

# Pricing methodology

Electricity Distribution Information Disclosure

Determination 2012

For prices applying from 1 April 2022



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## Executive Summary

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This pricing methodology describes the approach used by The Lines Company (TLC) to formulate the pricing structure and to set prices for the 12 months commencing 1 April 2022. It has been prepared to meet the requirements of the Commerce Commission's NZCC 22/2012 Electricity Distribution Information Disclosure Determination 1 October 2012<sup>1</sup>. It also assesses our methodology against the Distribution Pricing Principles that were issued by the Electricity Authority in 2019.

This pricing methodology does not vary significantly from the previous year. TLC continues to use a Time of Use (TOU) pricing structure for residential and other connections billed on kWh, which was first implemented in October 2018 following a community consultation process.

In determining our prices, TLC has had regard to many factors, which include regulatory requirements, TLC's unique network geography, customer base and network architecture. The cost allocation model that underpins TLC's pricing methodology assigns revenue targets to customer groups according to asset use. This is defined by customer load characteristics and asset requirements. However, while these are important factors in setting prices from an economic perspective, they have been balanced with some other pricing objectives, including equity, transparency, simplicity and affordability.

For the period 1 April 2022 to 31 March 2023, TLC's target revenue is \$42.8 million. This figure represents the cost of providing electricity lines services to approximately 24,000 installations and allows for a return on investment to shareholders. On 31 March 2021, the value of the investment in the network was \$226 million. TLC is allowed to earn up to \$43.7m for the period but has limited the increase in prices to avoid price shock for our customers.

The target revenue is higher than the previous year by \$2.6 million or 6.6%. Key drivers of this are changes to pass-through and recoverable costs, which are largely outside of TLC's control and are defined by the Commerce Commission, TLC's wash-up account balance from previous years and a forecast increase in consumption volumes.

On average, annual residential customer charges are expected to decrease by over 4%, with impacts on individual customers varying according to their individual usage. The decrease is a result of TLC ceasing to bill metering fees. Other fixed and variable prices have increased, some constrained by the Low Fixed Charge (LFC) Regulations which were amended in November 2021. However, the variable prices assist customers in managing the bill<sup>2</sup> by shifting load into lower pricing periods.

The LFC amendment allows the increase of fixed daily distributor prices from 15 cents to 30 cents from 1 April 2022, increasing every year by 15 cents for the next 5 years, then being repealed. From 1 April 2022, TLC's fixed daily prices for the LFC pricing plan will increase from \$0.15 to \$0.30 per day.

For general pricing plan connections, including local business and community installations, there is a 15% increase in daily prices but the annual bill for an average customer is expected to decrease by over 2% because of the metering fee removal. The daily price increases were signalled last year

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<sup>1</sup> Consolidating all amendments as of 3 April 2018.

<sup>2</sup> Acknowledging that what customers pay is dependent upon an electricity retailers' pricing plan.

after the 20% reduction in RY2021 which was in response to feedback from customers regarding the bill impact faced in the transition from demand charges to TOU prices.

The distribution component of lines charges for capacity and dedicated asset customers (typically > 150 kVA capacity) on standard contracts increase by 6.0%, with changes in transmission charges being passed through.

TLC commenced retailer billing on 1 October 2021 for most customers. This saw TLC move to a model where retailers bill most customers, rather than TLC billing all customers directly. As a result, some customers may face different pricing structures, depending on whether and how TLC's prices are passed-through by retailers. TLC has transitioned unmetered load to retailer billing from 1 April 2022 but will continue to direct bill Key Accounts.

TLC's pricing strategy is to continue to increase fixed prices and reduce variable prices where current or future constraints are not expected, to reflect TLC's costs and the cost to supply customers.

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## Abbreviations

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<b>ACOT</b>	Avoided Cost of Transmission
<b>AMP</b>	Asset Management Plan
<b>Authority</b>	Electricity Authority
<b>Commission</b>	Commerce Commission
<b>Code</b>	The Electricity Industry Participation Code 2010
<b>DPP</b>	Default Price-Quality Path
<b>EDB</b>	Electricity Distribution Business
<b>ICP</b>	Installation Control Point
<b>ID2012</b>	Information Disclosure Determination 2012
<b>kVA</b>	Kilovolt-ampere
<b>kW</b>	Kilowatt
<b>kWh</b>	Kilowatt-hour
<b>LFC</b>	Low Fixed Charge
<b>LNI</b>	Lower North Island Transpower transmission region
<b>POS</b>	Point of Supply
<b>Pricing Principles</b>	Electricity Authority distribution pricing principles
<b>RCPD</b>	Regional Coincident Peak Demand
<b>Registry</b>	National database that contains information on every ICP
<b>RY2022</b>	Regulatory year from 1 April 2021 to 31 March 2022
<b>RY2023</b>	Regulatory year from 1 April 2022 to 31 March 2023
<b>TLC</b>	The Lines Company
<b>TOU</b>	Time of Use
<b>WESCT</b>	Waitomo Energy Services Customer Trust

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## Introduction

TLC is an Electricity Distribution Business (EDB or distributor). EDBs face regulatory requirements relevant to pricing that are administered by either the Commerce Commission or the Electricity Authority. Some of these regulations relate to the total revenue that can be earned, others are relevant to the specific levels of prices, and some relate to disclosure requirements. The following table shows the key pricing related regulations which apply to TLC.

Regulatory body	Commerce Commission	Electricity Authority
Key objective	<ul style="list-style-type: none"> <li>Long-term interests of consumers in markets where there is little or no substantial competition</li> </ul>	<ul style="list-style-type: none"> <li>Efficient operation of the industry and for the long-term benefit of the consumer</li> </ul>
Key Regulatory Guidance Documents	<ul style="list-style-type: none"> <li>EDB Information Disclosure Determination 2012</li> <li>EDB Price-Quality Determination 2019</li> </ul>	<ul style="list-style-type: none"> <li>Distribution Pricing Principles</li> <li>Low Fixed Charge Regulations</li> <li>Electricity Industry Participation Code Part 6: Distributed Generation</li> </ul>

The Commission's Information Disclosure Determination requires TLC to disclose a pricing methodology each year. This document is intended to meet this requirement in a clear and easy to understand way. A summary of the relevant information disclosure requirements and where they are addressed in this document is set out in Appendix 2.

We first provide contextual information about our network (section 0), then present an overview of our prices and how we set them (section 0). This is followed by a more detailed discussion of how we determine our target revenue, how that revenue is allocated to customer groups (sections 4 and 5), and the methodology used to convert the revenue requirement into prices (sections 6 and 7). Charges for generators is described (section 8). We then assess our pricing against the Authority's Distribution Pricing Principles (section 9) and discuss our forward pricing strategy (section 10).

## Our network

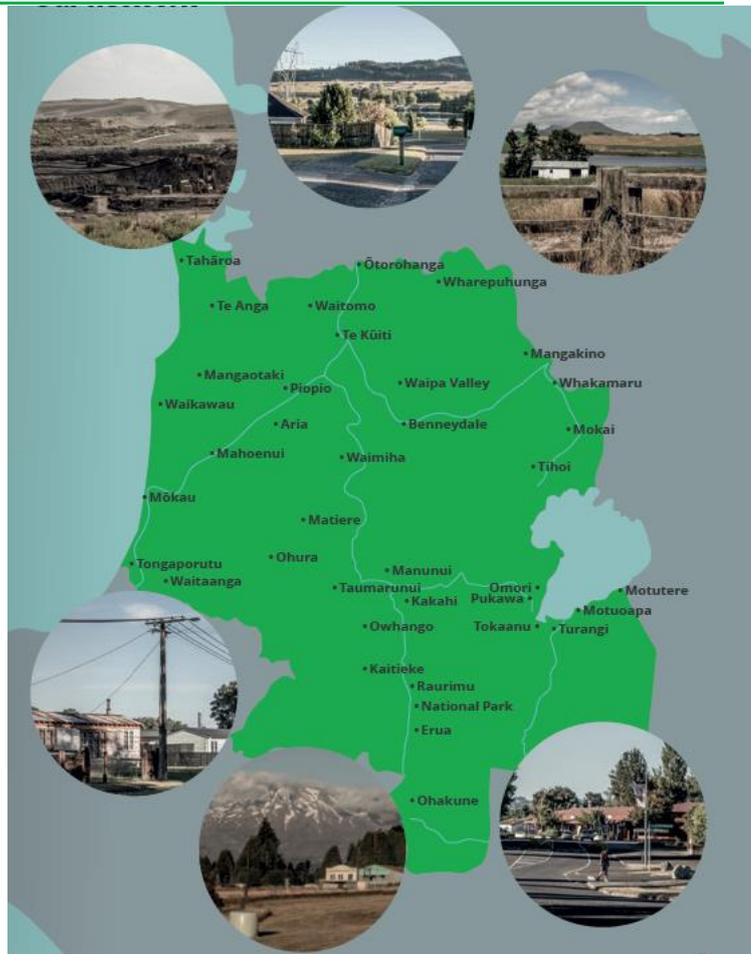
TLC was formed in April 1999 following the Government's electricity industry reforms. The company is wholly owned by the Waitomo Energy Services Customer Trust (WESCT).

TLC owns and operates the electricity distribution network in the King Country, Ruapehu and Central Plateau areas.

Our network covers an area of 13,700 km<sup>2</sup> and provides approximately 24,000 connections. Our network has:

- 4,300 km of power lines
- 34,000 power poles
- 5000+ transformers
- 29 substations
- 7 supply points including 5 points of supply from the national grid.

TLC supplied 368 GWh of power to our customers with a system peak load of 79 MW in RY2021 – which is the equivalent of supplying 46,000 homes.



Over the past three years, significant work has been undertaken to review our approach to the security of supply and reliability of the network. The historical focus has been on increasing the reliability of the distribution and sub-transmission networks, which has seen a marked improvement in the overall reliability of the network over the past 15 years. However, over that period growth across the network (both incremental and customer-driven) has now meant that investment is required in zone substations and points of supply over the planning period to ensure that a reliable supply of electricity can be maintained to those areas. In parallel with that, the line renewal programme needs to continue at levels similar to previous years to ensure reliability is maintained.

In the 2022 Asset Management Plan (AMP) Update, we describe our continuing journey to improve the way we manage the assets on our network that we are entrusted with, but also outlines new challenges that we are now undertaking to support New Zealand's transition to a low emission future.

