined time of use balancing	No major impacts.
Added draft capacity charging for Standard and Industrial	Added kVA capacity charging price optional. $0.00 rating. It is intended that Electra will refine this over time but initial added to signal interest to add where needed
Added new UML code	Removed the variable UML kWh price from under veranda lighting – this is now a single fixed cost

The new prices that apply from 1 April 2021 are set out in table 2. We have included the 2020/21 prices for comparison purposes.

Our pricing methodology complies with the regulatory requirements

We have reviewed our pricing methodology against the relevant regulatory requirements, and having considered the nature of our network and the practical evolution of our prices to manage disruptive change for customers, we are comfortable that our approach complies with:

- The Electricity Authority's pricing principles
- The Electricity (Low Fixed Charges Price Options for Domestic Customers) Regulations 2004 (LFC Regulations)
- The Electricity Industry Participation Code, Part 6 - pricing of Distributed Generation
- The Electricity Industry Participation Code, Part 12A - Default distributor agreement / distributor use-of-system agreements and distributor prices

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Response to Covid-19

This has been a challenging year with the global effects of Covid-19 impacting our people, customers, and business operation. Electra responded quickly by adapting work practices to safely deliver the essential services and AMP programme.

The Covid-19 pandemic which affected many businesses, had little impact on the maximum demand (MD) of our zone substations with the exception of Shannon where MD reduced slightly from 4.6 MVA (2019) to 4.2 MVA (2020); Levin East's reduction was negligible that is – from 14.1 MVA (2019) to 14.0 MVA (2020).

It is anticipated that Customer demands will further evolve over the coming years with an increase in home study/working and subsequent adjustment to load profiles across the network.

Sustainability

Electra is committed to supporting NZ's sustainability goals.

Electra is committed to support the Governments reduction in emissions to meet obligations under the Paris Climate Agreement. The company will seek opportunities to help decarbonise New Zealand by transitioning energy users in our region from fossil fuels to electricity.

It is our view that decarbonisation activities will be directly benefited by Electra's approach to capacity management and network growth. We see any spare network capacity as an asset that will prove to be critical in supporting activities such as the electrification of transport and the removal of carbon-based process heat, which we model to increase network volumes in the future.

Our pricing is created with the aim to support New Zealand's goal of being Carbon neutral. This includes providing pricing plans for export charging and electric vehicle tariffs. The Time of Use (ToU) pricing encourages customers to shift load to times where we have greater capacity and therefore avoids unnecessary construction of the distribution network. This focus is also reflected in the annual Asset Management Plan that is supporting disruptive technologies such as Distributed Energy Resources and greater electric vehicles. Electra continues to participate in local and national working groups (Climate Change Commission, NZ Battery Project and EV Connect) that also support opportunities to decarbonise.

Electra also has a volunteer Sustainability action group made up of employees from all parts of our organisation who provide guidance for our sustainability activities.

Our prices that apply from 1 April 2021

Table 2: Electra's electricity distribution prices to apply from 1 April 2021

Price				**2021/2022**	**2020/2021**
Fixed Prices	Low User	F	$/day	0.1500	0.1500
	Low user TOU	TF	$/day	0.1500	0.1500
	Low User TOU EV	TEVF	$/day	0.1500	0.1500
	Medium User	AF	$/day	0.9000	0.9000
	Medium user TOU	XTF	$/day	0.9000	0.9000
	Medium user TOU EV	XTEVF	$/day	0.9000	0.9000
	Standard	S	$/day	1.8012	1.8012
	Lighting	LGT	$/Fitting/Day	0.2200	-
Variable Rates	Low User	A	$/kWh	0.1236	0.1199
		C	$/kWh	0.1118	0.1085
		DN	$/kWh	0.0372	0.0361
		DD	$/kWh	0.1516	0.1471
		M	$/kWh	0.0644	0.0625
		N	$/kWh	0.0248	0.0241
		B	$/kWh	0.0372	0.0361
	Low user TOU	TN	$/kWh	0.0448	0.0435
		TP	$/kWh	0.1347	0.1307
		TO	$/kWh	0.0898	0.0871
		M	$/kWh	0.0644	0.0625
		N	$/kWh	0.0248	0.0241
		B	$/kWh	0.0372	0.0361
	Low User TOU EV	TEVN	$/kWh	0.0285	0.0277
		TEVP	$/kWh	0.1347	0.1307
		TEVO	$/kWh	0.0898	0.0871
		TEVM	$/kWh	0.0644	0.0625
	Medium User	AA	$/kWh	0.0894	0.0857
		MAA	$/kWh	0.0302	0.0283
	Medium user TOU	XTN	$/kWh	0.0286	0.0276
		XTP	$/kWh	0.0857	0.0830
		XTO	$/kWh	0.0573	0.0555
		XTM	$/kWh	0.0230	0.0223
		XN	$/kWh		-

		XB	$/kWh		-
	Medium user TOU EV	XTEVN	$/kWh	0.0123	0.0115
		XTEVP	$/kWh	0.0857	0.0830
		XTEVO	$/kWh	0.0573	0.0555
		XTEVM	$/kWh	0.0242	0.0223
	Standard	SN	$/kWh	0.0245	0.0238
		SP	$/kWh	0.0737	0.0716
		SO	$/kWh	0.0492	0.0477
		SCAP	$kVA/Day	-	0.0000

Power Factor Premium

This applies to commercial customers. Where the power factor is less than 0.95, Electra reserves the right to impose a power factor premium. The premium will be based on a multiplier of 2% of the monthly total Network price for every 0.01 power factor below 0.95 lagging.

All Inclusive Option

The All-Inclusive option is no longer available except to existing users. Existing users must have electric hot water which (if required) is able to be controlled by Electra, plus either a Night or Night Boost meter.

Time of Use Option

We now have available time of use plans for both low users and medium users with Controlled hot water

Export

For those who are generating electricity on their premises and exporting some or all of this into Electra's distribution network.

EV

ICP with an Electric Vehicle (EV) registered at the ICP’s physical address.

Capacity Charging on Standard (Industrial)

Capacity Charging only applicable to Standard (Industrial) and optionally applied.

This applies to instances where infrastructure is deployed to support occasional high peak demand and is not adequately covered by average variable charges.

Content

1. About Electra

1.1 What we do

Across the network, Electra delivers around 416 Gigawatt hours (GWh) of electricity each year from the national grid to approximately 45,500 customers. The energy we deliver is sold to customers via Retailers licensed to operate on Electra's network.

Electra is owned by customers in Horowhenua Kapiti through the Electra Trust, which appoints Directors and holds all the shares on behalf of the customers connected to the network.

