



**Pricing Methodology and  
Compliance with Pricing  
Principles**

**1 April 2012**

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## 1. Glossary

Electra has sought to develop its pricing methodology using standard industry terminology and including sufficient information to enable pricing decisions to be readily understood by consumers. This glossary is provided for the convenience of the reader.

<b>AMP</b>	Asset Management Plan: A record of the company's plans to manage the network to provide a specified level of service.
<b>Coincident Maximum Demand (CMD):</b>	Relative demand (typically expressed in kW or kVA) of a particular consumer or consumer group at the GXP system peak (i.e. as measured by system maximum demand).
<b>Commerce Commission</b>	Responsible for the economic regulation of electricity distribution businesses as provided for under Part 4 of the Commerce Act 1986.
<b>EA</b>	Electricity Authority: Responsible for regulation of the electricity market as provided for under the Electricity Industry Act 2010.
<b>GXP</b>	Grid Exit Point: The point at which Electra's network is deemed to connect to Transpower's transmission network.
<b>ICP:</b>	Installation Control Point: A point of connection on a local network which the distributor nominates as the point at which a retailer will be deemed to supply electricity to consumers (i.e. a consumer connection point).
<b>Information disclosure requirements</b>	As set out in the Commerce Commission's Electricity Information Disclosure Requirements issued 31 March 2004 (consolidating all amendments to 31 October 2008).
<b>kVA:</b>	Kilo Volt-Amp: Measure of apparent electrical power usage at a point in time.
<b>kWh</b>	Kilowatt hours: Measure of real electrical power usage per hour.
<b>Low fixed charge regulations</b>	As set out in the Electricity (Low Fixed Tariff Option for Domestic Consumers) Regulations 2004. These require Electra to make a tariff option available for domestic consumers who have annual

usage less than 8,000kWhs. Prices must be set such that the fixed daily charge does not exceed 15 cents (excl GST) and consumers should be no worse off under this tariff option at the break point of 8,000kWhs relative to other tariff options.

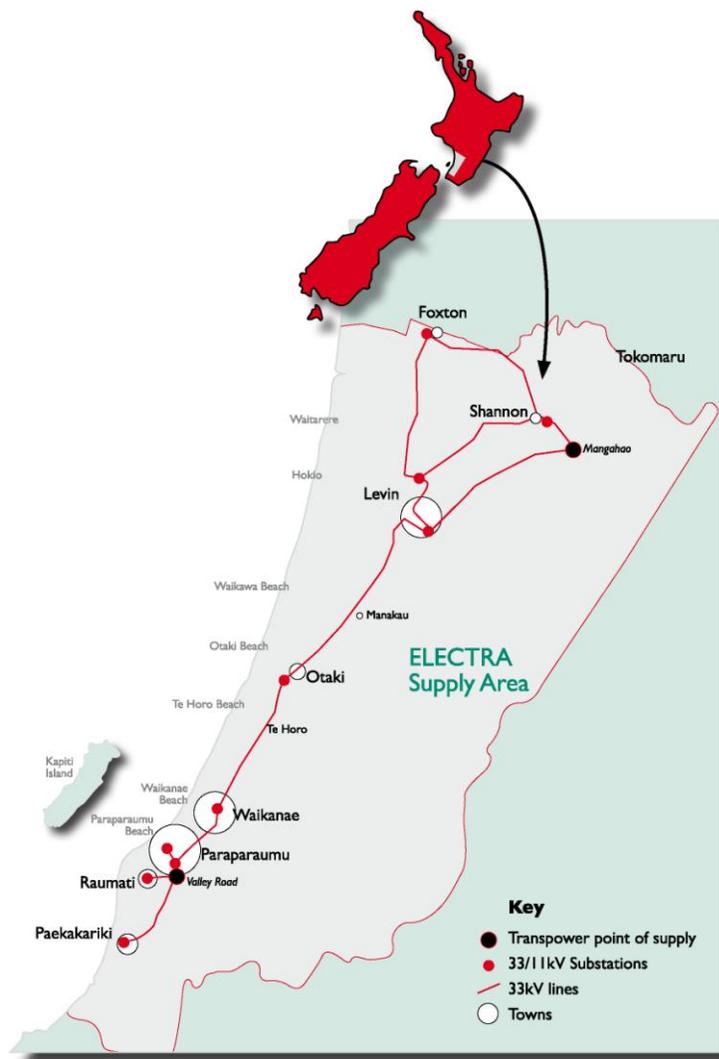
<b>Power Factor</b>	The ratio of real power (e.g. kW) to apparent power (e.g. kVA). 0.98 is considered normal on Electra's network.
<b>Pricing Year:</b>	The year starting 1 April and ending on 31 March.
<b>RCPD</b>	Regional Coincident Peak Demand: Transpower calculates its interconnection charge for each GXP by its relative share of RCPD.
<b>Revenue requirement</b>	The revenue that we estimate needs to be recovered through prices over the pricing year in order to recover Electra's costs of investing in and operating the network.
<b>SOLEC Methodology</b>	A methodology for setting electricity distribution prices as set out in the 'Guide to Derivation of Line Charges', prepared by the Separation of Line and Energy Charges (SOLEC) Working Party for the Supply Committee of Electricity Supply Association of New Zealand (ESANZ).
<b>Sub-transmission</b>	A power line that transports or delivers electricity at 33kV on Electra's network.
<b>System Maximum Demand</b>	Aggregate peak demand for the network, being the coincident maximum sum of GXP demand and embedded generation output.
<b>TOU</b>	Time of Use
<b>Transpower</b>	Transpower New Zealand Limited: The state owned enterprise that is the owner and operator of the national electricity transmission network. Transpower delivers electricity from generators to distribution networks and large direct connect consumers around the country.