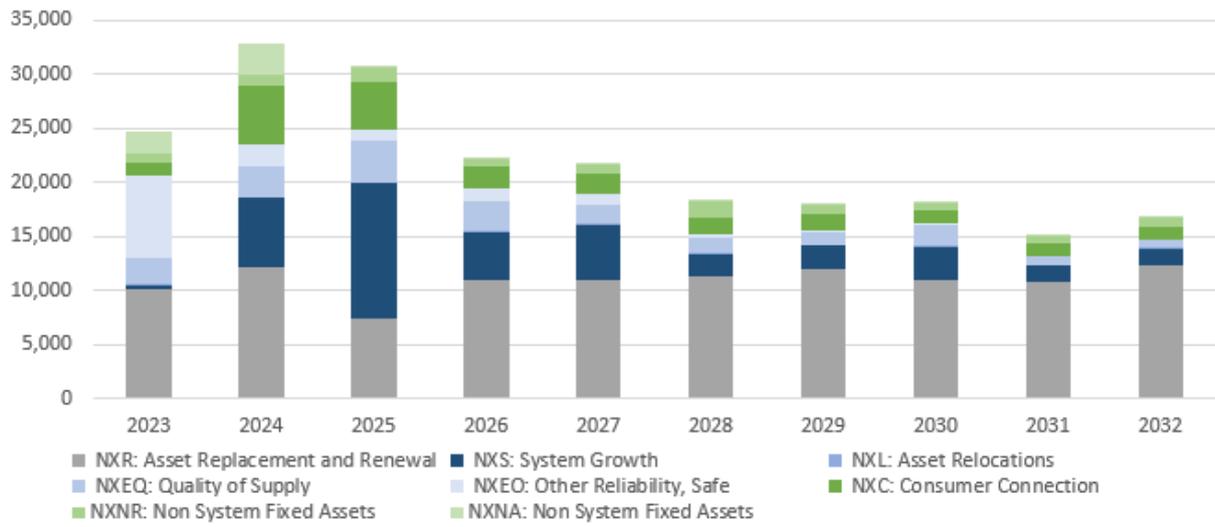
Looking forward, we are now putting in place the foundations we will need to support New Zealand's transition to a low carbon future. In practical terms this means ensuring our network can meet the additional growth in electrical demand that we expect to see as customers transition to electricity fuelled transport and industries transition away from carbon-based process heat. The impact of making this transition is significant, and the 2022 AMP therefore focuses on the new activities we are planning to support our customers in making that change.

We are acutely aware that maintaining a safe and reliable electricity supply system is fundamental to supporting regional economic growth. This is even more important as our customers begin to rely on electricity for a larger share of their energy needs in the future. Our planning challenge is to do this in a sustainable and cost-effective way.

Our goal in developing the 2022 AMP has been to provide an overview of the key changes we are making in our planning in an informative and easily read way, and to outline our roadmap to support New Zealand’s decarbonisation goals.

A summary of capital and operational expenditure for the next ten years is detailed below:

### Capital Expenditure



### Operational Expenditure



As is explained in our AMP, our asset management objectives aim to balance maintaining a reliable supply, affordability for our customers over the long term and providing for a sustainable future. The objectives are:

- Improving safety;
- Managing reliability;
- Alleviating security of supply constraints;
- Maintaining a sustainable line renewal programme;
- Improving vegetation management; and
- Supporting decarbonisation.

Our decarbonisation vision is to bring the benefits of decarbonisation to all customers, providing them with choices and equitable outcomes. Decarbonisation for low-income customers could mean participating in energy efficiency or community solar schemes. For others, it could be the ability to install rooftop solar or EV chargers on a constrained part of our network. To help realise our vision, we've set out three decarbonisation objectives:

1. Engage customers – help customers to understand what decarbonisation means for them;
2. Encourage participation – ensure customers recognise we are enabling them with choices, including non-network solutions;
3. Create value – deliver decarbonisation options while balancing sustainability, cost, reliability and ease of use.

In addition, deferral of investment is a key consideration before we invest. TLC endeavours to optimise investment timing and maximise the life cycle of its assets where it makes sense to do so having regard for safety, risk, economic outcomes and customer service. We have undertaken several innovations that defer asset replacements by easing network constraints. These include:

- Time of use pricing that incentivises customers to shift load out of peak times, and to utilise controlled water heating.
- Extensive deployment of load control and metering technologies that enables shedding of up to 16 MW load (25% of our coincident GXP demand) at critical times.
- Use of Mobile and fixed power factor correction capacitor banks. Mobile capacitor banks are a bank of capacitors mounted on a trailer that can be deployed at short notice to support network constraints during faults or outages.
- Installation of voltage regulators. TLC uses voltage regulators extensively in its rural reticulation. These improve power quality and allow small conductors to remain in service which defers reconductoring projects.
- Use of drones for confirming line condition before replacement. TLC now regularly uses drones to verify asset condition before commencing planned line renewal work. This has resulted in some projects being de-prioritised and their replacement deferred.
- Development of Business Intelligence (BI) tools. We are investing in business intelligence technologies and systems to provide a deeper analysis of our assets and their performance. This is providing new insights on how our assets perform against a range of environmental and electrical conditions, allowing more informed decisions in our asset renewal planning.

## Overview of our prices and how we determine them

TLC's lines charges are mostly billed directly to retailers, acting as agents for TLC, with TLC moving to retailer billing on 1 October 2021. The lines charges cover the cost of TLC's distribution network levies and the cost of using Transpower's national grid and local connection assets.

### 1.1 Our pricing groups

TLC has three pricing groups: Standard contracts, Capacity and Dedicated Asset Standard and Non-standard contracts and Distributed Generation.

- **Standard contracts**

This covers most customers within the TLC network, which largely share network assets and network operations resources. These customers are further broken down into groups based on common customer characteristics including network usage. These groups are:

- ✓ **Residential:** connections at a principal place of residence (home)
- ✓ **General:** connections for which the end use is not a principal place of residence, holiday home, accommodation or dairy cattle milking shed. The general category includes pumps, sheds, etc.
- ✓ **Dairy:** connections where the end use is 'dairy cattle milking shed'
- ✓ **Temporary Accommodation:** connections where the end use is a holiday home or accommodation

These standard contract customer groups were created in the context of TLC's previous demand pricing structure. This was done based on a detailed analysis of demand and kWh profiles.

The current pricing structure for all standard contracts consists of daily price and kWh consumption charges (peak, shoulder and off-peak or anytime). The daily price varies according to the capacity of the installation and connection density. A low user option is also provided to residential consumers, in line with the Low Fixed Charge (LFC) regulations and is generally suitable for customers that use less than 8,000 kWh per annum.<sup>3</sup> With the phasing out of the LFC regulations, customers will see daily fixed prices for customers on TLC's LFC pricing plan increase from 15c per day to 30c per day however TLC will no longer bill metering fees. There are no changes to this pricing structure from 1 April 2022.

The following table shows the number of connections for each group and capacity size within the broader Standard Contract Customer Group.

Standard Contract Customer Categories					
Capacity	Total	Up to 15 kVA	15 - 30 kVA	30 - 70 kVA	70 - 150 kVA
Residential	13,893	13,893			
General	5,422	4,800	405	167	50
Dairy	456	40	83	278	55
Temporary Accommodation	3,928	3,719	131	67	11
<b>Total</b>	<b>23,699</b>	<b>22,452</b>	<b>619</b>	<b>512</b>	<b>116</b>

Table 1: Standard Customer Groups and RY2023 ICP count

- **Capacity and Dedicated Asset Standard and Non-Standard contracts**

<sup>3</sup> Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004.

Capacity and Dedicated Asset customers are those with demand greater than 150 kVA or who use assets for specific purposes (e.g. streetlights). TLC's pricing schedule sets out pricing for most capacity and dedicated asset customers. In some cases, non-standard contracts and prices are used separately or in combination with standard contracts and prices due to the customer's use of dedicated assets.

- **Distributed Generation**

This covers generators embedded on TLC's network who are in accordance with the intent of Part 6: Connection of Distributed Generation of the Electricity Industry Participation Code 2010.

## 1.2 Transition from demand to TOU pricing for standard contracts

In September 2016 TLC announced an independent review of the demand-based pricing approach. After ten years of demand-based pricing, it was believed that a substantive review was warranted. The terms of reference<sup>4</sup> for the review highlighted the key objectives to optimise equity, simplicity and transparency. Moving from the previous demand-based approach to a TOU approach was subsequently recommended as providing an appropriate balance of these objectives. In December 2017, a decision was made by the TLC Board of Directors to move to TOU based pricing and this commenced on 1 October 2018.

The TOU pricing structure is different in structure and application to the demand-based structure that had been in place for the past decade. The TOU approach applies a 'pay as you go' consumption model whereas the demand-based methodology focused on deriving an annual charge which reflected a customer's demand at the co-incident peak for the network. Both pricing structures provide signals to customers regarding network peak times, however, TOU is thought to generally be simpler for customers to understand and respond to.

Given the significant differences between the TOU and demand approaches, TLC put in place a transition policy to assist customers to adapt to the new methodology. The transition policy commenced on 1 October 2018 and applied for 12 months to 30 September 2019. During this time the transition discount, which was provided in the form of a 3-monthly rebate, ensured that if a standard contract customer's line charges increased, that increase would be effectively be limited to 20% of their previous annual charges under the demand-based approach during the transition period. The transition discount was designed to provide customers with a period during which to develop an understanding of how the new pricing structure would impact their bill and determine whether they would choose to adapt how they use electricity in response to the pricing structure.

Pricing from 1 April 2020 marked the last phase in this transition to TOU pricing and the introduction of the posted TLC Discount – the TLC Discount is linked to prices and the discounts are shown on the pricing schedule. In our pricing from 1 April 2022, we have not made any significant changes to our pricing structure.

## 1.3 Process for determining prices

The process used by TLC is to first determine the target revenue required to recover costs, including operating costs, depreciation and a return on capital invested. Customer groups to which the target revenue will apply are then identified. The target revenue is then allocated across customer groups using allocators that relate to how each group influences cost. Pricing structures

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<sup>4</sup> Full copies of the terms of reference along with the reports from the consultants and statement from TLC board are available from TLC's website: <http://www.thelinescompany.co.nz/your-bill/pricing-review>.

are determined, considering the Authority's Distribution Pricing Principles, TLC's own pricing principles and customer feedback. Price levels are then determined using forecasts of connection numbers and usage.



Each of the steps in the above process are explained below in sections 0 to 0.

In setting its prices and discounts, TLC ensures that the forecast revenue net of discounts is no higher than the revenue cap set by the Commission in its Default Price Path Determination 2019.

#### 1.4 Customer consultation and engagement

Consumers connected to TLC's network have a direct contractual relationship with TLC for the supply of electricity lines services. TLC has entered into conveyance agreements with the retailers for billing purposes. Hence it doesn't change TLC's relationship with its customers. TLC supports the quality of customer service and maintains a relationship with its customers through a dedicated customer and community engagement team. TLC employees are available to provide energy management advice, including engineering services. Performance targets and current service levels are presented in the Statement of Corporate Intent,<sup>5</sup> the Asset Management Plan<sup>6</sup> and Annual Report<sup>7</sup>.

Direct mail, newsletters, website updates, Facebook posts, newspaper advertising, press releases and regulatory disclosures are the primary media for communicating with customers. However, TLC also holds regular community clinics to discuss customer views and expectations for price and service levels. Customer views are considered for network investment decisions.