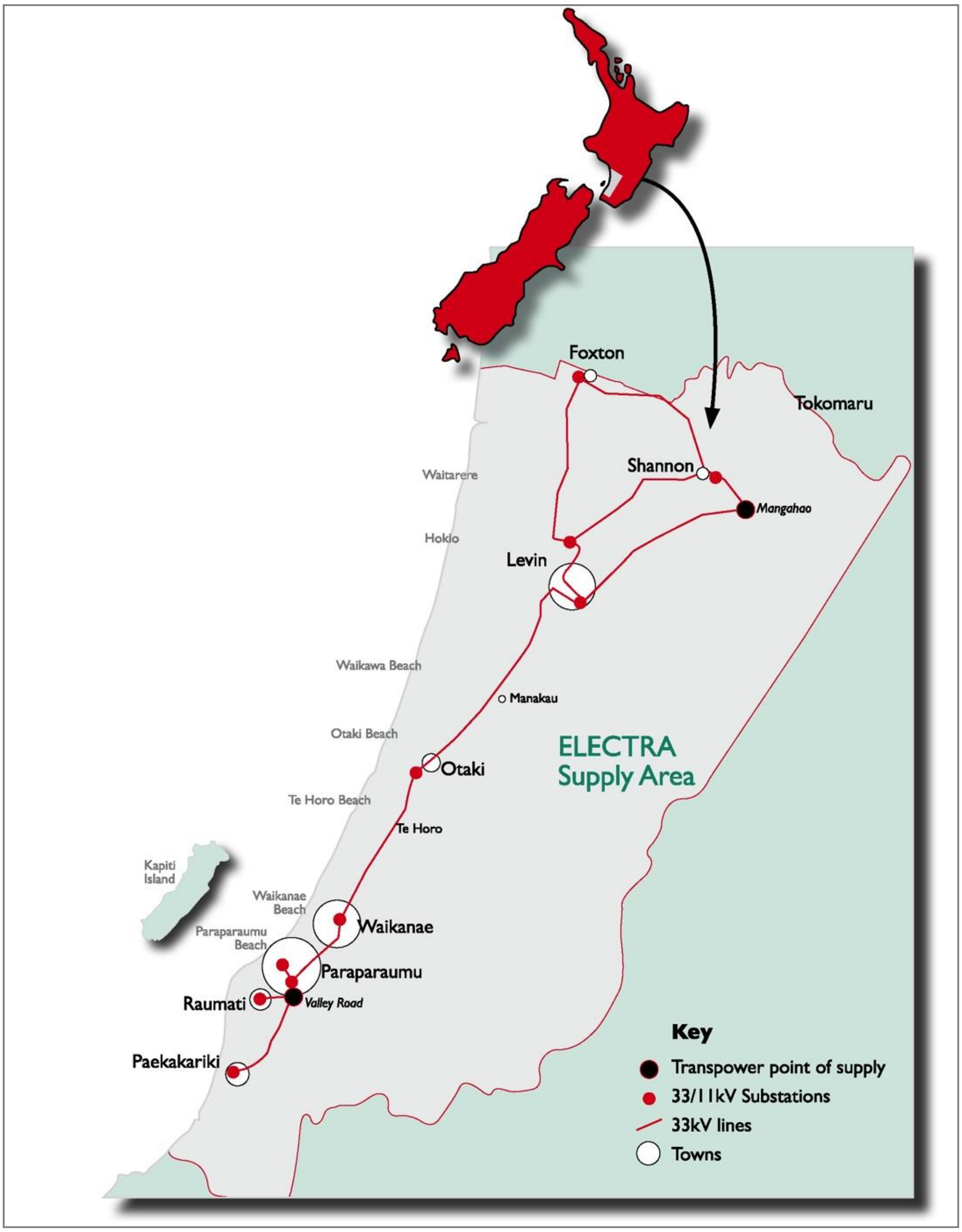


Figure 1: Electra's network supply area

1.2 About our network

We supply a geographic area of around 1700 square kilometres via our distribution network concentrated along the coast connecting urban and rural communities, businesses, and homes from Paekakariki to Foxton.

We receive electricity at 33 kV from the national grid via two Transpower Grid Exit Points ("GXPs"). Our northern area (Horowhenua) connects to the Mangahao GXP, the southern area (Kapiti) connects to Paraparaumu GXP. While there is no continuous connection between these GXPs, Electra's network accommodates a choice of points for the north-south split and is treated as one network for pricing purposes.

Our 33kV sub-transmission network supplies a series of 33/11kV zone substations located at population centres across the region. From these zone substations, 11kV distribution feeders reach out into the neighbouring communities where electricity is reduced to 400V through distribution transformers and reticulated throughout neighbourhoods and to rural customers. Almost all customers are connected to this low voltage network though a very small number of large customers are supplied at 11kV.

Overlaying the electricity network, Electra's control systems monitor and manage the integrity of the network, assisting our operations and field staff to build, maintain and, when necessary conduct emergency work.

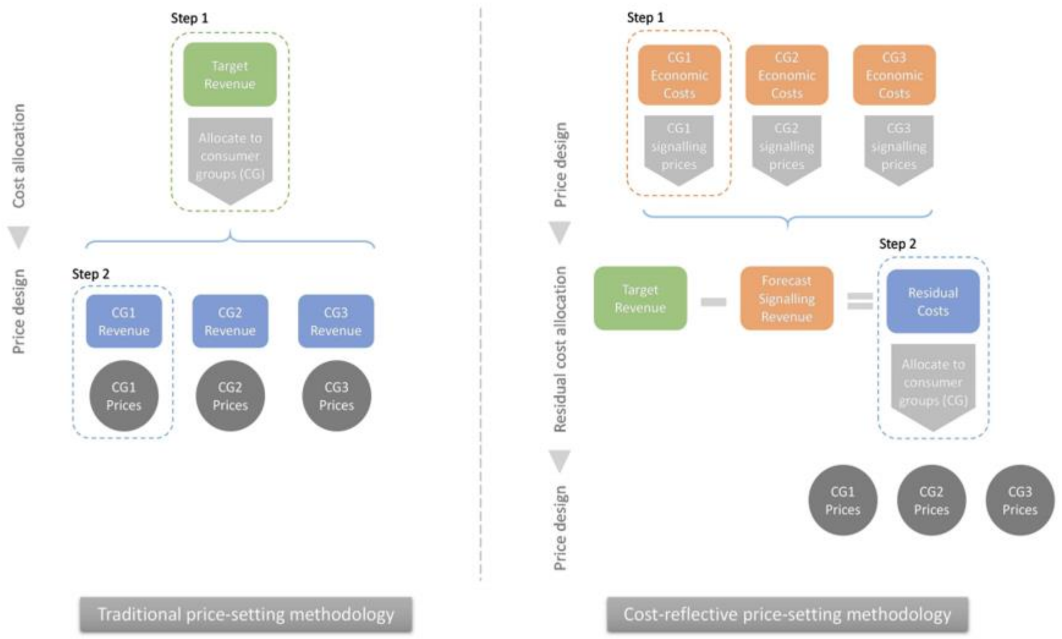
Each year in April our Asset Management Plan updates a 10-year forward view of the work we are planning on the network to continue to provide a safe and reliable supply of electricity. This work programme (together with Transpower charges) is a key influence on our prices over time.

2. How we set our prices

2.1 Approach to setting prices

Each year we review and set the prices we charge for the use of the electricity network. This is a cyclic approach and is illustrated in 1, as Electra is on a journey to cost-reflective price-setting we use a combination of both methodologies.

Figure 2 : Price-Setting Methodologies



Our pricing review process comprises the following key steps:

- **Reviewing and implementing our pricing strategy:** to guide the evolution of our customer groups and price options (refer to Section 3)
- **Determine target revenue:** to be recovered through prices (refer to Section 4)
- **Apportion the target revenue to customer groups:** We review and confirm our customer groups and allocate the target revenue to the customer groups (refer to Section 5)
- **Reviewing price options and design:** We review and confirm the price options to be applied to each customer group (see Section 6)
- **Setting prices and assessing the impact on customers:** We calculate charges under each price option and assess the impact of any changes on customers (see section 7)
- **Publishing and monitoring:** Publish our pricing methodology on our website and monitor the interaction of prices with consumption

2.2 Customers and Regulation

As a customer owned distribution business, Electra is incentivised to deliver an efficient and reliable service to its customers. This was formally recognised in 2008 when Electra was exempted from price and quality regulations applying to electricity distribution networks under Part 4 of the Commerce Act 1986, as administered by the Commerce Commission.

While exempt from regulated price and quality control, we are subject to regulatory oversight in the form of information disclosure regulation. In addition to informing our customers of how we set our prices, this document also supports the requirements of the Commerce Commission's Information Disclosure Determination. As part of these requirements, it describes the extent to which our pricing methodology is consistent with the Electricity Authority's distribution pricing principles (see Appendix One). These principles provide guidance on economic concepts and market considerations, which are applicable for setting efficient network prices.