## 2. Introduction

The purpose of this document is to describe Electra Limited's ('Electra') approach to setting electricity distribution prices that will apply to consumers from 1 April 2012.

Electra owns and operates the electricity distribution network in the Kapiti and Horowhenua regions. This is a geographic area of 1700 square kilometres where the network is concentrated mainly along the coast to supply a number of towns from Paekakariki to Foxton. Paraparaumu and Levin are the largest of these towns.

The towns in Kapiti have their origins as seaside resorts for Wellingtonians, and more recently as fast growing dormitory areas where a good proportion of residents travel to Wellington for work. The Horowhenua includes a number of seaside villages with holiday homes, but also includes a more developed commercial sector centered on Levin.



Electra receives electricity supply from Transpower's national transmission grid at two locations situated at either end of its network; at Valley Road in Paraparaumu and at Managahao. This electricity is then distributed to around 42,500 consumers across 2,580kms of electrical circuit.

Electra is owned by the Electra Trust, which appoints Directors and holds all the shares on behalf of all those consumers connected to the network. Consumer trust ownership means that all surpluses not required for the operations and development of the core business are returned to consumers via sales discounts on their electricity accounts.

Electra's network is largely a 'natural monopoly', in that it is considered more economically efficient for one network to supply all consumers, due to the significant economies of scale. However, this also means Electra is not directly exposed to the competitive forces that drive other markets to deliver improved efficiency and service. While legislators would typically seek to regulate such businesses to ensure price and quality outcomes consistent with competitive markets, consumer trust ownership provides the necessary incentives to ensure Electra delivers an efficient and reliable service to its consumers (who are also its owners) at fair prices. In 2008, this was formally recognised when Electra was exempted from the price and quality regulations applying to electricity networks under section 54G(2) of Part 4 of the Commerce Act 1986, as administered by the Commerce Commission.

While exempt from direct regulatory control, Electra is subject to regulatory oversight in the form of information disclosure. This includes this pricing methodology, which is required to be disclosed under Sections 22 and 23 of Part 5 of the Commerce Commission's Information Disclosure Requirements.

We are also required by the Electricity Authority (EA) to describe the extent to which our pricing methodology is consistent with its electricity distribution pricing principles and to consider its information disclosure guidelines in developing our pricing methodology (both of which were published by the Electricity Commission in March 2010). We have summarised the consistency of our pricing methodology with these principles in section 12.

### 3. Changes to the pricing methodology

Figure 1 sets out the key changes made to the pricing methodology in the last two years.

**Figure 1: Change log**

<b>Pricing Methodology valid from:</b>	<b>Summary of key changes</b>
1 April 2012	<ul style="list-style-type: none"><li>• Prices were reset based on the existing pricing methodology to recover the 2013 revenue requirement.</li><li>• The logical structure of the document was improved and further explanation included providing interested parties with a better understanding of our key pricing decisions.</li></ul>
1 April 2011	<ul style="list-style-type: none"><li>• Prices were reset based on the existing pricing methodology to recover the 2012 revenue requirement.</li><li>• The Triple Saver option was limited to new consumers consuming above 25,000kWh. This had no impact on existing consumers, thus there were no transitional issues to consider.</li><li>• A section was added to explain the extent to which our pricing methodology is consistent with the EA's pricing principles.</li></ul>

## 4. Pricing objectives

Electra's pricing and commercial objectives that guide the development of this pricing methodology include:

- ***Recovery of our costs, including a commercially acceptable rate of return commensurate with the consumer trust ownership structure:*** This recognises that Electra must recover its costs, including those related to making returns to shareholders and financing of debt, to remain commercially sustainable.
- ***Clarity and simplicity for both consumers and retailers:*** It is important that consumers understand how prices are set and how they will affect them. Gaining 'buy-in' from retailers on our pricing methodology is also crucial given most consumers deal only with their retailer, and to ensure that any price signals are appropriately passed on to consumers in retail prices.
- ***Fairness to all consumers and retailers:*** As a community owned business, fairness in pricing is particularly important to us. One tangible example of this is that we do not differentiate consumers based on such characteristics as whether they are domestic or commercial, but rather on their usage of the network.
- ***Encouragement for consumers to shift load away from peak periods and to use assets efficiently:*** Electra must build and maintain its network to meet peak demands of its consumers. Any deferral of investment to increase capacity on the network will be beneficial to consumers if it can be managed without compromising service delivery. Over the longer term, we recognise the importance of the efficient use of energy and behaviours consistent with reducing peak demand. Pricing is one tool that can be used to incentivise such outcomes.
- **Full consideration and compliance with regulatory requirements relating to pricing, including:**
  - Sections 22 and 23 of Part 5 of the information disclosure requirements<sup>1</sup>;

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<sup>1</sup> We note the Commerce Commission is currently reviewing these information disclosure requirements, as required by the new Part 4 of the Commerce Act 1986, and in order to align them with the Electricity Authority's own pricing methodology requirements. We have not considered the Commission's draft disclosure requirements in developing this pricing methodology.

- the EA's distribution pricing principles and information disclosure guidelines; and
- the low fixed charge regulations.