Customer consultation is an important element in the development of TLC's pricing methodology, particularly where there is a significant change. For example, the decision to migrate from TLC's demand-based pricing approach to TOU followed an extensive engagement process with the community:

#### Timeline of customer consultation in transitioning from demand to TOU

<b>September 2016</b>	A service-based pricing review commenced, undertaken by the former chief executive of Orion (Christchurch's lines company), Roger Sutton, and the leader of PwC's Energy Markets Sector Group, Lynne Taylor. This review included extensive community engagement including workshops and meetings held throughout the King Country.
<b>March 2017</b>	The service-based pricing review was released which recommended exploring an alternative pricing methodology (TOU). The independent report with accompanying Board overview statement is available to view here: <a href="#">Service Based Pricing Review</a> .

<sup>5</sup> [2021 Statement of Corporate Intent](#)

<sup>6</sup> [2021 Asset Management Plan](#)

<sup>7</sup> [2021 Annual Report](#)

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<b>April and May 2017</b>	Customer focus groups were held in Otorohanga, Te Kuiti, Turangi, Ohakune, Mangakino and Taumarunui and were attended by 130 people. The purpose was to discuss the service-based pricing review report and to obtain feedback on the recommendation to move to TOU pricing.
<b>August 2017 to July 2018</b>	A TOU trial of 200 customers commenced in August 2017, to test our systems and processes and gather customer feedback. More information on the trial can be found here <a href="#">Pricing Review Trial</a> .
<b>September 2017</b>	Customer focus groups were held in Otorohanga, Te Kuiti, Turangi, Ohakune, Mangakino and Taumarunui. These were to provide an update on what TOU could look like and a forum to receive feedback from our community.

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To support the implementation of TOU pricing, there were additional community engagements including customer review groups, key stakeholder engagement, news media and advertising, collateral including brochures and fact sheets, web-based and social media tools and a two-week-long roadshow. The customer and community engagement team also increased to respond to an increase in customer queries.

Since TOU pricing was implemented we have continued to engage with customers via presentations to community groups including Grey Power and we have set up a Customer Panel. We also provide one-to-one advice and support service for our more vulnerable customers.

Feedback received by our customer services team was used to refine our TOU pricing from 1 April 2020 by:

1. reducing the level of daily fixed charges for general connections;
2. accentuating the difference between peak and shoulder prices for residential customers to create more opportunities for customers to be rewarded by shifting load out of peak periods.

TLC signaled that the decrease in fixed charges described above was an interim measure and that these would increase over time to reflect TLC's costs. Pricing from 1 April 2022 has seen an increase in these daily fixed charges by 15%.

### **Direct billing**

TLC had been billing all of our customers directly since 2005 i.e., not through a retailer like all other distributors. However, from 1 October 2021 TLC moved to retailer billing for most customers but retained a conveyance agreement hence a direct relationship with our customers. Accordingly, most energy users across the King Country and Central Plateau have been receiving one bill from an electricity retailer of their choice, combining both lines and energy charges.

The decision to move to retailer billing was confirmed by TLC's Board in October 2020 after a comprehensive review of all options and potential issues. The decision was not taken lightly because we needed to thoroughly understand the implications for customers, retailers, staff and our wider community.

TLC's focus now is on changing our systems internally and working alongside electricity retailers to ensure the change is as seamless as possible and that customers still have access to TLC data. The change, however, won't affect TLC's larger customers who will still receive a separate lines bill.

The decision to move to one bill was part of TLC's strong focus on improving customer experience and the services offered. Customers have told us that receiving two bills is confusing and there is a perception that people are paying twice. Following the rest of the industry's single bill approach makes more sense for our customers at this time.

Many, if not all retailers also offer online apps and other tools that enable people to manage their usage and bills – we see that as a real bonus for customers on our network. Even though our charges will be included within the energy retailer invoice, we will maintain full transparency of Time of Use lines charges from TLC for each customer and ensure that information is easily accessible, including through a web portal.

There are also several other TLC initiatives underway that will ensure we continue to maximise our value to customers and our wider community, including an increased investment in assets to further improve safety and resilience, expansion of our vulnerable and medically dependent customer programme and targeting to insulate 500 homes by continuing to support Maru Energy Trust. In February 2022, Maru Energy Trust also hosted Te Kūiti Energy Efficiency Expo where attendees were provided with free energy-efficient products that can help them save up to \$552 a year on their power bills. Attendees were also offered a free energy assessment.

### 1.5 Changes in price levels

As is explained below, our RY2023 revenue is expected to be \$2.6 million higher than in RY2022. This is due to a change in regulatory costs, the wash-up account balance from the previous year and an increase in forecast kWh consumption. The revenue change will impact individual customers differently depending on usage and differing price change within pricing groups.

On average, residential customer charges are expected to decrease by around 4%, with impacts on individual customers varying according to their individual usage.

For General pricing plan connections, including local business and community installations, we continue a higher increase in daily prices. In 2021, in response to customer feedback, TLC reduced the fixed daily price for the General customer load group to allow a longer period for General customers to adjust from kW Load to TOU pricing. TLC's higher increase in daily prices for the General load group than for other load groups for RY2023 is consistent with providing a gradual path to increasing daily charges for General load customers.

The distribution component of lines charges for most major customers (> 150 kVA capacity) on standard contracts will increase by 6.0%, with changes in transmission charges being passed through.

## Target Revenue

### 1.6 Target Revenue

Quantifying target revenue is the first step in TLC's pricing methodology.



Target revenue is based on the aggregate of the following costs:

- Return on capital invested and regulatory tax;
- Recovery of capital invested (depreciation);
- Recovery of direct operating costs (e.g. maintenance);
- Recovery of customer and administration costs (e.g. billing, network management);
- Recovery of pass-through costs (e.g. industry rates and levies);
- Recovery of transmission costs (including ACOT<sup>8</sup>).

These costs are required to operate and maintain the network, meet all of our legislative obligations and provide a regulated return on our investment in the network assets. The capital investment by TLC includes expenditure on network assets such as poles, wires, transformers, switchgear and substations.

The value of the regulated asset base was \$226 million on 31 March 2021<sup>9</sup>. Pass-through, recoverable and transmission costs reflect costs we incur that largely fall outside of our control and are passed through to our customers in our delivery prices.<sup>10</sup>

TLC's target revenue for the year commencing 1 April 2022 is \$42.8 million, with the forecast being \$2.6 million more than the previous year's forecast. A key reason for this is the wash-up account balance (that is, the carry forward of unrecovered revenue from previous years).

The forecast composition of revenue for RY2023 is as follows:

Cost	Description	\$m	% of target revenue	% of allowable revenue
Distribution	Depreciation	10.6	25%	24%
	Return on capital	4.1	10%	9%
	Regulatory tax	3.2	8%	7%
	Operating expenditure	13.8	32%	32%
	TLC Discount expense	4.2	10%	10%
Total distribution		35.9	84%	82%
Pass-through costs	Rates and levies	0.6	1%	1%
Recoverable costs	Transmission	6.3	15%	14%
Target revenue		42.8	100%	98%
Allowable revenue		43.7		100%

Table 2: RY2023 TLC target revenue

<sup>8</sup> ACOT – avoided cost of transmission is paid by TLC to generators.

<sup>9</sup> [TLC's Information Disclosure Year End 31 March 2021](#).

<sup>10</sup> TLC's load control reduces our peak demand during regional peaks to help manage transmission prices.

TLC provides discounts to consumers who are WESCT customers. TLC's pricing schedule to apply from 1 April 2022 sets out the discount on prices those beneficiaries will receive (approximately 20% on distribution prices), referred to as a "posted discount". The posted discount is forecast to total \$4.2 million.

TLC is subject to a regulated cap on total revenue which is set out in the default Price-Quality Path Determination (DPP2020) and applies for five years. DPP compliance requires the revenue net of posted discounts to be no more than \$43.7 million. TLC's prices net of discounts provides a forecast revenue of \$42.8 million that is compliant with this requirement.

### 1.7 Distribution Costs

Distribution costs account for an estimated 84% of target revenue or 82% of allowable revenue with the remaining costs being pass-through and recoverable transmission costs.

Distribution costs are incurred to maintain an acceptable quality of supply – reflected in network reliability, power quality and safety, and ensure enough network capacity is available to meet customer demands.

Consultation with customers assists us in understanding customer capacity and service level requirements. These requirements influence our operating costs and asset investment costs which ultimately are recovered from customers through electricity lines charges. Customer consultation is therefore important and provides customers with the opportunity to influence our operating and investment decisions made on their behalf.

The distribution costs recovered in the target revenue include:

1. Capital-related costs, comprising:
  - a. Depreciation of assets (return of capital);
  - b. Return on investment;
  - c. Regulatory tax;
2. Operating expenditure comprises:
  - a. Network maintenance costs – including vegetation management, lines and pole maintenance and fault response;
  - b. Customer and administration costs – including all other costs required to operate and support an EDB including network management, business support systems and customer engagement costs;
  - c. Data costs<sup>11</sup> – including the cost of delivering data and relay services.

### 1.8 Rates and levies

TLC's annual levies to the Commerce Commission, Electricity Authority and Utilities Disputes are passed through via prices to customers. Local council and authority rates charged on fixed assets used for subsystem delivery are also included, as are Fire and Emergency NZ (FENZ) levies.

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<sup>11</sup> TLC no longer has meter lease costs and no longer charges a metering fee.

## 1.9 Transmission costs

Transmission costs include charges payable to Transpower, plus ACOT payments made to generators feeding directly into TLC's distribution network during Regional Coincident Peak Demand (RCPD) periods.

Transpower charges are a combination of connection and interconnection charges. Connection charges relate to the connection assets used to connect to the national grid (such as the Grid Exit Point). Transpower charges for the use of the national grid through interconnection charges. These are calculated based on the demand at each point of supply (POS): Demand (measured as kW) is measured at the co-incident top 100 half-hour peaks on the Lower North Island transmission grid (LNI) over the 12 months ended 31 August 2021. TLC controls load to reduce demand at LNI peaks, to minimise the transmission charges that are incurred and passed on to customers.

Transmission charges payable to Transpower are forecast to be \$5.3m and ACOT payments are forecast to be \$1.0m. ACOT payments to embedded generators on the network reflect the same rate as the interconnection charge from Transpower.

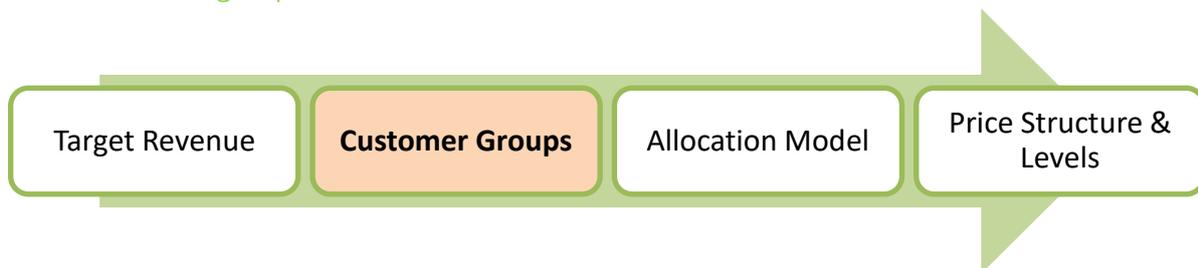
## Allocation of costs to customer groups

Having established the target revenue of \$42.8 million, we then identify the customer groups and allocate the target revenue to each of those groups. The target revenue allocations for RY2023 mirror the revenue allocations from the past three years and were initially calculated in the context of demand pricing. As the focus of pricing change for TLC in recent years has been the transition to TOU pricing structures, the revenue allocations have not been reset.