We also comply with the following regulations that affect pricing:

- The Electricity (Low Fixed Charges Price Options for Domestic Customers) Regulations 2004 (LFC Regulations): These require Electra to offer a price option to domestic customers at their principal place of residence that has a fixed daily price not exceeding 15 cents
- The Electricity Industry Participation Code, Part 6 - pricing of Distributed Generation. Any charges applying to Distributed Generation (DG) connections must not exceed the incremental costs of connecting this DG to the network, including any avoided costs
- The Electricity Industry Participation Code, Part 12A: We must consult with Retailers on any changes to pricing structures

- During our yearly price setting activities, we review how load control activities have impacted the costs passed onto Customers from Transpower (RCPD). We use this to dynamically monitor our Hot Water load control during winter peaks. This enables Electra to balance price control and customers service obligations in a way that meets our customers and regulatory commitment. Customers feedback received indicates that customers are happy to accept load control in return for a financial benefit. COVID-19 and changes in Customers usage behaviours is being monitored closely to ensure Customers continue to receive benefit from the option. Customers have been consulted on their views on Reliability and desire to support a pricing structure that offers a change in reliability vs cost, feedback received is that Customer demand the same reliability levels at the same or lower costs.

3. Our pricing strategy

3.1 Context: Electricity use and delivery options will continue to change

Over the past 10 years energy consumption per customer has been declining as improvements in buildings and appliances require less energy to deliver the comforts and conveniences for customers. This is true internationally as well as throughout New Zealand.

Technological innovation and the adoption of new products for networks and customers will improve reliability, customers service and customers convenience.

Adding complexity, are evolving standards and codes for new types of connections to networks and customers installations such as batteries and Electric Vehicle (EV) chargers, Electra classes both solar, solar with batteries and electric vehicles as Distributed Energy Resources (DER).

The use of DER is increasing, albeit from a very low base. At approximately 639 generation connections in Electra's network this represents 1.40% of all customers and an installed capacity of 2.3 MW (excluding the Mangahao hydro station).

The Electricity Authority promotes the provision of cost reflective distribution price options. Electra supports this initiative and together with other Distribution Businesses via the Electricity Networks Association, have been liaising with Retailers to develop common approaches to make cost reflective distribution pricing available and visible to end customers within the overall retail price options.

We acknowledge that the government has signalled a plan for the gradual removal of Low Fixed Charge regulations. Electra will start planning for these changes in the coming pricing year but acknowledge that no timeframe has been set for their removal. When the LFC rules are changed Electra expects to make a shift to increased cost recovery via Fixed charges.

3.2 Pricing principles

In the above context we have developed four pricing principles that we will use to guide the development of Electra's pricing strategy and the implementation of pricing changes over the coming years.

(a) Prices are to signal the economic costs of service provision, including by:
   i. being subsidy free (equal to or greater than avoidable costs, and less than or equal to standalone costs);
   ii. reflecting the impacts of network use on economic costs;
   iii. reflecting differences in network service provided to (or by) customers; and
   iv. encouraging efficient network alternatives.

(b) Where prices that signal economic costs would under-recover target revenues, the shortfall should be made up by prices that least distort network use.

(c) Prices should be responsive to the requirements and circumstances of end users by allowing negotiation to:
   i. reflect the economic value of services; and
   ii. enable price/quality trade-offs.

(d) Development of prices should be transparent and have regard to transaction costs, customer impacts, and uptake incentives

3.3 We have developed our pricing strategy to guide the evolution of our prices

Our distribution pricing strategy flows from the context of change and efficient pricing principles described in the two previous sections. Our strategy is formed to guide the evolution of our prices in a manner that:

- Implements Electra's pricing principles
- Is consistent with Electra's corporate pricing objectives
- Responds to the external issues; namely the uptake of distributed energy resources and technologies that deliver improved customers experience
- Is cognisant of industry initiatives to develop common pricing structures to aid implementation
- Ensures that our targeted returns are in line with other comparable line businesses

Balancing these factors will enable Electra to evolve its prices to respond and adjust to anticipated changes in electricity production, exchange, and consumption, while continuing to deliver a high level of service to customers within the evolving regulatory framework.

Electra's Pricing Roadmap

Electra will continue to progressively introduce service-oriented and cost-reflective pricing that fairly recovers the full cost of the network from all customers that use the network via the fixed charges as much as possible.

To achieve this strategy, for the 2021 / 2022 price year Electra has:

1. Balanced ToU price modelling
2. Added options for capacity-based pricing for Standard & Industrial.
3. Improved costing for UML.

And will:

4. Consolidate closed price options and consider developing further non LFC / energy bundles, principally for domestic customers.
5. Update the cost of supply model and commensurately adjust the long run marginal cost for the network.

To develop plans to:

6. Continue to transparently explain Electra's service-oriented prices.
7. Consult on making ToU plans default.
8. Accommodate managed distributed energy resources.
9. Simplify available price options.
10. Continue to improve consultation on pricing.
11. Review the need for Winter / Summer pricing options.
12. Review zero-dollar rate solar feed in price
13. Review eligibility criteria for non-standard dwellings e.g., 'Holiday Homes'

3.4 Electra Pricing Roadmap

Pricing Roadmap. April 2021

2021	2022	2023	2024	2024
• Signal 2022 changes • Charge for ICP status 01 1,2,3,4,5,7,8,9,11 • Signal enforcement of one price change in 12-month period • Review ToU setting – signal any changes • Changes to UML costs methodology • Signal future consultation on ToU as default plan	• Signal 2023 changes • Signal consultation on small generation export charge for DG • Capacity charging update • Opportunity to for improved cost recovery from fixed(1) • Review ToU settings – signal any changes	• Signal 2024 changes • Review Small generation export charge for DG • Result of consultation on TOU retailer billing • Improved cost recovery from fixed • Review ToU setting – signal any changes • Signal planed changes in response to TPM(2)	• Signal 2025 changes • Review small export charge for DG • Improved cost recovery from fixed • Review ToU setting – signal any changes	• Signal 2026 changes • Review small export charge for DG • Improved cost recovery from fixed • Review ToU setting – signal any changes

3.5 Pricing strategy is consistent with Electra's Statement of Corporate Intent

Electra's pricing strategy must be consistent with the Statement of Corporate Intent (SCI) that defines the overall direction and performance expectations for Electra. We developed a series of corporate pricing objectives (refer to Appendix Two for further details) based on the SCI.

3.6 Implications for prices in subsequent years

The key changes that could be seen in subsequent years are:

- The adjusted price options developed from a cost of supply model, which will include an assessment of our long-run marginal cost
- We expect to progressively increase our cost recovery to fixed components, consequently we expect to see a reduction in variable prices over time
- Improve the attractiveness of time-of-use price options for customers who can shift their peak demand to periods when the grid and generation has greater available capacity
- Capacity charge component for large customers
- Reduction in total control price options
- Target non-zero export price from 2022/23 year – this is to primarily support planned solar farm projects not connected directly to load
- Signal ToU plans to be mandated for all Smart Metering – Electra has one of the highest penetration of smart meters, we expect that all retailers by 2022/23 pricing year will be able to support both ToU retail and network billing

4. The amount of revenue we need to operate the electricity distribution network

4.1 Target revenue requirement for 2021/22

We determined our target revenue requirement from our Asset Management Plan and our budgeting process. The target revenue is the amount of money we require to safely and reliably provide an electricity network service to all electricity customers in the Horowhenua and Kapiti Coast regions. The target revenue provides funding for our operating costs, a return to our customer owners, and capital for reinvestment into the network.

Our estimate of target revenue for the 2021/22 financial year is set out in Table 3 alongside the 2020/21 target revenue, which is provided for comparison purposes.

Table 1: Target revenue requirement

Component of target revenue	2020/21 Forecast $M	2021/22 Plan $M	Change (%) from Forecast
Transmission charges	8.6	8.8	2.4%
Operating and maintenance	4.9	5	2%
Administration and overheads	7.6	8.9	17.1%
Depreciation, Disposal & Interest	9.6	9.2	-4.2%
Distribution Sales Revenue	41.3	41.4	-0.2%
Other Sales	3.1	3.5	12.9%
Total Revenue	**44.4**	**44.9**	1.1%

The components of target revenue are discussed below.