## **5. Overview of approach to setting prices in 2012**

Electra's current pricing approach is based largely on analysis carried out in the mid 1990s. In this respect, our annual price setting process has typically entailed reviewing the appropriateness of this long-held approach and updating prices to recover the new revenue requirement. The key steps in setting annual prices include:

- Calculating the annual revenue requirement to be recovered through prices based on business forecasts;
- A high-level review of the available tariff options to determine if any changes are warranted to meet pricing objectives and cost drivers;
- Setting tariffs to recover the revenue requirement, with reference to historical prices, existing pricing strategies, and fixed and variable tariff options; and
- Ensuring that the pricing methodology and resulting tariffs are consistent with regulatory requirements.

Each aspect of this approach is set out in more detail in the following sections. A brief overview of the key characteristics of the network firstly provides useful context for the reader.

## **6. Network characteristics**

Electra receives supply from the national grid from two Transpower Grid Exit Points (GXPs). Transpower does not permit continuous connection between these GXPs, but load is transferred between north and south to meet operational requirements. Electra's northern area (Horowhenua) takes 33kV supply at the Mangahao GXP. The southern area (Kapiti) takes 33kV supply at the Paraparaumu GXP.

Due to the higher growth on the southern network, prudent and timely up-sizing of the GXP assets to maintain capacity, security, reliability and voltage will be an on-going challenge for Electra and Transpower. The Mangahao GXP is also facing growing capacity constraints.

A meshed 33kV sub-transmission network extends from the GXPs to the main population centres in Paraparaumu, Raumati, Waikanae, Levin and Otaki. The sub-transmission supplies the 11kV distribution network that extends radially, with extensive meshing in urban areas. The 11kV supply is finally stepped down to the 400V network that supplies all but a handful of consumers who take supply at 11kV.

The utilisation of the network is heavily weighted towards small consumers (i.e. domestic and small commercial users represent approximately 97% of connections and over 80% of CMD). This is evidenced by the fact that Electra continues to have the lowest average use per consumer of all New Zealand electricity distribution businesses (i.e. 9,667kWhs per ICP for year ending 31 March 2011). It is partly for this reason that Electra’s tariff structure is strongly focussed on the needs of the mass market.

The table below highlights several key network statistics, as sourced from Electra’s 2011 information disclosures.

**Figure 2: Key network statistics**

<b>Consumer Numbers</b>	<b>Maximum Demand (MWs)</b>	<b>Energy Conveyed (GWh)</b>
42,483	94	411

## 7. Revenue requirement

In order to determine the level of prices to be charged from 1 April 2012, Electra firstly determines its annual revenue requirement for the 1 April 2012 – 31 March 2013 pricing period, from its internal budgets. This is set out as follows:

Transmission Charges	\$7.84M
Direct Costs: Operational & Maintenance	\$6.10M
Indirect Costs: Administration / Overheads	\$3.16M
Depreciation	\$7.09M
Return on Capital (before tax)	\$10.18M
	<hr/>
	\$34.37M
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We discuss each component briefly below.

### ***Transmission Charges***

The transmission component of the revenue requirement includes Transpower's:

- *Interconnection Charges*: calculated based on Electra's share of Regional Coincident Peak Demand (RCPD);
- *Connection Charges*: in relation to the provision of connection assets at these GXP's. These connection assets are also shared with the Mangahao hydro scheme. Electra is responsible for all connection charges associated with the GXP but our consumers share in any avoided interconnection charges that result from the notional embedding of the Managahao hydro generation; and
- *New Investment Agreement Charges*: in relation to new connection assets.

Electra is obliged by legislation to pay Transpower, even if Electra is not paid by electricity retailers for these charges.

Transpower also calculates rental rebates and returns these to distributors over the pricing year. As these are not known at the time of setting prices, Electra estimates the likely Transpower rental rebates on an annual basis and includes this credit in the revenue required to cover Transpower transmission charges. Any rental rebates received above

this estimate are returned to consumers through sales discounts. Electra carries the risk of any deficit.

### ***Operating Costs***

Operating costs associated with providing electricity distribution services can be classified as 'direct costs' associated with the maintenance and operation of the network and 'indirect costs' associated with general management and administration.

#### *Direct Costs:*

- Maintenance & Operating Costs

Direct costs include expenditure required to operate and maintain the network. In particular, forecast maintenance costs are driven by our detailed Asset Management Plan (AMP). The revenue requirement for the forthcoming pricing year reflects the first year of this forecast.

#### *Indirect Costs:*

- Administration & Overheads

These are costs incurred in running the distribution business activities of Electra. They comprise general management, finance, office services and other administrative costs.

- Regulatory Costs

These costs relate to regulatory compliance (i.e. such as those necessary to produce the required information within this document) and industry levies.

### ***Capital related charges***

Capital charges reflect a return of the capital Electra has invested in the network (i.e. annual depreciation) and a return on capital, reflecting target profit levels. These charges are based on the total value of lines business assets being \$186.2 million. This comprises network assets with a net depreciated value of \$184.9 million and non-network assets with a net depreciated value of \$1.3 million.

## **8. Cost drivers**

In order to allocate the annual revenue requirement to consumers (or consumer groups) we have considered the relevant drivers of the costs we are seeking to recover. This section sets out the key cost drivers that are relevant to price setting.

The revenue requirement, above, highlights the costs associated with supplying electricity distribution services. 91% of this revenue requirement is associated with directly investing in, maintaining and operating the network, as well as receiving supply from Transpower. The remaining 9% is associated with general management and administration of the business. The key cost drivers relevant to setting prices are therefore weighted heavily to investment in, and operation of, the network. Electra considers that the key network cost drivers in this respect are:

- the engineered capacity of the network (measured as kVA);
- the length of circuit required to supply consumers (measured as kms);
- number of consumer connections (measured as ICPs); and
- consumer specific asset usage (measured as dedicated asset value or length).