TLC has updated its cost model recently, reflecting changes including the shift to TOU pricing, the Authority's revised pricing principles. TLC will utilise this latest cost model to further consider allocations from 1 April 2023 and adjust if necessary including consideration of changes to the Transmission Pricing Methodology<sup>12</sup>.

The discussion below describes the cost of supply model that has been used to establish the allocations which is consistent with previous years.

### 1.10 Customer groups



As discussed above in section 3, the customer groupings utilised by TLC are:

- Standard Contracts
- Capacity and Dedicated Asset Standard and Non-standard contracts
- Distributed Generation

Within the Standard Contract group, there are also sub-groupings of customers, characterised by their location (density) and electrical capacity needs. These characteristics also impact the cost of supply, although capacity needs tend to apply mainly to non-residential customers. Accordingly, TLC has included sub-groupings within the four customer categories which provide clear demarcation points for pricing purposes, as follows:

- Residential
- General
- Dairy
- Temporary Accommodation

There have been no changes to the customer groups and their definition as compared with the previous pricing methodology disclosure.

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<sup>12</sup> The Authority is proposing that new transmission pricing come into effect on 1 April 2023, but there are still several steps remaining in the process which could impact on this.

## 1.11 Allocation of target revenue to customer groups



The application and choice of cost allocators inevitably involve a degree of judgement. While some costs may be attributable to particular customer types, a significant proportion of costs are common to the provision of service across customer types. TLC's cost allocation and price design model allocate target revenue to customer groups based on TLC's assessment of how each customer group influences maintenance, service and investment costs. Similarly, for rates, levies and transmission costs.

This section provides an overview of how the model allocates each type of cost: capital-related costs (depreciation and return on capital); operational costs; transmission and pass-through costs.

### 1.11.1 Capital-related costs

These costs are based on the estimated value of the network assets as recorded in TLC's asset management systems. The costs include an allowance for return on capital and a return of capital as previously discussed. If a dedicated network asset use can be identified, the cost is allocated to those customers receiving the benefit of the dedicated assets. Otherwise, an appropriate allocator is used to proxy the use of the network asset by each customer group.

### 1.11.2 Operational costs

#### *Maintenance Costs*

Asset management systems are used to identify maintenance costs by customer group, where available. Supply voltage, demand density and network age impact total maintenance costs.

Maintenance costs include both direct and indirect costs (being principally network support costs). Historical averages are used to give a cost per km of line. These costs are allocated to customer groups based on line length statistics. If there are negotiated contracts in place, a cost is deducted from the customer group allocation.

#### *Customer and Administration*

Customer costs include demand-side management services and customer support services. The costs are allocated to customer groups on a proportional basis (ICP count) or as part of a negotiated contract.

Administration costs include the provision of shared services including corporate governance, finance, human resources, safety, pricing and regulatory management and information technology. Unless attributable to an individual these costs are allocated across the customer groups based on capital costs. If attributable, the cost will be passed on as a service fee or as part of a negotiated contract.

The Authority highlighted in its review of TLC's 2021 pricing scorecards that several other allocators could be used to allocate administration costs to load groups. Possible allocators include ICPs, capacity, anytime demand, peak demand and MWh.

Changing the basis of allocation would result in some customers facing price increases and others facing price reductions, without any clear increase in efficiency. In general, allocation by ICP tends to allocate a relatively high proportion of costs to residential customers, whereas allocation by MWh allocates a relatively low proportion to residential customers, with other allocators producing outcomes that fall between those two extremes.

Changing allocators would improve efficiency if the new allocator reflects a significant cost driver. As administrative costs bear little relationship to any of the possible allocators identified above, it is unclear that changing the allocator will improve efficiency and so we have retained our use of capital costs as an allocator for administrative cost.

#### *Rates, levies and transmission costs*

Rates, levies and transmission costs are considered together and are allocated based on consumption (kWh). Where transmission costs can be related to a particular time of use band, they are recovered during that time (ie, using TOU kWh rather than being allocated by total consumption). This particularly relates to Transpower peak usage charges which are closely related to network usage during the peak time bands.

#### 1.11.3 Revenue allocations by customer group

The allocations of revenue for the RY2023 pricing year are as follows:

- \$33.2m (inclusive of a forecast \$3.3m TLC Discount) from standard contract consumption customers;
- \$9.6m (inclusive of a forecast \$0.9m TLC Discount) from capacity and dedicated asset and distributed generation customers;

The target revenues are further disaggregated in the table below by customer sub-group:

	Distribution prices (net of TLC Discount)	Pass-through/recoverable prices	Total prices
Residential	12.3	2.3	14.6
General	8.2	1.1	9.3
Dairy	3.1	0.9	4.0
Temporary Accommodation	5.0	0.3	5.3
Total	28.6	4.6	33.2

Table 3: RY2023 Target Revenue Allocations by Standard Contract Customer Groups

The measurements and statistics relevant to the allocation of costs to customer groups are provided in the following table:

Allocation Bases		
1 April 2022 - 31 March 2023	No. of ICPs	Total kWh (000)
Residential	13,893	109,031
General	5,422	58,928
Dairy	456	39,377
Temporary Accommodation	3,928	16,468
Total	23,699	223,794

Table 4: RY2023 Allocation Model Assumptions

## Pricing for Standard Contracts



### 1.12 Choice of pricing structure

The pricing structure used for prices for TLC's standard contract customers (all customers except capacity and dedicated asset customers with loads > 150 kVA, streetlights, and non-standard contract customers) is based on a combination of fixed daily charges, and consumption prices (per kWh) which mostly vary according to the time of day (TOU).

The prices for each component vary according to the capacity of the connection and connection density.

#### 1.12.1 Capacity

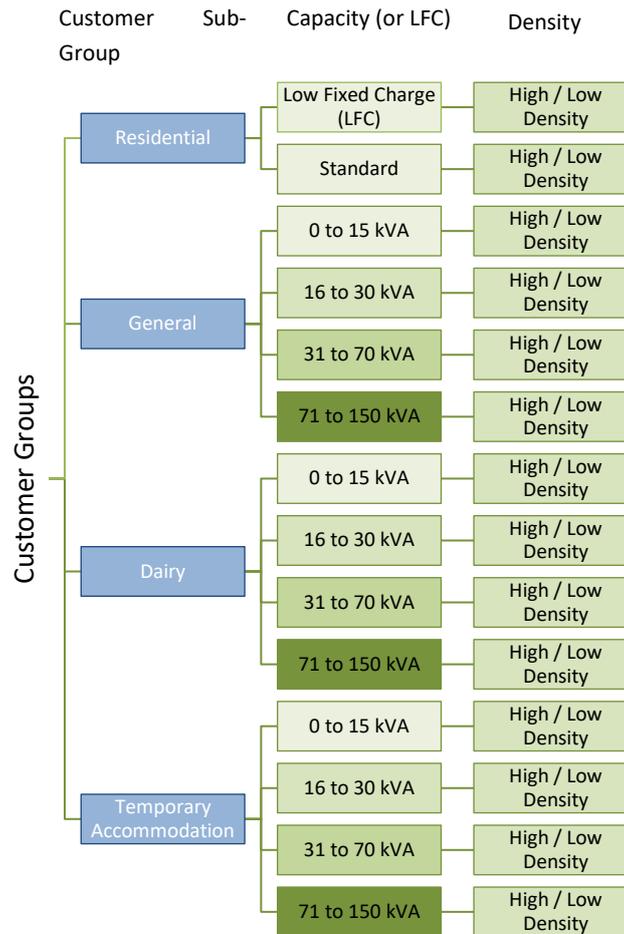
The capacity requirement of an individual customer affects the cost to supply because customers needing higher capacity require proportionally more assets or larger assets to supply them, and these assets can be shared with fewer customers. The capacity pricing categories used are: 0 to 15 kVA; 16 to 30 kVA; 31 to 70 kVA; and 71 to 150 kVA.

#### 1.12.2 Density

Density, referred to as demand density is a ratio of demand (capacity as measured at the distribution transformer) to line length from the feeder. Low demand density areas (generally those remote areas with low population) require a higher level of investment per connection. Given that density is an important driver of cost, TLC makes a distinction between pricing in low and high-density areas.

### 1.12.3 Resulting pricing categories

The figure below shows the pricing categories for TLC's standard contract customers.



### 1.12.4 Price components: Daily Charge

Daily charges are applied to each ICP and vary according to capacity, customer type and connection density. Fixed daily charges provide for the recovery of some fixed overhead costs including administration, billing, non-network asset depreciation and network management costs.

### 1.12.5 Price components: Consumption charges

Consumption charges are based on energy use (kWh) and the time of day that consumption occurs. The periods have been defined by reference to network data – particularly consideration of peak periods, and industry standards. On this basis the following periods have been determined:

- Peak 7.00 am to 9.30 am
- Shoulder 9.30 am to 5.30 pm
- Peak 5.30 pm to 8.00 pm
- Shoulder 8.00 pm to 11.00 pm
- Off Peak 11.00 pm to 7.00 am

Consumption charges are a simplified means for reflecting the utilisation of network assets<sup>13</sup> and recover capital-related costs and pass-through and recoverable costs. In this respect we note:

<sup>13</sup> While demand charges are more closely linked to impact of network usage on economic cost, TLC has concluded that for residential customers TOU consumption charges are the most pragmatic pricing mechanism.

- The application of time-based cost recovery (particularly peak) reflects network constraints and variable recoverable costs;
- For pricing purposes, forecast kWhs are based on historical data. It is difficult to quantify, with certainty, potential changes in consumer behaviour that may affect the forecast kWh volumes. Where additional information/data is available, this is considered with future kWh forecasts;
- TLC utilises load control to help minimise Transpower charges and additional network investment. To reward customers who provide network load control, lower peak prices exist for those customers with controllable load.

For customers for which TOU data is not available, an anytime price applies to the total kWh usage, irrespective of the time of day.

#### 1.12.6 Low Fixed Charge

Low Fixed Charge (LFC) Regulations are a regulatory requirement for distributors. The charge must be no greater than 30 cents per day for eligible customers. The regulations were amended on 29 November 2021 allowing the increase of the regulated distributor tariff option from 15 cents to 30 cents from 1 April 2022, increasing every year by 15 cents for the next 5 years, then being repealed. Accordingly, for eligible customers, the daily fixed charge has been increased by 15 cents per day and the consumption charges adjusted such that for an average consumer using 8,000 kWh per year, the LFC price is no more than any alternative tariff offered. The requirement to offer such a pricing option, and the resulting subsidy, is acknowledged in section (a) (i) of the Pricing Principles.