4.2 Transmission charges

Our target revenue (and hence our prices) includes the charges we pay Transpower for transmission services, and the avoided cost of transmission that we pay some local generators.

Transmission services relate to the transportation of electricity from the electricity generators (e.g., the hydro power stations, geothermal power stations and wind farms) to the Mangahao and Paraparaumu GXPs that supply Electra's electricity network.

The transmission charge component of the target revenue includes the following Transpower-related charges:

- Interconnection Charges: based on Electra's relative contribution to Regional Coincident Peak Demand (RCPD) in the Lower North Island region of the transmission grid
- Connection Charges: for the provision of connection assets at the two GXPs from which Electra receives supply from the grid
- New Investment Agreement Charges: in relation to new connection assets

Transpower also calculates a losses and constraints excess and returns this to distributors over the pricing year. As these are not known at the time of setting prices, Electra estimates the amount on an annual basis and includes this credit in the transmission revenue requirement.

In relation to the avoided cost of transmission included in the target revenue, Electra is responsible for paying all transmission charges associated with the Mangahao GXP. There is a generating station located at Mangahao and it reduces the demand placed on the transmission network (it reduces the RCPD at the GXP) and therefore reduces the total charges payable to Transpower for transmission services. In recognition for this service, we pay the Mangahao power station a share of the savings (i.e., the avoided cost of transmission). We also retain some of these savings, which is a benefit to the customers on the Electra network.

Transpower's charges have increased for 2021/22. We have seen an increase in costs at Valley Road GXP related to Interconnection charges. This is largely driven by being unable to reduce our contribution to RCPD events during winter 2020. Electra believes that the impact of Covid-19 on working from home arrangements contributed to this. Electra is optimising its load control algorithm to help reduce our demand during the winter peak demand periods on Transpower's network.

4.3 Operating and maintenance costs

The operating and maintenance costs included in the target revenue are obtained from Electra's Asset Management Plan (AMP) forecasts. The AMP specifies, in some detail, our plans for the maintenance and development of the network and includes the forecast cost for these activities. Operating and maintenance costs have increased in 2022 as a result of continually refining our planned maintenance programme.

4.4 Administration and overheads costs

Administration and overhead costs are incurred in running the distribution business activities of Electra. These costs are driven by our requirement to manage the non-engineering aspects of the business, which includes customers management, regulatory management, finance, information systems, general management, governance, regulatory compliance, and industry levies. We obtain these costs from our AMP. Administration and overhead costs have increased materially as we seek to further deliver network resilience projects, reduce energy losses, develop price options for emerging energy technologies and to drive improved customers service from our smart grid technologies (e.g., ADMS). To deliver these projects we see an increase in headcount and related information technology costs as Electra continues to look at ‘Cloud first’ for any solution.

4.5 Depreciation

Depreciation reflects the “return of capital” from the consumption of economic life of the network assets. This charge is a standard calculation of depreciation and is based on the useful economic life of the assets. As our network is constantly being renewed and replaced, an equivalent amount of capital investment is applied to the network. The extent of these capital projects is shown in our AMP. Depreciation for 2022 is consistent with 2021. As a result of increases to Electra’s asset base which drives higher depreciation offset by the recognition of disposals that result from planned renewal projects.

4.6 Earnings Before Discount & Tax

Earnings before discount and tax are forecast to be higher than expected for 2021, due to higher-than-expected consumption volumes and lower overhead and administration costs. In 2022 this is expected to hold steady as a result of target Distribution Sales Revenue in line with forecast and the additional resourcing and IT costs as set out above.

5. Allocation of target revenue to customer groups

5.1 Customer groups

The basis for the customer groupings we have adopted in our 2021/22 pricing methodology is unchanged from last year. We have three primary customer groups, with one transitional customer group:

Table 2: Customer groups

Customer group	Definition
Small customers	Customers using less than 25,000kWh per annum (including medium residential)
Medium customers	Customers using between 25,000kWh and 40,000kWh per annum
Large customers	Customers with time-of-use ("TOU") meters or using more than 40,000kWh per annum
Lighting	Streetlighting and community lighting

We established the three primary customer groups as part of our 2013 pricing review. We have reviewed these customer groups during our most recent pricing strategy review and consider that they remain unchanged in the current phase of our pricing road map.

Street lighting and community lighting is a separate customer group. This recognises that these connections use dedicated assets (i.e., streetlight circuits) and have unique demand profiles (i.e., at night).

There are no non-standard customer groups (i.e., defined as applying to less than four connections) connected to the network.

5.2 Customer considerations

Customer ownership

Electra is owned by its customers through the Electra Trust. Once sufficient earnings net of expenses has been achieved, Electra aims to provide a discount to customer electricity bills.

Customer feedback

Each year we undertake a survey of our customers in order to better understand their views on prices, quality of supply, and consumption patterns. We surveyed 300 customers (both residential and commercial). As we complete this version of the Pricing Methodology, preliminary indications from this year's survey are: Customer feedback included:

Table 3: Customer survey results

% of respondents that	Customers type	2015	2017	2018	2019	2020
Provides a reliable electricity supply	Overall	94%	93%	90%	93%	96%
	Domestic	NS	95%	91%	93%	97%
	Commercial	NS	90%	88%	94%	96%
Fixes fault quickly	Overall	76%	75%	72%	66%	96%
	Domestic	NS	78%	75%	68%	NS
	Commercial	NS	69%	67%	62%	NS

NS: Not Separated

The survey highlighted an increasing requirement from Customers to receive up to date information on outages. How long the power outage will be and when it will be back on. The reliance on a reliable electricity supply has grown with Customers reporting that they are spending more time working and studying at home. 28% of the Respondents are already working from home on a regular basis.

The survey reconfirmed an increasing use of energy efficient products, which is expected to continue to exert downward pressure on consumption. In the short-term, falling consumption means variable prices per kWh will increase in order to recover our annual target revenue.

The survey also highlighted a growing interest from customers in alternative forms of energy with 10% of respondents indicating they had installed solar photovoltaic (“PV”) supply and 22% suggesting they were considering purchasing a system. The installation of PV creates both commercial and operational challenges and opportunities for the network. In addition to PV’s there is significant interest in purchasing an EV, 42% of respondents suggested they were considering an EV instead of an ICE vehicle. 10% of the respondents having already purchased an EV.

Specific activities undertaken during 2020 were aimed at better engagement with Customers. During our attendance at the Levin AP & I show Customers informed us that they valued the high reliability of the distribution network and the service experience they received from the company. They also urged restraint in any planned price increases. It is worth noting that Electra attended this event in conjunction with Customer NZ who provided their services to assist attendees to find the best energy offering via the Powerswitch.co.nz website retailer comparison tool.

Accordingly, our new technology focus seeks to integrate smart technology on the network, in homes and businesses, in our operational systems and in our engagement with our customers. This year, Electra will progress this initiative by investigating the development of price options that assist Customers to better manage their energy use and costs.

5.3 Cost drivers

Overview of network attributes that influence cost drivers

We have considered the relevant drivers of costs that we are seeking to recover, in order to inform our decisions on customer groupings, price structures, and the level of charges.

Our costs are associated with investing in, maintaining, and operating the network together with the costs of taking supply from Transpower's network. The remaining costs are associated with general management and administration. The key cost drivers relevant to setting prices are therefore weighted heavily towards investment in, and operation of, the network.