### ***Network capacity***

The network is designed and operated to meet forecast electricity demand up to an engineered peak and at a level of service consistent with consumers' expectations. As demand reaches system limits, network owners must consider further investments in network capacity to meet demand. Consumers' usage of the available network capacity is therefore a key driver of existing and future network costs.

The network currently faces constraints at the two Transpower GXPs, which are both approaching maximum capacity. Electra is in discussions with Transpower to upgrade the capacity at these GXPs, but the timing of this is still uncertain. Any additional Transpower charges, as well as costs associated with our own corresponding network investments, will ultimately be recovered from consumers unless utilisation of existing capacity on the network can be reduced.

### ***Circuit length***

The distance between the demand base and the GXP influences the length of lines and cables required to deliver electricity to consumers. This means that consumers who are further from the main supply areas on our network create relatively higher costs for Electra.

In practice, extensive meshing of the distribution network in urban centres makes it difficult to distinguish line length for a particular consumer (as it is difficult to track the flow of electricity). The key distinguishing distance factor therefore relates to the relative length of the sub-transmission and distribution feeder network required to supply various load centres.

While a demarcation could conceivably be made between rural and urban consumers on such grounds, such a pricing approach is inconsistent with our strong community focus and ownership. It would not reflect the regional benefits that accrue to both urban and rural consumers from services provided to each other, and is potentially also at odds with government policy intentions with regards to electricity pricing in rural areas. Accordingly, while circuit length is a relevant cost driver we have not included it as a factor in our pricing decisions.

### ***Consumer connections***

New connections, and upgrades to connections, drive asset-related and ongoing operating costs.

Electra's connections policy is to recover any incremental asset costs directly from the new consumer prior to connection. Asset related connection costs are therefore dealt with outside of distribution tariffs via our connections and capital contributions policy.

The connection capacity of a consumer is also a relevant cost driver, as this has implications for network capacity usage. Where a new consumer uses a significant proportion of the local upstream asset capacity, any cost impacts are redressed through the connections and capital contributions policy.

Each new consumer creates also general operating costs for Electra, including network operations and planning, fault restoration, maintenance and general administration costs.

### ***Consumer specific asset usage***

Network costs that directly relate to one consumer or group of consumers should ideally be identified and recovered from those parties. The provision of street-lighting and community lighting is the key service category that is identifiable to a dedicated group of consumers.

We have also recently considered whether further consumer specific classes could be reflected in our pricing methodology. In particular, we have considered distinctions based on network regions, use of the high voltage network only, and use of dedicated equipment (i.e. transformers). We have concluded that there is very little variation in asset utilisation across consumers (for example, less than 0.1% of consumers directly connect to 11kV feeders) and for those consumers that require dedicated equipment this is generally dealt with under the connections and capital contributions policy, rather than through pricing. Similarly, while Electra operates two distinct networks, both the north and south networks comprise compact geographical areas with similar characteristics and consumers. We have concluded that any regional pricing distinction is of little value.

### ***Summary of key cost drivers applicable to pricing***

The key cost drivers that are relevant to our pricing methodology are usage of network capacity, the number of connections, and street light consumer specific asset usage.

## **9. Consumer groupings**

This section outlines the rationale for the consumer groupings used for pricing, with reference to our pricing objectives, the primary cost drivers and our pricing history.

Electra's pricing analysis carried out in the mid 1990s (when the SOLEC methodology formed part of the light handed information disclosure regulations for electricity supply businesses) concluded that the small number of large consumers and lack of middle sized commercial load did not justify segmenting the customer base into load groupings. In other words, the substantial common costs of supplying all consumers vastly outweighed the added complication of attributing costs directly to specific individual consumers or small groups of consumers. This was reinforced by the fact that there was a diversity of end user types across the entire network.

Electra as a then line-owner/retailer instead opted to offer the same distribution and energy tariff options to (effectively) all customers (i.e. not differentiating between residential or

commercial, small or large loads). This enabled consumers to choose the best option for their circumstances from a pricing tariff menu.

An exception to this is the Triple Saver tariff band, which while initially open to all consumers, was recently limited to new consumers (from 1 April 2011) with annual consumption in excess of 25,000kWhs per annum. This tariff option in particular recognises the ability and desire of these larger consumers to more effectively manage peak load.

Another exception is made for a specific consumer group for street lighting and community lighting, which accommodates particular known assets, usage times and volumes.

While Electra has historically chosen not to include other specific load or asset groups, tariffs have been developed which provide strong signals for usage during peak periods to encourage consumers to shift their use off peak. This also aligns pricing to the key capacity utilisation cost driver and the known GXP capacity issues. In particular, a number of controlled load and time of use tariff options are available to consumers, which incorporate signals to incentivise off peak consumption, but which also allow consumers options to satisfy their own requirements.

The tariff options we have applied are set out in the following section.

## **10. Tariff options and the approach to setting tariffs**

This section sets out the tariff options, which have been developed based on the above considerations, and our approach and rationale to setting final unit tariffs for each.