#### 1.12.7 Metering fee

From 1 April 2022, TLC will cease individually charging each ICP a daily metering fee. The metering fee included the physical provision of the meter, the cost of collection of data and the provision of the relay. TLC will no longer be charged the physical provision of the meter and data and relay costs have been absorbed into other distribution prices.

#### 1.12.8 Late payment fees

TLC has now fully combined its prompt payment discount into prices so that all customers effectively benefit from the discount. A late payment fee of \$10 + GST applies for overdue direct billed accounts. An additional fee of 3% per annum will be applied if an overdue balance exceeds \$1,000.

#### 1.12.9 Service fees

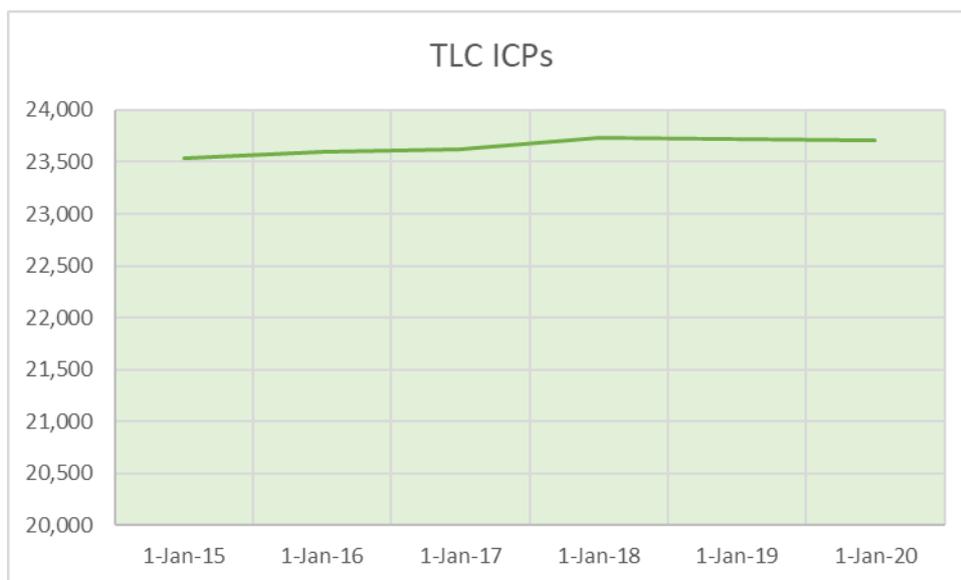
Service fees recover costs incurred in the provision of other dedicated services.

### 1.13 Forecast volumes

TLC has set RY2023 forecast volumes based on the volumes for three prior 12-month periods and has modelled a net growth of 1.6%. This is consistent with TLC's expectation that there will be slight growth in kWh volumes in RY2023, and that new connections and decommissioning of connections on TLC's network typically offset each other. The following table details billed volumes by supply point and TLC's resulting forecast for RY2023.

Point of supply (GWh)	Oct 2018 to Sept 2019	Oct 2019 to Sept 2020	Oct 2020 to Sept 2021	Δ% 2021 to 2019	RY2023 forecast	Δ% forecast to year ending Sept 2021
Hangatiki	89.1	89.8	91.6	2.8%	92.9	1.4%
Whakamaru	34.6	35.5	36.9	6.6%	38.2	3.3%
National Park	9.3	8.3	8.2	-11.8%	8.2	0.0%
Ohakune	15.5	15.4	15.4	-0.6%	15.4	0.0%
Ongarue	35.9	36.6	37.5	4.5%	38.4	2.2%
Tokannu	30.2	30.8	30.6	1.3%	30.8	0.7%
Total	214.6	216.4	220.2	2.6%	223.8	1.6%

As the following chart shows, there has been minimal growth in ICPs over the last three years. TLC does not have a time series of billed kWh to extrapolate from, because before October 2018, billing was based on kW, not kWh. As TOU billing progresses, TLC will have more information to enable future extrapolation and forecasting methodologies.



TLC has identified factors that affect the level of consumption in any given period and these are discussed below. However, as there is uncertainty on several variables, it is unclear that there is a methodology that is more meaningful or reliable than the simpler methodology of reviewing recent past growth (which reflects management expectations). Accordingly, TLC has decided to set RY2023 forecast volumes from recent annualised billing periods under consumption billing (1 October 2018 to 30 September 2021).

### **Effects of weather patterns on electricity consumption**

From one year to the next, weather can impact total electricity consumption volumes on TLC's network. Examples of this include that:

- a colder winter can drive more volumes through heating and more skiing days;
- a warmer summer can drive more volumes through air-conditioning, or it may mean reduced volumes through locals spending more time at holiday homes off-network e.g. Kawhia, Raglan;
- a warmer summer can mean more volumes through off-network customers coming to holiday homes e.g. Mangakino, Kuratau;
- a good dairy season can provide greater volumes;
- climate change may alter long-term trends in electricity consumption through more unstable weather and generally increasing temperatures with milder winters.

However, TLC does not consider that there is enough analytical rationale to incorporate weather variation in its RY2023 forecasts due to the difficulty in doing so in a reliable manner.

### ***Potential customer response to changes in pricing***

On 1 October 2018, TLC commenced Time of Use (TOU) pricing for most customers. This reform and change to TLC's pricing methodology was significant – moving from a capacity and demand-based pricing structure to a consumption, kWh, based structure. Customers may be still adjusting their consumption patterns for this pricing change.

During the initial period of TOU (which incorporated part of RY2020) a transition discount was included, which was intended to ease bill shock and allow customers time to alter their electricity usage profiles. The transition discount ceased in 2019 during RY2020.

The peak/shoulder differentials from 1 April 2022 remain similar to RY2022. This should provide greater stability on usage profiles and forecasts.

### ***Other factors that could affect volumes***

There are a range of other factors that could affect volumes including:

- changes in the level of commercial activities, however, given the current global economic context a conservative growth assumption seems reasonable;
- the number of 'vacant' ICPs, though it is not evident that there would be cause for a step-change;
- the number of de-energisations for non-payment;
- as TLC moved to retailer billing in RY2022 – the pricing structures that retailers offer to TLC customers can impact forecast volumes.

### ***Consistency with TLC's internal budgeting processes***

TLC's use of a 1.6% growth rate in forecast volumes is consistent with the methodology used in its internal budgeting processes.

To forecast volumes for billing for RY2023, TLC has taken the following approach:

- Sum the billed kWh volumes for the three periods ending 30 September and normalise volumes to 365 days;
- Use half of the difference from year 1 and year 3 as the adjustment for RY2023 except where the differences are negative where the forecast remains as billed in the most recent year.

### ***Capacity and Dedicated Asset customers***

Capacity and Dedicated Asset customer prices are applied to capacity and demand volumes and are either historical measures, 'fixed' capacity or asset-based pricing. As a result, forecasting usage is not required to forecast this revenue. In particular:

- Pass-through and transmission revenue: Quantities are determined from the customer's historic metering demand data and invoiced for the 12 months effective 1 April 2022;

- Distribution revenue: Quantities are determined from contracted capacity, or that customers individual peak demand.

Capacity and Dedicated Asset customer capacity growth is expected to impact RY2023 and in future years as described in TLC's Asset Management Plan.

### **COVID-19 and alert levels**

The price-setting process in RY2023, and associated forecasting, consider impacts for changes in alert levels for the National Park and Ohakune points of supply. TLC has adopted a conservative approach and has forecast consumption growth at 0% compared to the year ending September 2021 due to the unpredictable nature of the virus and the consequences of associated Government rules. Lockdowns or higher Covid travel restrictions can cause an effect in the supply points around Mount Ruapehu, accommodation and holiday homes on the network.

#### 1.13.1 Setting price levels

Price levels were set based on last year's levels, increased by a percentage to achieve the increase in target revenue.

### **Residential customer pricing**

For residential customers, the increase in target revenue was met by increasing standard fixed charges by 10%, increasing peak and shoulder prices by 5% and increasing off-peak prices by 2%.

LFC regulations are being phased out commencing from 1 April 2022. We reviewed our standard plan charges, as well as ascertained an optimal LFC daily price.

The price changes have slightly increased the ratio of peak:shoulder prices. This follows a significant change in the peak:shoulder price that we implemented in response to customers' feedback.

#### 1.13.2 Pricing for general, dairy, and temporary accommodation

In 2021, following feedback from consumers as well as extensive analysis of customer bill impacts of Demand to TOU prices, TLC concluded that it was appropriate to achieve some of the reduction in target revenue for General customers through reduced fixed charges, as well as a reduction in shoulder and off-peak prices. As discussed above, the rationale for this was to ease the transition from demand to TOU pricing. For RY2023, TLC has increased General fixed daily prices by 15% (slightly higher than for other load groups) to continue to transition for General connections.

#### 1.13.3 Proportion of forecast revenue

Appendix 3 shows the proportion of revenue forecast to be earned from each pricing component.

## Capacity and Dedicated Asset Standard and Non-Standard Contract Customers

### 1.14 Capacity and Dedicated Asset Standard Customers

TLC has 168 ICPs included within its capacity and dedicated asset standard contract customer group. Typically, capacity and dedicated asset standard customers have capacity requirements of over 150 kVA. These contracts are priced based on the demand these customers place on the network, which reflects the load placed on network assets together with the service levels required to maintain supply at the major customer connection. Streetlight contracts are based on a standard charge reflecting the assets used to provide these services.

### 1.15 Capacity and Dedicated Non-Standard Contract Customers

TLC currently has 11 customers connected to the network on capacity and dedicated asset non-standard contracts. The rationale for using a non-standard contract reflects the cost of dedicated assets (or substantially dedicated assets) for customer connection and for the service levels required to maintain supply at the connection.

Shared network and transmission costs are recovered from non-standard customers as per standard contracts. Typically, a non-standard contract customer will require a capacity of over 150 kVA.

The price charged for the dedicated assets will typically include:

- An asset maintenance cost is based on the costs to maintain dedicated assets. It includes a charge based on the line length of the dedicated asset multiplied by the relevant rate per km;
- A rate of return on the Regulatory Asset Value of the dedicated assets;
- Recovery of the depreciation of the asset during the contract term. The estimated value of the assets at the end of the current contract period is influenced significantly by the likelihood of the operation continuing beyond the contract period, or the assets being of value on contract expiry;
- Customer-related costs, depending upon the time commitment and frequency of interaction, are required to maintain the contractual relationship.

### 1.16 Pass-through and transmission costs

Pass through, and transmission costs are allocated to reflect actual customer impact on these costs. To achieve this, these customers are charged a combination of connection Charge and Individual Peak Demand or connection charge and Coincidental Demand quantities.

### 1.17 Target Revenue

Forecast target revenue recovered from capacity and dedicated asset standard and non-standard contracts and distributed generation (after TLC Discount) has increased by 13% from RY2022 being a combination of price changes, growth and new connections. Table 5 shows the target revenue allocated by the pricing component.