Key network attributes that influence the quantity of assets and their associated operating costs are:

- The capacity of the network (measured in kVA)
- The length of circuit required to supply customers (measured in kms)
- The number of customer connections (measured in ICPs)
- Customer-specific asset use
- Reliability expectations

Table 4: Key network attributes

Network attribute	Value
Customer numbers (no.)	45,192
Total circuit length (km)	2,323
Customer density (ICPs/km)	19.45
Zone substation installed firm capacity (MVA)	352
Maximum demand (MW)	101
Energy delivered to ICPs (GWh)	450
Energy density (kWh/ICP)	9,957

Source: 2021/22 Asset Management Plan

Network capacity

Our network is designed and operated to meet forecast electricity maximum demand up to the level of installed firm capacity, and to provide a level of service (i.e., reliability) consistent with customers' expectations. As maximum demand reaches installed firm capacity limits, we must consider further investments in network capacity or DER to meet demand. Customer demand is therefore a key driver of existing and future distribution costs.

However, as can be seen in Table 7 above, Electra's network maximum demand of 101 MW is well below the zone substation installed capacity of 352 MW. This broad measure indicates that the network is not constrained at its key nodes, more specifically, forecast constraints at 11kV distribution and 400V reticulation are addressed as set out in our AMP.

Circuit length

The length of circuit required to transmit electricity from the GXP to customers is a key driver of network investment costs. Customers who are further from the main supply areas create relatively higher costs for Electra. However, in comparison to other NZ networks, Electra's is relatively compact and ongoing meshing of the distribution network in urban centres and rural areas makes it difficult to distinguish line length for a particular customer or group of customers (due to the difficulty in tracking electrical flows). While customers density decreases towards the edge of the network, the majority of network length is shared across our entire customers base.

Customer connections

New connections, and upgrades to connections, drive asset-related and maintenance costs. Electra's network extension policy requires customers to pay for connection-related asset costs upfront. Each new connection also incrementally increases costs of network operations and planning, fault restoration, maintenance, and general administration.

Customer-specific asset usage

Where practical, the network costs that directly relate to a particular customer or group of customers are identified and recovered from those parties. This aligns recovery of costs with the beneficiary of those assets. Street lighting and community lighting is a customer group that has specific assets identifiable and allocated to that group.

In 2013 we considered whether customer-specific asset use could be better reflected in our pricing methodology. In particular, the use of high and low voltage assets and dedicated equipment (i.e., transformers) was considered. We concluded that there is very little variation in asset utilisation within our customer base (e.g., less than 0.01% of customers directly connect to 11kV feeders). However, this is beginning to change. To reflect this change, we are introducing a zero-rated capacity charge for the S price category that will increase in the future to reflect the costs of dedicated equipment. For those customers that require dedicated equipment, this had generally been dealt with as part of our network extension policy, rather than through pricing. In the future the network extension policy and pricing will be used in combination to have more cost reflective pricing and asset allocation.

5.4 Allocation of costs (i.e. target revenue) to customer groups and price options

Summary of our approach to allocating costs to customer groups

Consistent with the preceding discussion in Section 5.3, the allocators we apply to allocate costs to customer groups in our cost of supply model are as follows:

Table 5: Allocators applied in cost allocation model

Budget item	Choose from list
Transmission Charges	CMD
Inspections & Maintenance	CMD
Employee Expenses	ICPs
ICT Expenses	ICPs
Other Expenses	ICPs
Insurance	CMD
Compliance Costs	ICPs
Director Fees	ICPs
Depreciation/Gain loss on sale	CMD
Interest	CMD
Discount	Consumption
Tax	CMD
Profits	CMD

6. Price options and design

6.1 Price changes

- Introduction of simple capacity charging, this will however be costed at $0.000 as Electra begins modelling for this price option and only applies to the Standard & Industrial price category
- Introduced new under veranda lighting options – it is expected that this will replace our existing CM and will carry on variable kWh charges
- Further detail is included in section 7.1

6.2 Price options for 2021/22

Table 6: Electra's price options

Name	Description	Code	Price component		Unit of measure
<u>Small customers</u>					
Fixed Price - General	Daily fixed charge applicable to non-Time of Use customers	F	n/a		dollar/day
Uncontrolled	A standard price for using electricity at any time of the day. Can be used in conjunction with ToU price options.	A	n/a		dollar/kWh
Controlled 20	A price which customers may choose for hot water heating (and for other uses) on the basis that supply is able to be interrupted in return for a lower price. Electra is able to switch off load for up to 4 hours each day under this price	M	n/a		dollar/kWh
All Inclusive	Closed	C	n/a		dollar/kWh
Night	A night rate between 23:00 and 7:00 reflecting the large amount of available capacity on the network at this time. Designed for hot water, storage heating or under floor heating loads. Uncontrolled rates apply outside of these times. This does not function as a standalone option and must be used in conjunction with another price option	N	Night only	2300-0700	dollar/kWh
Night Boost	As for Night with the addition of an afternoon heating boost	B	Night	2300-0700	dollar/kWh
			Day	1300-1600	dollar/kWh
Day/Night	For continuous electricity supply at two time of use prices: a night time rate set for the 10 hours between 21:00 and 7:00; and a peak-rate during the day	DN	Night	2100-0700	dollar/kWh
		DD	Day	0700-2100	dollar/kWh
Export	For those that are generating electricity and exporting some or all of this. For monitoring purposes only	EX	n/a		dollar/kWh
Time of Use – low user	A three rate (peak, off-peak and night) time-of-use option available to all customers with the ability to move load or otherwise take advantage of price signals	TEVN	Night	2300-0700	dollar/kWh
		TEVPP	Peak	0700-1100	dollar/kWh
				1700-2100	dollar/kWh
		TEVO		1100-1700	dollar/kWh

			Off peak	2100-2300	Dollar/kWh
Fixed Price – Low User ToU	Daily fixed charge applicable to small customers	TF	n/a		dollar/day
Time of Use EV Low user	A three rate (peak, off-peak and night) time-of-use option available to all customers with the ability to move load or otherwise take advantage of price signals	TEVN	Night	2300-0700	dollar/kWh
		TEVPP	Peak	0700-1100	dollar/kWh
				1700-2100	dollar/kWh
		TEVO	Off peak	1100-1700	dollar/kWh
				2100-2300	dollar/kWh
Fixed Price – Low User EVToU	Daily fixed charge applicable to small customers	TEVF	n/a		dollar/day
	Medium Residential customers				
Medium Residential	A price for using electricity at any time of the day. Paired with AF this has a lower charge for energy that offers cost savings for customers using more than 8,000 kWh / year. AA+AF may only be bundled with M(AA) Control 20	AA	n/a		dollar/kWh
Fixed Price – Medium Residential	Daily fixed charge applicable to non-Time of Use customers using above 8,000 kWh / year	AF	n/a		dollar/day
Time of Use – Medium Residential	A three rate (peak, off-peak and night) time-of-use option available to residential customers that offers cost savings for customers using more than 8,000 kWh / year. It is particularly suitable for customers that can move load to Off peak and Night periods or take advantage of price signals. Paired with XTF the XT series prices may not be bundled with any other price option	XTN	Night	2300-0700	dollar/kWh
		XTP	Peak	0700-1100	dollar/kWh
				1700-2100	dollar/kWh
		XTO	Off peak	1100-1700	dollar/kWh
				2100-2300	dollar/kWh
Fixed Price – Medium Residential ToU	Daily fixed charge applicable to Time of Use residential customers using above 8,000 kWh / year	XTF	n/a		dollar/day
Time of Use – Medium User EV	A three rate (peak, off-peak and night) time-of-use option available to residential customers that offers cost savings for customers using more than 8,000 kWh / year. It is for customers that have electric vehicle that charges and is registered at the address and a that can move \ EV load to off-peak periods. Paired with XTF the XTEV series prices may not be bundled with any other price option	XTEVN	Night	2300-0700	dollar/kWh
		XTEVP	Peak	0700-1100	dollar/kWh
				1700-2100	dollar/kWh
		XTEVO	Off peak	1100-1700	dollar/kWh
				2100-2300	dollar/kWh