Figure 3 provides a brief description of each of the tariff options that Electra offers:

**Figure 3: Tariff options offered by Electra**

<b>Tariff Group</b>	<b>Description</b>	<b>Users (est)</b>	<b>2011 kWhs</b>
<b>Anytime/ Paygo</b>	<p>A standard price for using electricity at any time of the day. Can be used in conjunction with other time of use tariff options.</p> <p>PayGo is the alternative tariff label for Anytime consumers that are on pay as you go retail tariffs.</p>	37,433	199,348,155
<b>Managed Saver</b>	<p>A price which consumers may choose for hot water heating (and for other uses) on the basis that they accept interruptible supply in return for a lower price. Electra is able to switch off the load for up to 4 hours each day at peak times.</p>	24,092	56,213,894
<b>Combined</b>	<p>A combination of Anytime and Managed Saver prices on a weighted average (60:40) basis. This was implemented to assist consumers who wanted to make use of either Thrifty or Super Thrifty tariffs, while retaining Anytime and Managed Saver options, but did not have room on their switchboard for a third meter. From 1 April 2009 this option was closed to new consumers.</p>	3,342	23,301,247

<b>Triple Saver</b>	A three rate (peak, off peak and night) time of use option for medium to large commercial consumers with the ability to either move load or otherwise take advantage of price signals. As from 1 April 2011, Electra limited the triple saver option to those consumers with annual consumption in excess of 25,000kWh per annum for new connections. Existing consumers who have elected this tariff can continue to use it.	671	109,719,674
<b>Night/Day</b>	For continuous electricity supply at two time of use prices: A lower off-peak rate set for the 10 hours between 9pm and 7am and a higher peak-rate during the day.	1,602	Night: 5,182,150 Day: 7,673,929
<b>Super Thrifty</b>	A night rate between 11pm and 7am reflecting the large amount of available capacity on the network at this time. Designed for hot water, storage heating or under floor heating loads. Anytime rates apply outside these times.	682	1,539,917
<b>Thrifty</b>	As for Super Thrifty with the addition of an afternoon heating boost.	2,023	4,409,469
<b>Street Lighting</b>	For connection and management of street lights.	-	2,912,577

<b>Community Lighting</b>	For connection and management of community lighting (e.g. sports fields, shop verandas)	-	701,070
<b>Total</b>		42,483	411,002,082

All tariff groups are charged a variable tariff levied on kWh consumption and a fixed daily charge of 15 cents per day. Separate consumption based variable charges are levied for time of use and controlled load tariff options. Fixed and variable tariffs are also split into distribution and transmission tariff components. The latter seeks to recover Transpower's transmission charges.

Our tariff groupings have been specified to achieve certain objectives. However, Electra is reliant upon electricity retailers to fairly reflect our prices in their own tariffs. Retailers must also supply accurate electricity consumption data by time of day.

#### ***Variable charges***

A variable tariff based on kWh consumption is applied to all tariff groups in recognition of the key network capacity considerations discussed above. The use of a consumption based charge also readily aligns with standard industry practice and with retailers' existing pricing structures.

While a charge based on relative share of system maximum demand (e.g. by CMD) would more accurately align with the capacity cost driver, it is impractical to apply this to the mass market due to the lack of appropriate metering data. A maximum demand charge can, however, be proxied through the combination of a variable charge levied on time of use periods that are reflective of network constraint periods. Electra has adopted such an approach and offers a number of variable tariff options, which utilise peak, shoulder and off peak charges. These tariffs are designed to incentivise reduced usage during peak periods by setting higher variable charges during the peak periods and lower prices during the shoulders and off peak periods.

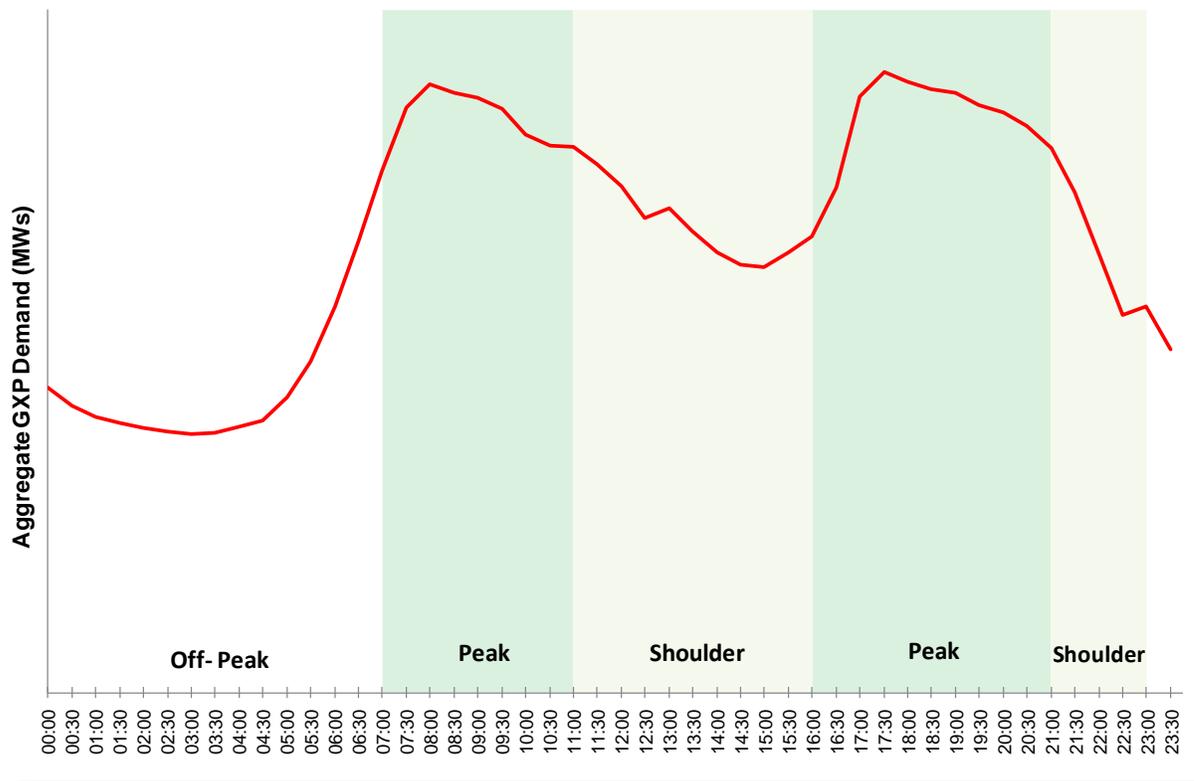
Controlled load tariff options are also offered. These permit Electra to disconnect load for up to four hours a day, typically either during times of network congestion or in order to facilitate timely restoration of network faults.