Capacity and Dedicated Asset Standard and Non-Standard - Target revenue and price components				
	Revenue RY2022	Revenue RY2023	Key pricing components RY2023	
	\$m	\$m	Distribution	Pass-through
Total	8.4	9.6	\$7.0m	\$2.6m

Table 5: Capacity and Dedicated Asset Standard and Non-Standard Target Revenue including Unmetered Load and Distributed Generation

### 1.18 Supply obligation

There is no specific obligation that would increase the supply obligation in a non-standard contract or asset-based contract. However, an increased level of service is implicit when dedicated assets are installed as part of the infrastructure requirements.

## Distributed Generation Pricing Methodology

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Prices charged and payments made to Generators on TLC's network are in accordance with the intent of Part 6: Connection of Distributed Generation of the Electricity Industry Participation Code 2010 and the pricing principles outlined in that document. The code has different regulations for injection, less than and greater than 10 kW.

### 1.19 Distributed Generation Charges

Distributed Generators, at the point of connection, may be charged:

- A network charge based on capacity requirements;
- A dedicated asset charge based on the recovery of investment and related costs;
- An administration charge to cover costs associated with the calculation of ACOT payments, general account maintenance, engineering and other technical costs that relate to distributed generation generally and for specific installations.

### 1.20 Distributed Generation Payments

Generators may receive payment for the benefit they provide in avoiding transmission charges (ACOT) from Transpower. These ACOT payments are recovered from the interconnection portion of transmission charges made to all customers on TLC's network. Where possible the calculation of this benefit is dependent upon the current methodology used by Transpower to allocate their interconnection charges. Currently, the benefit is calculated as follows:

- The average injection by the generator at the time of each of the top 100 LNI peaks in the preceding year ending 31 August 2021. Where negotiated, ACOT will be paid only if the generator supplies metering data to TLC in a format that can be constantly fed into TLC's network operating system;
- Adjusted by losses between the point of injection into the network and the Transpower POS;
- Multiplied by the charge, per kW, as charged by Transpower.

These payments are only available to existing Distributed Generation customers. No new distributed generation will receive these payments unless deemed eligible under Part 6 of the Code.

## Distribution Pricing Principles

In 2019 the Electricity Authority published the distribution pricing principles below, to set clear expectations for efficient distribution prices:

### The 2019 Distribution Pricing Principles:

- (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) consumers; 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, consumer impacts, and uptake incentives.

The following discussion considers how TLC's pricing levels and structures compare with these principles.

### 1.21 Prices are to signal the economic costs of service provision

#### **Subsidy-free**

To be subsidy-free, prices must at least cover avoidable costs and not exceed standalone costs. As is explained by the Authority in its Distribution Pricing Practice Note,<sup>14</sup> the assessment of whether prices are subsidy-free is most meaningfully assessed at a customer group level. TLC's process for allocating costs and establishing target revenues for each customer group would result in prices that cover avoidable costs. As discussed above in section 0, where possible, costs are allocated according to how each customer group influences maintenance, service and investment costs. It is highly unlikely that revenue for any customer group would be above standalone cost, given that there is a large amount of shared and common costs, as a result of shared network and overhead costs.

Concerning Standard Contracts, TLC's pricing varies according to connection density, with high- and low-density price differences. This reflects that line density is a key cost driver and setting pricing separately for high- and low-density areas will reduce the potential for subsidies to occur. Previously, TLC's pricing for standard customers also differed between GXP's. However, it was decided during the 2016 pricing review that a more pragmatic approach was to simplify the pricing structure for standard customers by removing GXP pricing but retaining a distinction between high vs low-density areas. As discussed previously, customer groups (residential, general, dairy and temporary accommodation) are also a means for reflecting that customer types impose different costs on the network.

<sup>14</sup> Electricity Authority, *Distribution Pricing: Practice Note August 2019*.

Pricing for major customers incorporates a capacity charge (per kVA), an individual peak demand charge and a coincidental demand charge to pass through the Transpower RCPD charges. Capacity and individual peak demand prices differ according to the 6 point of supply areas, which assists in producing pricing that reflects the cost of provision and reduces the likelihood of subsidies.

Pricing for the largest customers is non-standard and is determined considering the dedicated assets used. Pricing that is determined in this way is responsive to the requirements and circumstances of stakeholders and would discourage uneconomic bypass.

New connections to the network are required to pay a capital contribution, which would reduce the potential for subsidisation to occur, by requiring recovery from the new connection account holder of incremental costs associated with assets that are not shared with other users.

### ***Reflecting the impacts of network use on the economic cost***

Capacity-based load groups are used to ensure prices have regard to the level of service capacity and encourage the use of controlled energy consumption by having a price differential, rewarding connections that have controlled load with lower usage prices.

The use of TOU pricing also provides a signal to consumers to reduce their costs by utilising spare network capacity at off-peak periods, reducing the need for capital investment in the network. As discussed in section 0, almost 30% of connections are served by substations where peak load is such that security of supply standards are not being met. TOU pricing is one means used to defer investment in distribution network assets. TLC also highlights that TOU pricing is not only designed with existing network loadings in mind but puts in place a structure in which signals can be altered in future according to changes in network context – for example, if growth accelerates (for example through Electric Vehicle uptake) then the peak signals can be strengthened. Customers will already understand the concept of TOU prices and how to respond.

Ideally, the distribution component of peak prices would reflect TLC's Long-Run Marginal Cost (LRMC). In the 2016/17 review of TLC's demand pricing, PwC estimated that TLC's LRMC was in the range of \$70-80 per kW and noted that TLC's demand charge appeared to be over-signalling peak costs. The distribution component of the peak TOU price to apply to residential customers on the standard plan from 1 April 2022 is broadly in line with PwC's LRMC estimate. For residential customers on the LFC plan, the peak price still over-signals the LRMC because the 30c per day regulatory limit on fixed charges means that around 87% of costs must be recovered through kWh charges, distorting the signals that kWh prices provide. However, a phased increase in the fixed charges will see this improve once LFC regulation has fully phased out, TLC expects recovering fixed costs through fixed charges, up to the extent it is necessary and where it can correctly signal current and/or future congestions.

The LRMC estimate is an average across the entire network. As discussed in section 0, current network constraints are only in some parts of the network. Pricing that perfectly signalled upcoming investments would be more disaggregated with peak charges in constrained areas being higher, and peak charges in unconstrained areas being lower. However, pricing in this way would also have greater administrative costs (both for TLC and retailers) and would potentially create customer confusion. TLC has in the past had geographically averaged pricing, however, external expert advisors recommended that the pricing structure should be simplified. TLC followed that advice when implementing TOU pricing with less geographic disaggregation.

As technology evolves TLC will continue to evaluate the costs and benefits of more targeted pricing. For example, if demand-response becomes more viable and accessible, the benefits of geographically targeted price signals would increase.

The use of peak charging structures for Capacity and Dedicated Asset customers reflects key drivers of Transpower charges, to enable prices to signal the impact of additional demand on future investment costs and to pass through Transpower charges that result from a demand. The use of peak charges also reflects that Major customers tend to have greater resources to understand and manage demand charges than customers with smaller connections.

TLC has maintained similar peak/shoulder/off-peak differentials from the previous year's pricing which, as discussed in our RY2022 Pricing Methodology, reflected our estimate of Long Run Marginal Cost (LRMC). The LRMC unitised planned system capex using forecast demand growth and also includes transmission peak demand pricing signals. The LRMC will vary over time, for example, as capital expenditure relieves some constraints, and demand growth creates others. We will continue to review our TOU price differentials as the LRMC changes, and as the structure of the TPM changes, but we also recognise that there is some uncertainty around growth forecasts given the fundamental change occurring in the sector as a result of decarbonisation. Electricity demand is expected to grow, through electrification of transport, heating and industrial processes, but there is uncertainty as to how strong and when the growth will happen. Given this uncertainty, we consider it prudent to err on the side of having peak charges that are above rather than below our point estimates of LRMC. We also note that we have had significant engagement with our customers on Time-of-Use pricing, which has included customer education. Given this, we think there is benefit in avoiding volatility in TOU pricing differentials – having done the Mahi in implementing price signals and explaining these to our customers, and given that these types of pricing signals are likely to become increasingly important in future, we are hesitant to reduce these signals at the current time.

### ***Differences in network service***

Different prices for controlled versus uncontrolled connections reflect that controlled load has different service availability than uncontrolled load.

For capacity and dedicated asset customers, pricing reflects that customers may connect with the network at different levels: 400V, 11kV or 33kV.

### ***Encouraging efficient network alternatives***

By signalling when the network is likely to be at its busiest, TOU pricing is likely to encourage efficient network alternatives and avoid encouraging inefficient alternatives. Also, changes made to the TOU differentials from 1 April 2020 enhanced consumers' ability to choose between opting for the network to control their load and controlling it through some other means i.e. themselves or via a third party. Under Part 6 of the Code, TLC charges distributed generation only the incremental cost of connection.

### ***1.22 Where prices that signal economic costs would under-recover target revenues, the shortfall should be made up by prices that least distort network use***

Capacity/daily charges are used to recover a significant proportion of revenue for standard and major users – these types of charges tend to be the least distortionary way to recover remaining

costs, but arguably fairer than a single fixed charge for all ICPs. However, there are limitations on the proportion of costs that can be recovered through capacity or daily charges as a result of the Low Fixed Charge Regulations, as well as fairness considerations. The latter became particularly apparent in TLC's change of pricing structure, where the implementation of a fixed charge for general customers created a substantial change in charges for some customers. As a result of feedback from customers and analysis of bill impacts, TLC reduced the daily fixed charge for general connections from 1 April 2020 but signalled these would increase to better reflect TLC's costs. From 1 April 2022, these prices have been increased by 15% and will continue to increase.

TLC also notes that while the recovery of fixed costs from variable charges will distort usage to some extent, low uptake of evolving technologies (PV, EVs) in TLC's network footprint area is likely to mean that there will be less adverse consequences from variable charges than in other areas where there is much stronger uptake of evolving technologies. Technology change remains a key driver for renewable energy. Solar energy and battery storage at a domestic level continue to become more economically viable. The uptake of these technologies in TLC network is still relatively low but we anticipate that investment in solar generation and batteries will continue to accelerate. These technologies introduce some new challenges for TLC, including how we will manage the network in an environment where there is significant bi-directional power flow, and how we support the growth of distributed generation while maintaining an economic supply for our customers using traditional electricity lines.

#### 1.23 Prices should be responsive to the requirements and circumstances of end-users by allowing negotiation to reflect the economic value of services and enable price/quality trade-offs.

This principle is particularly relevant to pricing for large customers. Bypass risks are associated with directly connecting to Transpower's network, use of alternate energy source or the potential to locate their site in a location served by another lines company. Commercial negotiation and individual pricing/account management for large customers help minimise these risks e.g. using pricing that takes into account dedicated assets and distance from the customer site to the local zone substation. It also enables price/quality trade-offs: for example, some customers with high capacity connections may choose to own their own local substation.