Fixed – Medium User EV	Daily fixed charge applicable to Time of Use residential customers using above 8,000 kWh / year	XTEVF	n/a		dollar/day
Controlled 20 Medium User	A price which customers may choose for hot water heating (and for other uses) on the basis that supply is able to be interrupted in return for a lower price. Electra is able to switch off load for up to 4 hours each day under this price	XTM MAA	n/a	cents/kWh	
<u>Large customers</u>					
Standard	A three rate (peak, off-peak and night) TOU option which differs from the Time of Use price by higher fixed and lower variable charges. It is targeted at larger commercial customers by rewarding those able to move load away from peak, or otherwise take advantage of price signals	SN	Night	2300-0700	dollar/kWh
		SP	Peak	0700-1100	dollar/kWh
				1700-2100	dollar/kWh
		SO	Off peak	1100-1700	dollar/kWh
				2100-2300	dollar/kWh
Standard Capacity	Related to the size of an ICPs connection and related equipment needed for its energy demand. Chargeable Capacity multiplier is maintained in the registry. The chargeable capacity from the registry is multiplied by the price from the price schedule to determine the daily cost.	SCAP	n/a		kVA/dollar/day
Fixed Price - Standard Option	Daily fixed charge applicable to customers on the standard pricing option	S	n/a		dollar/day
<u>Street lighting and Community lighting</u>					
Street Lighting	Connection and management of streetlights.	U	Timetable		dollar/kWh
Community Lighting	For connection and management of community lighting (e.g., sports fields)	U	Timetable		dollar/kWh
Community Lighting Maintenance	This is a new price to recover the costs of maintaining community lighting (which was previously included in the community lighting network price)	CM	Each Fitting		dollar/day
Lighting	All current under veranda lighting	LGT	Each Fitting		dollar/day

6.3 Discussion on price option design

<u>Overall price design elements</u>

Electra's prices are focussed towards the mass market (small and medium customer group) because the customer base is dominated by small loads. Domestic and small commercial users represent approximately 98% of connections and over 80% of consumption. As a result, Electra has the lowest average use per connection of all New Zealand electricity distribution businesses (approximately 9,288 kWh per customer compared to the industry average of more than 16,000 kWh per customer).

Mass market connections are low voltage, typically 60 Amp single phase or 40 Amp three phase. These customers have a typical residential demand profile which peaks in the morning and early evening.

Our pricing must also cater for large commercial loads. In contrast to the mass market, most large commercial loads have time-of-use metering, and much higher levels of annual consumption (ranging from 40,000 kWh to more than 3 GWh). They also have distinct demand behaviours: ranging from flat demand across the standard working day, to variable by time of day and season. From a cost driver perspective, large customers have higher capacity connections and utilise a greater proportion of the installed network capacity relative to the average mass market connection.

All price groups are charged a variable price and a fixed daily charge. Fixed charges and variable prices are separated between distribution and transmission components, which seek to recover distribution and transmission costs, respectively.

Specific prices in the small, medium, and large customer groups incorporate signals which enable customers to achieve lower overall cost of supply by moving their consumption to off-peak periods and to offer interruptible load. This aligns our pricing incentives to the cost of network capacity and capacity utilisation, specifically targets are reducing Electra exposure to Transpower's Regional Coincidence Peak Demand pricing (RCPD).

Each price option has been specified to achieve certain objectives. While we are mindful that retail price bundling may dilute distribution price signals, we recognise the customer's choice will be influenced by the attractiveness of the Retailer's overall bundle. In this context we will continue to survey our connected customers, transparently present our price options and work with industry participants to help provide clear cost reflective distribution pricing signals to customers.

Variable charge components

A variable price based on kWh consumption is applied to all price groups. The evolution of our AA and XT price groups to include control continues to offer lower energy charges for residential customers while recovering a greater proportion of our fixed costs through a higher daily charge. Electra will continue to evolve its pricing to recover cost via its fixed components. Together with our LFC price options Electra now offers a broader mix of options that:

- Aligns with existing retail pricing structures
- Aligns with the LFC regulations
- Introduces options that have daily charges more closely reflecting the fixed costs of an EDB which is also aligned with the Electricity Authority's cost reflective pricing initiative

Time of use charge components

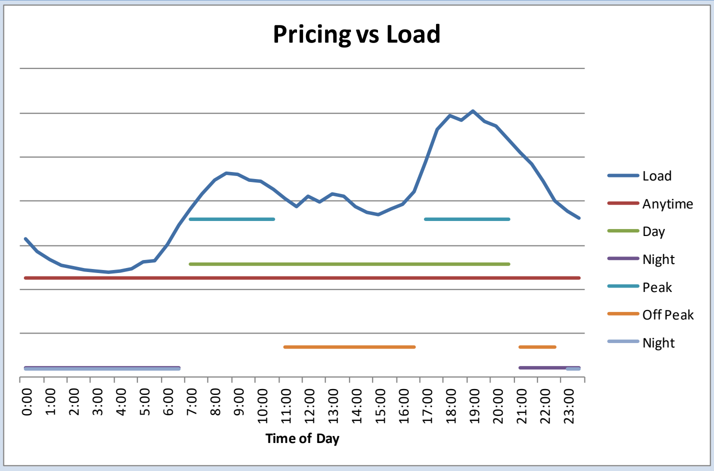
Several of our price options are designed to incentivise efficient use of our existing network capacity by setting higher variable prices at peak periods and lower prices during the shoulders and off-peak periods.

With the introduction of an Electric Vehicle time of use option for customers, Electra is signalling that residential users with high amounts of discretionary load can benefit from technologies that enable the load to be managed outside of peak times. Electra will be exploring this further over the coming 12 months.

Figure 3 illustrates our time of use price options, usage periods, and how these pricing periods align to our typical daily load profile.

Figure 3: ToU periods and typical daily load profile

Price	Time-of-use Periods
Night	• Off-peak rate from 2300-0700 • Other times charged at the Managed Saver or Combined rates
Night Boost	• Off-peak rate from 2300-0700 • Boost from 1300-1600 • Other times charged at the Managed Saver or Combined rates
Night/Day	• Night rate from 2100-0700 • Day rate from 0700-2100
Time of Use Standard	• Night rate from 2300-0700 • Peak rate from 0700-1100 & 1700-2100 • Off-peak rates from 1100-1700 and 2100-2300



Controlled load price option

Controlled load price options are also offered, such as the Controlled 20 or All-Inclusive price options. These allow us to disconnect load for up to four hours a day, typically during times of high demand or in order to allow us to restore network faults.

A variable charge is levied on street lighting and community lighting customers. This recognises network capacity use as well as the use of dedicated assets such as street lighting circuits and poles.

Other customers are charged under the Uncontrolled price option (often in combination with controlled load price options). Approximately 50% of customers have an Uncontrolled connection. The Uncontrolled price option recognises that these customers are able to use the network at any time up to the capacity of their connection.

Electra expect to review the amount of total control price options we have available over the next 12 – 24 months with a view of simplifying.

Fixed charge components

A fixed daily charge is applied to all customers. We consider that our fixed charge options appropriately recognise:

- Investments in existing network capacity
- Connection cost drivers
- Our need for revenue stability
- The LFC regulations
- The Electricity Authority's cost reflective pricing initiative

Transmission charges

Electra on-charges Transpower's costs. Fixed and variable transmission prices are set to recover transmission costs using forecasts of consumption and connections. This accommodates the different charges relating to off-peak and peak pricing.

Power factor charges

We reserve the option to apply an additional charge where a commercial customer has a power factor materially below 0.95 lagging. The charge will be based on a multiplier of 2% of the monthly total network charges for every 0.01 power factor below 0.95 lagging. This charge allows us to signal the need for improvements in power factors with the ultimate goal of avoiding unnecessary network reinforcement.