Figure 4 sets out the actual time of use periods we have developed to provide incentives for different consumer groups to shift their load from peak periods. Figure 5 provides an example of the typical peak-demand-day profile and associated pricing periods.

**Figure 4: Actual variable pricing periods**

TOU Tariff Group	TOU Periods
Super Thrifty	<ul style="list-style-type: none"> <li>Off-peak rate from 2300-0700</li> <li>Other times charged at the Managed Saver or Combined rates</li> </ul>
Thrifty	<ul style="list-style-type: none"> <li>Off-peak rate from 2300-0700</li> <li>Boost from 1300-1600</li> <li>Other times charged at the Managed Saver or Combined rates</li> </ul>
Night/Day	<ul style="list-style-type: none"> <li>Off-peak rate from 2100-0700</li> <li>Peak rate from 0700-2100</li> </ul>
Triple Saver	<ul style="list-style-type: none"> <li>Night rate from 2300-0700</li> <li>Peak rate from 0700-1100 &amp; 1700-2100</li> <li>Off-peak rates from 1100-1700 and 2100-2300</li> </ul>

**Figure 5: Typical TOU periods relative to typical peak-demand-day profile (illustrative)**



### ***Fixed charge***

The introduction of the low fixed charge regulations in 2004 provided an opportunity for Electra to reconsider its tariff structure and in particular its consumer groupings. At this time it was confirmed that the characteristics of the network continued to justify no further segmentation for tariff setting purposes. Accordingly, in 2005 Electra opted to apply the 15 cent per day low fixed charge, consistent with the regulations, to all consumer groups and to continue with variable energy pricing based on unit consumption with variable tariff options reflective of contribution to peak. We consider that a per day fixed charge appropriately recognises per connection cost drivers.

The fixed charge is split into transmission and distribution components, which are applied on a two thirds, one third ratio. That is, the transmission fixed charge is 10 cents per day and distribution fixed charge is 5 cents per day. The setting of transmission charges is discussed further below.

As we discuss further below, Electra is investigating the merits of applying higher fixed charges to medium and large consumers as part of our wider pricing review. Any increase in fixed charges would likely be off-set through lower variable charges, all else being equal.

### ***Transmission charges***

Electra on-charges Transpower transmission charges to electricity retailers on a cost-recovery basis plus a small administration charge.

Electra sets fixed and variable transmission charges to recover 23% of the revenue requirement, using forecasts of consumption and connections. This percentage aligns with the proportion of the revenue requirement comprising transmission costs. This calculation also accommodates different variable (kWh) charges relating to off peak and peak pricing.

Any over recovery of transmission charges is returned to consumers through the sales discount. Any under recovery is borne by Electra.

### ***Power factor charge***

Electra reserves the option to apply an additional charge in the situation where a commercial consumer has a power factor materially below 0.95 lagging. This charge allows Electra to signal that the consumer needs to improve its power factor and has the ultimate goal of helping to avoid unnecessary network reinforcement.

## 11. Review of pricing strategy

Electra is currently part way through a more thorough review of its pricing methodology to ascertain whether it is sustainable and consistent with our asset management requirements.

While the 2012 pricing methodology is largely based on our historical approach to setting prices, we have identified in this document a number of relevant findings from this review exercise.

An area of our pricing methodology that we hope to refine as part of this review is information on the allocation of costs to consumer groups and tariff options. Electra is developing a new cost of supply model as part of this review that will allocate the annual revenue requirement to these groups based on appropriate cost allocators derived from network cost drivers. The outputs of this model, while not necessarily representing final prices, will help inform our pricing decisions along with our other pricing objectives.

This model will specifically be used to:

- test the current allocations of costs to consumer groups and tariffs;
- test the current assumption that all consumers comprise a single load group and examine whether there is a definable layer between large consumers and the mass market; and
- analyse alternative approaches to setting fixed and variable charges, which may better encourage efficient usage during peak periods, while still complying with the low fixed charge regulations.