More generally, concerning price-quality trade-offs, the nature of electricity networks is such that there are limited means to enable price/quality trade-offs for smaller customers. However, the ability to opt in to load control effectively provides a price/quality choice. Also, TOU pricing allows customers to make decisions around shifting load etc in return for lower off-peak (or shoulder prices).

#### 1.24 Development of prices should be transparent and have regard to transaction costs, consumer impacts, and uptake incentives

TLC engaged in extensive consultation before implementing the change from demand to TOU pricing. The input informed the decision of whether to retain demand pricing or move to an alternate pricing mechanism. A transition mechanism of billing customers the new TOU pricing from October 2018 but providing a rebate every three months for those customers that faced the most significant bill impacts was implemented. This provided an effective and transparent means for allowing customers to be exposed to TOU pricing, but mitigating the effects of the change and providing customers with time to adjust their consumption patterns.

TLC has modelled customer bill impacts for customers. TLC has drawn on that analysis, feedback from customers, and benchmarking of prices from EDBs in setting price levels for the RY2023 pricing year. The fixed charge increases are more to align with TLC's costs and TLC will continue to increase fixed prices and decrease variable prices where there are less local constraints.

As a result of direct billing, TLC is aware of the transactions costs associated with pricing. TOU is considered by TLC to have lower transaction costs than demand charging for standard customers, as a result of being simpler to understand with less confusion arising from demand charges for which lines charges were affected by demand from the previous year.

## Pricing Strategy

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The effective transition from demand pricing to TOU pricing was a core focus for TLC. That transition is complete. The next stage in our pricing reform is implementing changes to the phased removal of Low Fixed Charge (LFC) Regulations and implementation of new Transmission Pricing Policy if and when it comes into effect. The Transmission Pricing Policy may change from 1 April 2023 requiring a review of our cost allocations across the network and LFC removal will enable lower variable charges in less constrained areas, with higher fixed prices. Rebalancing prices in this way will be more reflective of underlying costs.

In line with TLC's strategy, RY2023 has seen increased fixed prices proportionate to variable prices with fixed prices now accounting for 34% of forecast revenue for consumption-priced connections. TLC has also increased the allowable fixed prices during the LFC transition. This will be further addressed in TLC's Pricing Roadmap.

Major customers' system requirements and usage of TLC's network are unique in several ways:

- They have firm capacity requirements
- They have unique levels of tolerance for interruptions hence requirement-specific backup supply options are required by them
- The economic value of uninterrupted power supply is generally higher compared to a residential customer or a small commercial customer

TLC is often required to make big investments for existing customers requiring upgrades and new major customers. The cost is transparently signalled to the customer and is loaded in the charges to the customer requesting upgrade or new connection depending on the commercial negotiations. TLC also requires capital contributions from major customers to cover the cost of extending or upgrading the Network to deliver supply to the point of connection requested by the customer. It is ensured that the pricing is aligned with the impact on network costs.

TLC will continue reviewing our cost model and consider allocations with a view of making adjustments, if necessary, for 1 April 2023 in line with the anticipated Transmission Pricing Methodology changes.

TLC expects the principles and criteria it developed in the context of the company's 2016 pricing review will continue to guide the development of future pricing strategies. As part of the 2016 pricing methodology review, TLC defined the following overarching objective for pricing: "to achieve optimum equity, simplicity and transparency for the customers on our Network".<sup>15</sup>

The 2016 pricing review set out the following criteria for evaluating pricing options:

Pricing methodologies and the actual prices that result should seek to achieve:

- **Equity**—Prices should allocate distribution costs proportionately to customers. Prices should be causer/user-pays based. Prices should reward demand-side behaviour where results are symmetrical to supply-side demand for the service.
- **Stability**—Prices should be stable for customers year-on-year, and only change to the extent that the customers' underlying demand for the services changes. Prices should also deliver stable revenue to TLC to enable it to continue to invest in and maintain, the network.

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<sup>15</sup> [Terms of Reference, 'Service based pricing review, 6 December 2016](#)

- **Efficiency**—Prices should promote the efficient use of electricity network assets. Where necessary, prices should signal network constraints.
  - **Control**—Customers should receive the information they require to manage their demand for service in a timely manner and hence be able to control the cost of the service by changing their demand. The information should be available in an economically efficient form that gives customers options and allows them to control the cost of the service. Prices and usage information should promote responsive behaviour from consumers.
  - **Clarity and transparency**—prices should be understandable to customers. Prices should be able to be implemented simply without unnecessary complexity. Prices should be robust mathematically.
  - **Compliance**—Prices should comply with the Electricity Authority's pricing principles and also align with other legislation including Low Fixed Charge regulations, Distributed Generation Code Continuance of Supply and the Commerce Commission's Input Methodologies.
  - **Durability**—The methodology needs to last for a long time.
  - **Transition and implementation considerations**—Address any technical and customer issues relating to any changes.
  - **Practical**—the pricing methodology can be efficiently implemented with existing technology.
- Our pricing is expected to continuously evolve to deliver on the pricing criteria above and in line with the Authority's principles. Any future changes to our pricing methodology will require the management of possible conflicting criteria.

## Appendix 1: Directors' Certification

### Schedule 17 Certification for Year-beginning Disclosure

Clause 2.9.1 of section 2.9, Information Disclosure Determination

We, Bella Takiari-Brame and Mike Underhill, being directors of The Lines Company Limited certify that, having made all reasonable enquiry, to the best of our knowledge:

a) the following attached information of The Lines Company Limited prepared for the purposes of clause 2.4.1 of the Electricity Distribution Information Disclosure Determination 2012 in all material respects complies with that determination.

b) The prospective financial or non-financial information included in the attached information has been measured on a basis consistent with regulatory requirements or recognised industry standards.

21 March 2022

\_\_\_\_\_  
Date



\_\_\_\_\_  
Bella Takiari-Brame  
Director

21 March 2022

\_\_\_\_\_  
Date



\_\_\_\_\_  
Mike Underhill  
Director

## Appendix 2: Information Disclosure Determination 2012 Alignment Table

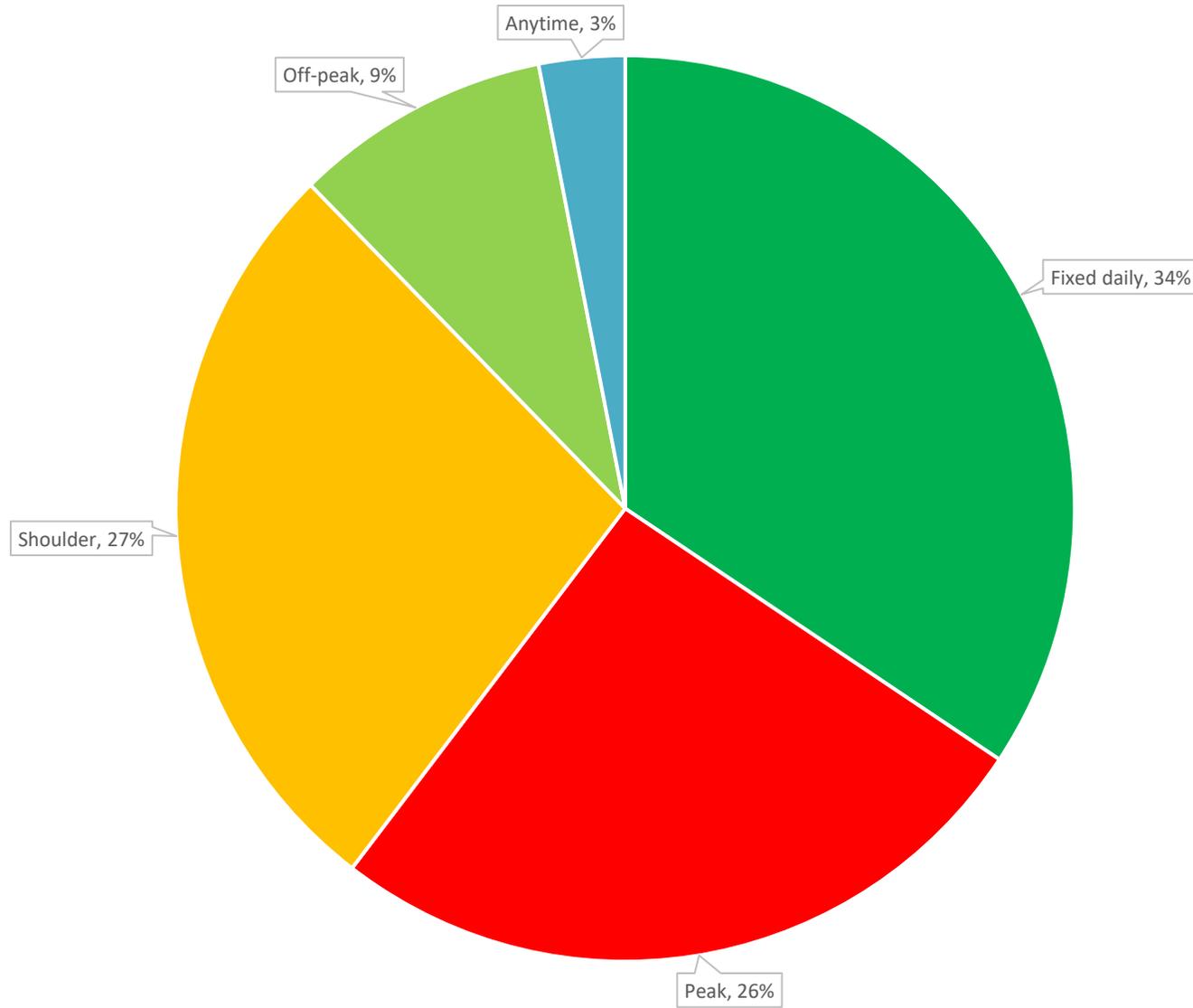
Information Disclosure Determination 2012 requirements	Price Methodology Reference
<p>Section 2.4.1 Every EDB must publicly disclose, before the start of each pricing year, a pricing methodology which-</p> <p>(4) Explains whether, and if so how, the EDB has sought the views of consumers, including their expectations in terms of price and quality, and reflected those views in calculating the prices payable or to be payable. If the EDB has not sought the views of consumers, the reasons for not doing so must be disclosed.</p>	Section 1.4
<p>Section 2.4.3 Every disclosure under clause 2.4.1 above must-</p> <p>(1) Include sufficient information and commentary to enable interested persons to understand how prices were set for each consumer group, including the assumptions and statistics used to determine prices for each consumer group</p>	Sections 0 and 0
<p>(2) Demonstrate the extent to which the pricing methodology is consistent with the pricing principles and explain the reasons for any inconsistency between the pricing methodology and the pricing principles</p>	Section 0
<p>(3) State the target revenue expected to be collected for the disclosure year to which the pricing methodology applies</p>	Section 0
<p>(4) Where applicable, identify the key components of target revenue required to cover the costs and return on investment associated with the EDB's provision of electricity lines services. Disclosure must include the numerical value of each of the components</p>	Section 1.6
<p>(5) State the consumer groups for whom the prices have been set, and describe</p> <p>(a) the rationale for grouping consumers in this way</p> <p>(b) the method and the criteria used by the EDB to allocate consumers to each of the consumer groups</p>	Section 1.1
<p>(6) If prices have changed from prices disclosed for the immediately preceding disclosure year, explain the reasons for changes, and quantify the difference in respect of each of those reasons</p>	Section 1.5
<p>(7) Where applicable, describe the method used by the EDB to allocate the target revenue among consumer groups, including the numerical values of the target revenue allocated to each consumer group, and the rationale for allocating it in this way</p>	Section 0
<p>(8) State the proportion of target revenue (if applicable) that is collected through each price component as publicly disclosed under clause 2.4.18</p>	Appendix 3