Distributed Generation (DG) price option

Electra has a small number of DG sites connected to its network (1% of connections). All but six of these are small sites (less than 10kW) which are connected at 400V. We use standard charging for import meters and do not charge for distributing exported energy. We have introduced an export price, which would potentially enable us to do this. Currently, it is set at zero cents per kWh. This has been introduced to help us monitor the uptake of DG on the network.

We currently do not make direct payments to DG for the avoided cost of transmission or distribution as it is not practical to do so. Avoided costs are recognised by not charging generators for injection into the network. We believe this approach is consistent with the incremental cost pricing principle under Part 6 of the Electricity Industry Participation Code.

The Mangahao power station near Shannon is notionally embedded for transmission purposes. We are responsible for paying all connection charges associated with the Mangahao GXP, but our customers share in the avoided Transpower charges that result from the generator reducing peak grid demand at this GXP. ACOT is therefore implicitly recognised in this arrangement.
As of November 2020 Electra has consented one solar farm and knows of another two2 looking to be built within the network. We are keeping across the progress of these projects.

6.4 Non-standard pricing

We currently do not have any non-standard pricing arrangements. We will assess any requests for non-standard pricing as required.

6.5 Network extensions policy

In addition to distribution prices, customers are required to fully fund the cost of their own connection assets, at the time of connection. Connection assets include additional 11kV and 400V power lines, cables and transformers required to provide the electrical load and quality of supply sought by customers. Where these assets are vested with Electra, we will pay for the ongoing maintenance and operation of the assets. We may also provide a refund to customers where the required asset upgrade exceeds the customer’s requirements.

Distribution prices do not seek to recover connection costs paid for by customers under our network extension policy. Further information on our network extension policy can be found on our website at: https://electra.co.nz/our-company/disclosures/

7. Setting prices for 2021/22

7.1 Changes included in the 2021/22 prices

Overall, Electra's prices have increased mainly driven by Transpower costs and will result in an increase of about 2.5% to most customer bills.

In the 2020/21 year we saw a large switch to Time of Use (ToU) based pricing options. This has allowed Electra to gain better insight of customer behaviours related to ToU signals. Because of this improved data we have been able to improve alignment of ToU pricing to support this behaviour.

We have introduced a capacity pricing charge to the Standard & Industrial price category(S). Initially, the capacity charge has zero charge ($0.00/kVA), this is intended to signal that Electra will implement capacity (kVA) based pricing in the future once the analysis and modelling work is complete. The capacity charge relates to the size of an ICPs connection and related equipment needed for its energy demand. This charge covers the cost of the assets involved in supplying electricity. The Chargeable capacity will be maintained in the Chargeable Capacity field of the registry. The Chargeable Capacity from the registry will be multiplied by the price from the price schedule to determine the daily cost.

To simplify Electra's under veranda lights, other Unmetered Load (UML) and fitting costs, we propose to introduce a new cost structure for these with the daily cost fixed to include both UML and fitting maintenance charge. This is in response to the increased replacement activity from fluorescent lights to new LED fittings.

7.2 Impact of the changes in prices for 2021/22

Table 7 sets out our prices and the proportion of the target revenue forecast to be recovered from each price option in the 2021/22 pricing year.

Table 7: Summary of target allocation in prices

Category	Target Cost Allocation	
Low User	$	22,096,105
Low User TOU	$	9,073,307
Low User TOU EV	$	3,336
Medium User	$	556,051
Medium User TOU	$	4,163,598
Medium User TOU EV	$	2,861
Standard	$	5,482,619

Appendix One: Consistency with the Electricity Authority's pricing principles

Pricing principle	(a) Prices are to signal the economic costs of service provision, including by: (i) being subsidy free (equal to or greater than avoidable costs, and less than or equal to standalone costs);
Compliance	This principle requires that prices are subsidy free where they fall within the range of incremental cost and stand-alone cost, as illustrated by the following equation. Incremental Cost ≤ Prices ≤ Stand Alone Cost **<u>Incremental Cost</u>** Our prices are close to the average cost for typical customers in each customers class, Average cost encompasses all costs incurred on the network. Incremental cost means the additional cost incurred in connecting one more customer to the network. This is likely to comprise connection costs, any costs associated with reinforcing the network in relation to that connection, as well as additional administration, operating and maintenance costs. Our network is largely unconstrained, and the incremental costs of connecting customers to the network would be limited in general to administration and operation and maintenance costs. These costs are a subset of the total cost, therefore the average cost is greater than the incremental cost. **<u>Standalone cost</u>** The standalone cost means the cost to provide services to a customer (or group of customers) on a standalone basis, either from a standalone network or alternative energy supply. The standalone cost depends on the location of the customer relative to the GXP. We estimate that a constant load greater than 5MW and closer than 2km to a GXP would be required to make bypass cheaper than our existing prices. The annualised cost of this would be in the order of $100,000. The standalone costs for smaller customers would be significant due to the infrastructure required to transform and transport electricity from 33kV (at the GXP) to 400V to enable supply to a customer. Small customers, who are our typical customers, face standalone costs far in excess of the prices paid. **<u>Rural/urban cross-subsidy</u>** A cross-subsidy could potentially arise from not explicitly recognising circuit length as a cost driver in prices. The only discernible cross-subsidy that is likely to arise in relation to circuit length is between rural and urban customers, as rural customers have a longer circuit length than urban customers, and there is higher connection density in urban areas, leading to urban customers subsidising rural customers. We do not consider disaggregating rural and urban customers for pricing purposes is beneficial for the following reasons: • Rural circuits, poles, and equipment are also used by urban customers as electricity may flow through sub-transmission and distribution circuits to urban centres due to the interrelated nature of our network • Our network area is relatively compact so rural areas are close to urban areas, so there is not a significant distance between rural and urban locations, minimising the difference in circuit length

	• Service quality is not differentiated by location. Network reliability standards are based on the aggregated load for all customers supplied by the relevant section of the network. Fault response times are similar for rural and urban connections because all connections are located within 30 minutes' drive from both depots • The Electricity Industry Act 2010 includes provisions for regulations to be applied to distributors that would limit price increases in rural areas. We have chosen to limit prices (and price increases) for rural customers customers by not differentiating between urban and rural customers customers.
Pricing principle	**(ii) reflecting the impacts of network use on economic costs;**
Compliance	We group customers into small, medium, and large customer groups because they use service capacity differently. For example, the load profiles of small customers customers are mainly morning and evening peak, while medium and large (industrial loads) are flatter. Lighting is also a separate customer group in recognition of the specific demand profile of this group (predominately night). The Electra Network is relatively unconstrained (as can be seen by the low level of system development capex included in our Asset Management Plan). Hence, presently we do not need to signal the economic cost of the available service by way of scarcity pricing or other such pricing mechanisms. We use differential prices for peak/off-peak and day/night loads to provide customers with signals in relation to periods of peak demand that are likely to drive costs over the long-term, as well influence the overall networks cost of transmission. Similarly, our controlled tariff option rewards customers that offer up interruptible load, leading to lower prices for controlled customers customers and lower costs for the entire network where we can lower our peak charges. We have considered more detailed work to calculate our long run marginal cost, though this work is not a priority due to the unconstrained nature of the Electra Network, and the implication of a low long-run marginal cost. However, we have introduced two new price groupings that recover a larger proportion of distribution costs through higher daily charges, while to the extent practical we are also using time of use energy prices to signal the costs of meeting peak demand and to encourage customers to consider the benefits of moving demand away from peak periods.
Pricing principle	**(iii) reflecting differences in network service provided to (or by) customers; and**
Compliance	We have no non-standard pricing arrangements. In reality, the nature of our network and customer base does not allow for differences in the level of quality, hence there is no justification for non-standard terms. To the extent practical, requests for specific levels of service (e.g., the provision of dedicated equipment) are typically dealt with under our Network Extension Policy. This policy gives customers the discretion to select the assets and hence quality of supply that meet their requirements, with incremental asset costs met by the beneficiary. We recover the cost of maintaining the asset through our normal revenue stream.