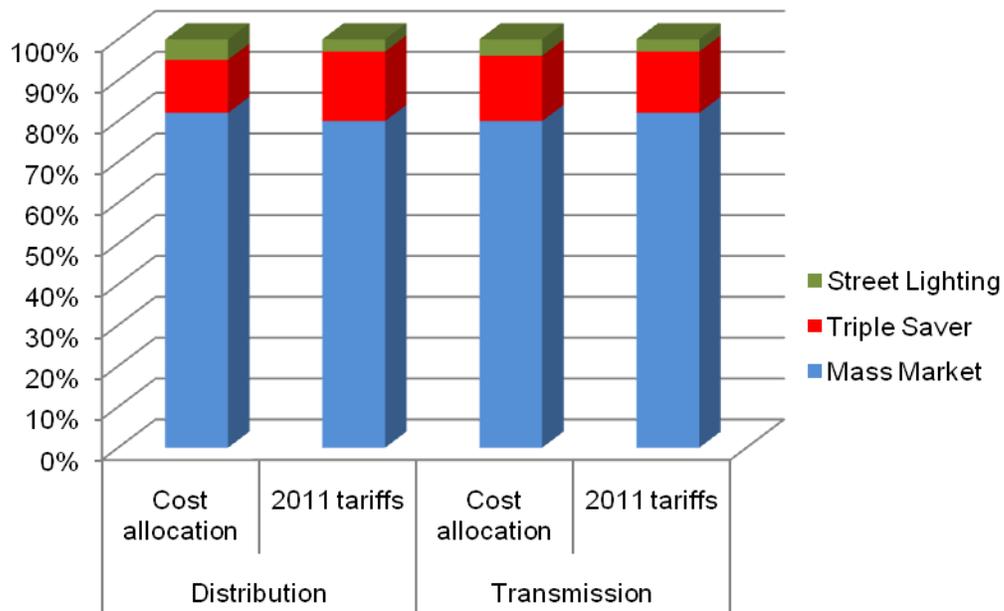
We are designing the model to allocate the various components of the revenue requirement to consumer groups on the following basis, consistent with the cost drivers identified above:

- Network costs (i.e. capital costs and direct costs) are allocated to each group by their relative usage of network assets weighted by the value of those assets. Streetlight assets are directly attributed to the streetlight consumer group for this purpose.
- Transmission costs are allocated based on a share of each consumer groups share of CMD in recognition of the fact that Transpower charges are based on providing a level of capacity either through the interconnection charge (based on the RCPD), or the asset based connection charge.

- General administration and overhead costs, system management and operations, industry levies and depreciation on non-system fixed assets are allocated by ICPs. A weighting of ICPs and kWhs is being considered for some costs in order to reflect that larger consumers are likely to create relatively higher costs.

Our preliminary findings are that the allocation of costs to consumer groups implied by the model is broadly consistent with existing pricing structures. Figure 6 summarises our indicative analysis, which highlights that 2011 prices<sup>2</sup> for the mass market, triple saver and street light tariff groups are broadly in line with cost allocations. Further refinements will be considered as part of our pricing review.

**Figure 6: Preliminary cost allocations versus revenues from 2011 tariffs**



Our modelling is also allowing us to consider whether additional segmentation of medium and large consumers for pricing purposes is likely to have merit. One option currently being investigated is splitting the Triple Saver tariff band into medium and large user tariff-bands (to be defined by annual kWh usage).

<sup>2</sup> We have used 2011 prices in this analysis as quantities corresponding to the 2012 pricing period are not fully known at the time of publication

We are also considering options for increasing the fixed charge component for medium and large consumer tariff bands, as the current fixed charge of 15 cents per day (based on the low fixed charge regulations) appears insufficient relative to our preliminary cost allocations. Any increase in the fixed charge would likely be offset against a lower variable charge.

The cost allocations calculated in the model will then be used to derive indicative tariffs for each tariff group, for both fixed and variable tariff types. As part of this, we are investigating the benefit of increasing the differential between peak and non-peak tariffs to encourage further reductions in consumption during peak periods.

Any changes to the pricing methodology that may result from this review are likely to take effect from next year (1 April 2013). We will therefore set out any changes in more detail in our next pricing methodology.

## **12. Consistency with the EA pricing principles**

This section describes the extent to which Electra's pricing methodology is consistent with the EA's pricing principles. In preparing this pricing methodology document we have also had regard to the EA's Information Disclosure Guidelines and to the observations made by Concept Consulting Group in their sample review of pricing methodologies, undertaken last year on behalf of the EA. Electra considers its prices are consistent with the EA's pricing principles as set out below.

*(a) Prices are to signal the economic costs of service provision by:*

*(i) being subsidy free, that is, equal to or greater than the incremental costs and being less or equal to standalone costs, except where subsidies arise from compliance with legislation and/or other regulation*

Electra agrees that it is both economically and commercially desirable for its charges to be subsidy free. This pricing principle sets out that prices are subsidy free where they fall within the range of incremental cost and stand alone cost, as illustrated by the following equation.

$$\textit{Incremental Cost} \leq \textit{Prices} \leq \textit{Stand Alone Cost}$$

We consider 'incremental cost' means the additional cost incurred in adding one more consumer to the network. This is likely to comprise the connection costs, any costs associated with reinforcing the network in relation to that consumer, as well as additional

administration and operating costs. As already discussed, Electra deals with incremental connection asset costs outside of its distribution tariffs, as part of its connections and capital contributions policy. Accordingly, distribution prices will be in addition to these incremental asset costs.

Any incremental operating costs resulting from a new connection will fall within our overall revenue requirement. As highlighted in the previous section, these costs are being apportioned to tariffs consistent with our implied cost allocations. In particular, operating costs are being allocated to consumer groups on the basis of connections. As such, we would not expect prices to fall below incremental operating costs.

Electra considers 'stand alone cost' means the cost to provide similar distribution services to one sub-group of consumers, as if the other groups did not exist. In practice, it is quite difficult to estimate the costs associated with a hypothetical stand alone network that would be required to service one consumer group. This is partly because Electra's consumers are free to choose which tariff group they belong to and are generally uniformly spread across our meshed network.

However, at a conceptual level, we would expect to apply the same network configuration in order to supply each sub-group of consumers on a stand-alone basis, due to the above factors (i.e. meshed network). While it is possible that the engineered capacity of each stand alone network could be optimised in recognition of the smaller consumer sub-group, we would not expect this to offset any loss of scale efficiencies that result. In addition, our preliminary cost allocations (discussed in the previous section) are based on allocators which are derived from network cost driver relationships (i.e. CMD, ICPs). We would not expect prices to exceed stand alone cost where they align with such allocations.

It should also be noted that cost allocations between incremental and stand alone cost are likely to be distorted by regulations which affect prices. For example, Electra's choice of applying the low fixed charge requirement across all consumers may mean larger customers (those above 8000KWh consumption) pay relatively more compared to smaller customers as a result of the averaging required to achieve standard variable prices for each tariff option. This is currently a pragmatic solution in response to a legislated requirement, and is consistent with achieving tariff simplicity and transparency for stakeholders (refer below). As discussed, we are currently looking into alternatives to increasing the fixed charge for larger consumers, which may limit this impact.

*(ii) having regard, to the extent practicable, to the level of available service capacity*

Electra generally does not differentiate prices by service capacity as all consumers are treated equally and are provided the same tariff choices. This is reflective of the homogeneous nature of the consumers supplied by Electra. The exceptions to this are street and community lighting, which reflects the different asset and load usage profiles of this consumer group. The Triple Saver tariff is also targeted to the needs of larger consumers and their ability to more effectively manage their peak time usage.

Furthermore, by offering differential prices for peak/off-peak and controlled/uncontrolled loads, Electra rewards consumers (through lower prices) for their ability to limit or interrupt a portion of their supply during times of network congestion. As discussed earlier, Electra believes that its current peak period prices are a reasonable proxy for capacity charges.

Looking forward, Electra is investigating the merits of introducing additional consumer segmentation for medium and large loads. This is likely to allow more granular pricing that is in turn more reflective of the costs associated with providing different levels of service capacity.

*(iii) and having regard to the extent practicable, the impact of additional usage on future investment costs*

Electra considers that its current variable pricing structure appropriately signals the impact of each extra unit on future investment costs, particularly when combined with time of use and controlled load pricing options. It has always been Electra's objective to use its prices to reflect as much as possible the costs of meeting peak demands and to encourage customers to consider the benefits of moving their usage away from peak periods by rewarding them with lower off-peak prices.

Higher variable charges at peak times are a clear signal to consumers of the benefits of being more energy efficient. The core of these signals is the controlled rate for hot water heating, but also other loads that are willing to trade lesser hours of supply at peak times for a lower price, for example at night. The night/day tariff options and peak rates are designed to reflect the extra investment required to meet demand on an ongoing basis.

*(b) Where prices based on “efficient” incremental costs would under recover allowed revenues, the shortfall is made up by prices being set in a manner that has regard to consumers’ demand responsiveness, to the extent practicable.*

As already discussed, Electra recovers incremental asset related costs, or the additional cost to connect a consumer (including upstream reinforcement), through its connections and capital contributions policy. Our prices therefore reflect the recovery of shared costs that are incurred in investing in, maintaining and operating the network.

All consumers are offered exactly the same tariff options and consumers themselves select their pricing plan. We consider the provision of a range of tariff choices reflective of different usage profiles is perhaps one of the best ways of aligning prices to consumer demands.

*(c) Provided prices satisfy (a) (i), prices are responsive to the requirements and circumstances of consumers in order to –*

*(i) discourage uneconomic bypass*

Electra’s current pricing methodology combined with the nature of its consumer base has not resulted in any uneconomic bypass of its network.

*(ii) allow negotiation to better reflect the economic value of services and enable consumers to make price/quality trade-offs or non standard arrangements for services*

Electra does not currently negotiate non standard arrangements for services. In reality, the nature of Electra’s consumers has not resulted in a demand for such an approach. Any requests for price/quality tradeoffs (e.g. through the provision of dedicated equipment) is typically dealt with under our capital contributions policy.

*(iii) where network economics warrant, and to the extent practicable, encourage investment in transmission and distribution alternatives (e.g. distributed generation or demand response) and technology innovation.*

Electra's managed tariff options and thrifty tariffs have provided incentives to consumers to invest in night store equipment and controllable hot water cylinders. This effectively provides for a consumer demand response that reduces usage during times of network congestion.

Electra has also entered into a joint venture in the Mangahao hydro scheme, which is notionally embedded in our network. As part of these arrangements, Electra is solely responsible for the Transpower Mangahao GXP connection costs. In return, our consumers share in any avoided transmission cost savings. This contractual arrangement is one example of a transmission alternative that acts to lower prices to our consumers.

*(d) Development of prices is transparent, promotes price stability and certainty for consumers, and changes to prices have regard to the impact on stakeholders*

Electra's prices are published in the local newspapers and are available on its website. They are based on principles and a methodology that have not changed significantly for over 15 years and, as such, offers certainty for consumers and retailers. The nature of Electra's ownership ensures that the concerns of consumers (who are our owners) are taken into account when considering price changes.

We have also attempted to signal to consumers in this document the potential impact on prices of applying some of the preliminary findings of our pricing strategy review (see Section 11).

*(e) Development of prices should have regard to the impact of transaction costs on retailers, consumers and other stakeholders and should be economically equivalent across retailers.*

Electra's relatively simple pricing structure ensures low transaction costs for all. All retailers operating on Electra's network pay the same prices, related to either the options their particular customers choose, or more particularly how they choose to pass through Electra's charges. We are unaware of any complaints being made by retailers regarding our pricing structures and most retailers pass on our prices to end consumers as we have set them. This suggests that retailers are comfortable with our pricing approach.