Pricing principle	**(iv) encouraging efficient network alternatives.**
Compliance	Distributed Generation ("DG") is not charged for distribution services. This encourages connection of DG, consistent with Part 6 of the Electricity Industry Participation Code. However, we will continue to review the impact of DG uptake on the network through the Export price option. The GXP sharing arrangement with the Mangahao hydro scheme, which is notionally embedded in our network, acknowledges this plant as a transmission alternative. In return, our customers share in transmission cost savings arising from local generation. This contractual arrangement is an example of a transmission alternative that lowers prices to customers.
Pricing principle	**(b) Where prices that signal economic costs would under-recover target revenues, the shortfall should be made up by prices that least distort network use.**
Compliance	Refer (a) (ii) above
Pricing principle	**(c) Prices should be responsive to the requirements and circumstances of end users by allowing negotiation to:** **(i) reflect the economic value of services; and**
Compliance	We remain open to discussing alternative pricing arrangements with large customers that are presented with bypass opportunities. Our pricing methodology combined with the nature of our customer base has not resulted in any uneconomic bypass of the network. We estimate that a constant load greater than 5MW and closer than 2km to a GXP would be required to make bypass cheaper than our existing prices. We do not have any connections which meet these criteria. At that level of load, system bypass would not only be economic but probably appropriate for the customer .
Pricing principle	**(ii) enable price/quality trade-offs.**
Compliance	Our Controlled 20, Night, and Night Boost price options provide incentives to customers to invest in night store equipment and controllable hot water cylinders. This effectively provides for a customer demand response that reduces usage during times of network congestion.
Pricing principle	**(d) Development of prices should be transparent and have regard to transaction costs, customer impacts, and uptake incentives**
Compliance	Our relatively simple price options ensure low transaction costs for all. We have a preference for simple price options which minimises retailer transaction costs. All Retailers operating on Electra's network pay the same prices. All customers are able to remain on their current price option or choose another more suited to their needs. Annual price changes are assessed for likely customer impact, and introduction of new tariffs are assessed for numbers of customers that may change.

Appendix Two: Electra pricing objectives

Introduction

The emergence of alternative energy sources, changes in customer demands, and an increased regulatory interest in pricing issues, has led to a renewed focus on electricity line pricing. This increased focus has led Electra to undertake a strategic review of distribution line pricing arrangements with a view to developing a long-term line pricing strategy.

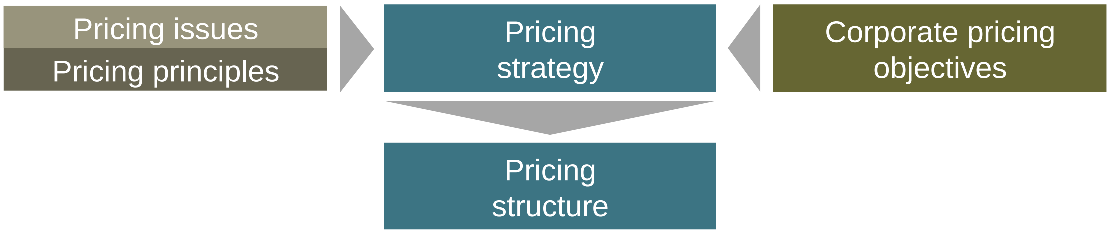


Figure 6: Drivers of the pricing strategy and pricing structure

Corporate pricing objectives

Electra's Statement of Corporate Intent ("SCI") defines the overall direction and performance expectations for the Electra Network. For the SCI we have developed a series of corporate pricing objectives. These are statements that we believe the pricing strategy needs to be "tested" against to ensure that it will satisfy Electra's corporate objectives.

	Corporate pricing objective	Supports Electra with….
Efficiency objectives	1. Price structure should be consistent with the long-life assets and the long period over which Electra will recover its costs	Delivering sustainable returns over the long-term
Efficiency objectives	2. Electra's prices should encourage the efficient use of, and Electra's efficient investment in, the network	Improving efficiency and maintaining competitiveness
Efficiency objectives	3. Prices should not impede the implementation of new technology	Facilitating innovation that improves efficiency
Fairness objectives	4. Price changes should consider the impact of large (upward and downward) short-term variations in the charges seen by individual customers or classes of customers	Fairness to customers
Fairness objectives	5. For each class of customer, prices should fairly reflect costs of providing the service to those customers	Fairness to customers
Fairness objectives	6. Prices should change gradually over time	Fairness to customers
	7. The pricing structure shall comply with relevant legal and regulatory requirements	Being a good corporate citizen

Figure 7: Proposed corporate pricing objectives

Appendix Three: Glossary

We have sought to present our pricing methodology using standard industry terminology and to include sufficient information to enable pricing decisions to be readily understood by customers. This glossary is provided for the convenience of the reader.

Term	Meaning
2019/20	The year starting 1 April 2019 and ending on 31 March 2020.
2020/21	The year starting 1 April 2020 and ending on 31 March 2021.
2021/22	The year starting 1 April 2021 and ending on 31 March 2022.
ACOT	Avoided Cost of Transmission: The difference between actual transmission costs and theoretical transmission costs if certain mitigation (e.g., Distributed Generation) is not present.
AMP	Asset Management Plan: A record of the company's plans to manage the network to provide a specified level of service.
Chargeable Capacity	Relates to the size of an ICPs connection and related equipment needed for its energy demand. This charge covers the cost of the assets involved in supplying electricity.
Coincident Maximum Demand (CMD):	Relative demand (kW or kVA) of a particular customer or customer group at the GXP system peak (i.e., as measured by system maximum demand).
Commerce Commission (ComCom)	Responsible for the economic regulation of electricity distribution businesses as provided for under Part 4 of the Commerce Act 1986.
Electricity Authority (EA)	Responsible for regulation of the electricity market as provided for under the Electricity Industry Act 2010.
GXP	Grid Exit Point: The point at which Electra's network is deemed to connect to Transpower's transmission network.
ICP	"ICP" means an installation control point being one of the following: (a) a Point of Connection at which a Customer's Installation is connected to the Network; (b) a Point of Connection between the Network and an embedded network; (c) a Point of Connection between the Network and shared Unmetered Load.
Information Disclosure Determination	As set out in the Commerce Commission's Electricity Distribution Information Disclosure Determination 2012, issued 1 October 2012 (Decision No. NZCC22).
kVA	Kilo Volt-Amp: Measure of apparent electrical power usage at a point in time.
kWh	Kilowatt hours: Measure of real electrical power usage per hour.
Low fixed charge regulations	As set out in the Electricity (Low Fixed Price Option for Domestic Customers) Regulations 2004. These require Electra to make a price option available for domestic customers at their principal place of residence. Prices must be set such that the fixed daily charge does not exceed 15 cents (excl GST) and customers should be no worse off under this price option at 8,000 kWh relative to other prices.
Power Factor	The ratio of real power (e.g., kW) to apparent power (e.g., kVA). 0.98 is considered normal on our network.

RCPD	Regional Coincident Peak Demand: Transpower calculates its interconnection charge for each GXP by its relative share of RCPD.
Sub-transmission	A power line that transports or delivers electricity at 33 kV on Electra’s network.
System Maximum Demand	Aggregate peak demand for the network, being the coincident maximum sum of GXP demand and embedded generation output.
Target revenue requirement	The revenue to be recovered through prices over the pricing year in order to recover Electra’s costs of investing in and operating the network.
ToU	Time of Use: Refers to price options that rely on meters that measure consumption by time of use.
Transpower	Transpower New Zealand Limited: The owner and operator of the national electricity transmission network. Transpower delivers electricity from generators to distribution networks and large direct connect customers around the country.
EV	Electric Vehicle – this includes any vehicle that can be driven entirely by battery and is an NZTA registered BEV or PHEV within Electra’s Network
Retailer	Electricity Retailer that Electra supplies