Information Disclosure Determination 2012 requirements	Price Methodology Reference
<p>Section 2.4.4 Every disclosure under clause 2.4.1 above must if the EDB has a pricing strategy -</p> <p>(1) Explain the pricing strategy for the next 5 disclosure years (or as close to 5 years as the pricing strategy allows), including the current disclosure year for which prices are set</p> <p>(2) Explain how and why prices for each consumer group are expected to change as a result of the pricing strategy</p> <p>(3) If the pricing strategy has changed from the preceding disclosure year, identify the changes and explain the reasons for the changes</p>	Section 0
<p>Section 2.4.5 Every disclosure under clause 2.4.1 above must-</p> <p>(1) Describe the approach to setting prices for non-standard contracts, including-</p> <p>(a) the extent of non-standard contract use, including the number of ICPs represented by non-standard contracts and the value of target revenue expected to be collected from consumers subject to non-standard contracts</p> <p>(b) how the EDB determines whether to use a non-standard contract, including any criteria used</p> <p>(c) any specific criteria or methodology used for determining prices for consumers subject to non-standard contracts and the extent to which these criteria or that methodology are consistent with the pricing principles.</p>	Sections 1.1 and 1.15
<p>(2) Describe the EDB's obligations and responsibilities (if any) to consumers subject to non-standard contracts in the event that the supply of electricity lines services to the consumer is interrupted. This description must explain-</p> <p>(a) the extent of the differences in the relevant terms between standard contracts and non- standard contracts</p> <p>(b) any implications of this approach for determining prices subject to non-standard contracts</p>	Section 1.18
<p>(3) Describe the EDB's approach to developing prices for electricity distribution services provided to consumers that own distributed generation, including any payments made by the EDB to the owner of any distributed generation, and including the-</p> <p>(a) prices; and</p> <p>(b) value, structure and rationale for any payments to the owner of the distributed generation.</p>	Section 0

### Appendix 3: Forecast revenue recovered through standard contract pricing components

Customer Group	No. of ICPs	Fixed daily (\$000)	Daily TLC Discount (\$000)	Peak (\$000)	Peak TLC Discount (\$000)	Shoulder (\$000)	Shoulder TLC Discount (\$000)	Off-peak (\$000)	Off Peak TLC Discount (\$000)	Anytime (\$000)	Anytime TLC Discount (\$000)	Total before TLC Discount (\$000)	Total after TLC Discount (\$000)	Average per ICP after TLC Discount (\$)
<i>Residential</i>														
Low Fixed Charge	6,927	759	-71	2,034	-149	2,371	-221	856	-77	250	-8	6,270	5,744	829
Standard	6,966	2,693	-300	2,866	-212	2,974	-292	960	-85	285	-11	9,778	8,877	1,274
<i>Subtotal</i>	13,893	3,452	-371	4,900	-361	5,345	-513	1,816	162	535	-19	16,048	14,621	1,052
<i>General</i>														
0-15 kVA	4,800	3,076	-365	1,139	-106	1,243	-137	369	-37	177	-11	6,004	5,348	1,114
16-30	405	463	-49	504	-41	558	-55	155	-14	112	-5	1,793	1,629	4,022
31-70	167	422	-43	340	-24	420	-38	133	-10	147	-6	1,463	1,342	8,036
71-150	50	262	-22	305	-16	381	-30	141	-10	4	0	1,093	1,016	20,320
<i>Subtotal</i>	5422	4,223	-479	2,288	-187	2,602	-260	798	-71	440	-22	10,353	9,335	1,722
<i>Temporary Accommodation</i>														
0-15 kVA	3,719	3,175	-111	426	-8	426	-10	145	-3	48	-3	4,221	4,086	1,099
16-30	131	233	-4	95	-2	85	-2	35	-1	6	0	453	445	3,397
31-70	67	282	-3	108	-1	105	-1	46	0	24	0	565	559	8,343
71-150	11	88	-3	55	-1	52	-1	23	-1	0	0	218	211	19,182
<i>Subtotal</i>	3,928	3,778	-121	684	-12	668	-14	249	-5	78	-3	5,457	5,301	1,350
<i>Dairy</i>														
0-15 kVA	40	23	-4	33	-4	28	-4	10	-1	0	0	94	80	2,000
16-30	83	91	-17	168	-21	142	-23	53	-8	0	0	454	386	4,651
31-70	278	713	-127	991	-111	949	-149	338	-49	6	-1	2,996	2,558	9,201
71-150	55	299	-54	317	-33	333	-52	124	-19	14	-2	1,087	927	16,855
<i>Subtotal</i>	456	1,126	-202	1,509	-169	1,452	-228	525	-77	20	-3	4,631	3,951	8,664
<b>Total</b>	<b>23,699</b>	<b>12,579</b>	<b>-1,175</b>	<b>9,380</b>	<b>-728</b>	<b>10,067</b>	<b>-1,015</b>	<b>3,388</b>	<b>-316</b>	<b>1,072</b>	<b>-46</b>	<b>36,487</b>	<b>33,207</b>	<b>1,401</b>

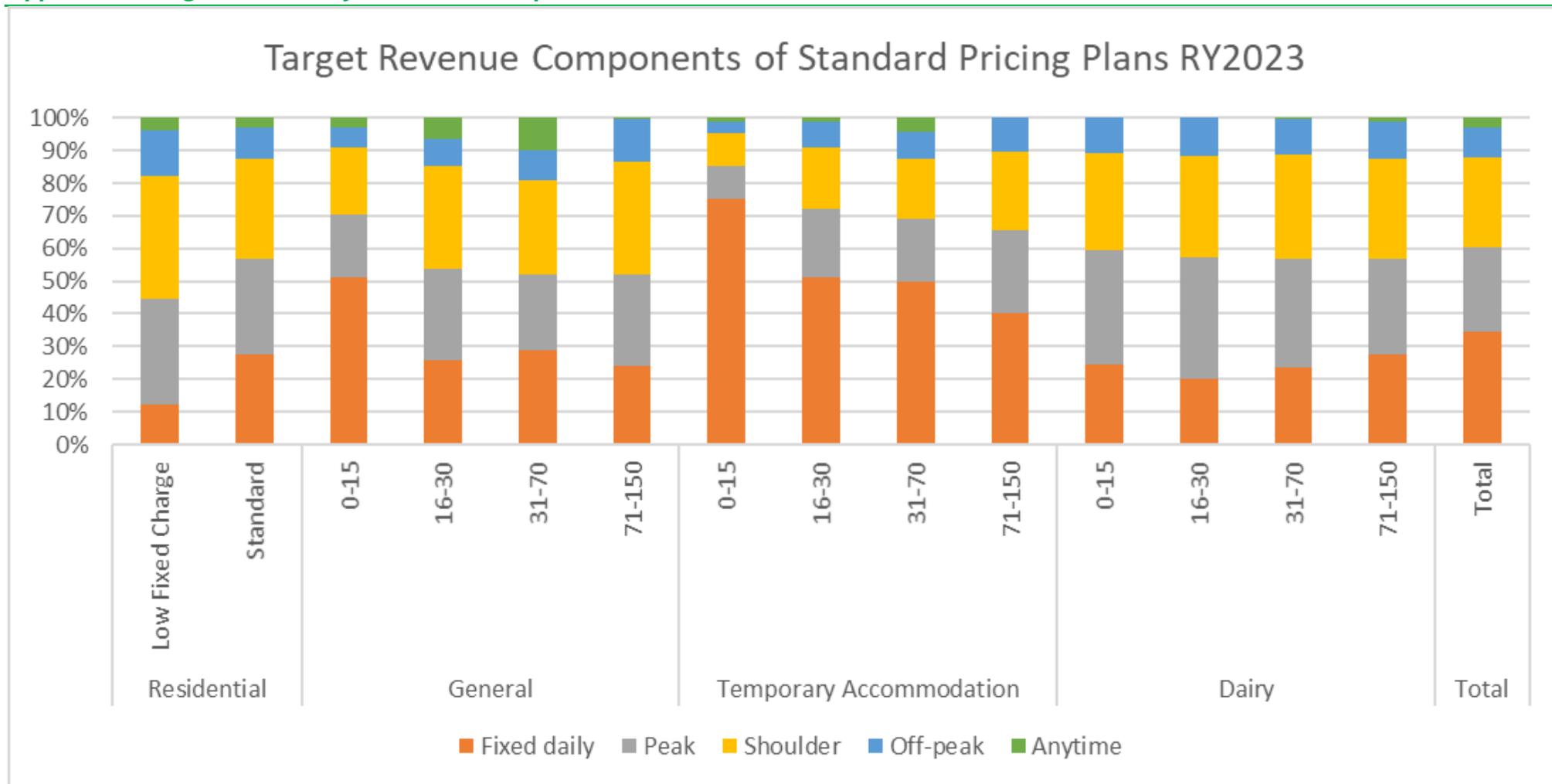
### Forecast revenue recovered through standard contract pricing components RY2023



## Appendix 4: Forecast revenue recovered through standard contract pricing components after TLC Discount

Time of use	No. of ICPs	Fixed daily	Peak	Shoulder	Off-peak	Anytime	Total
<i>Residential</i>							
Low Fixed Charge	29%	2%	6%	6%	2%	1%	17%
Standard	29%	7%	8%	8%	3%	1%	27%
<i>Subtotal</i>	59%	9%	14%	15%	5%	2%	44%
<i>General</i>							
0-15	20%	8%	3%	3%	1%	0%	16%
16-30	2%	1%	1%	2%	0%	0%	5%
31-70	1%	1%	1%	1%	0%	0%	4%
71-150	0%	1%	1%	1%	0%	0%	3%
<i>Subtotal</i>	23%	11%	6%	7%	2%	1%	28%
<i>Temporary Accommodation</i>							
0-15	16%	9%	1%	1%	0%	0%	12%
16-30	1%	1%	0%	0%	0%	0%	1%
31-70	0%	1%	0%	0%	0%	0%	2%
71-150	0%	0%	0%	0%	0%	0%	1%
<i>Subtotal</i>	17%	11%	2%	2%	1%	0%	16%
<i>Dairy</i>							
0-15	0%	0%	0%	0%	0%	0%	0%
16-30	0%	0%	0%	0%	0%	0%	1%
31-70	1%	2%	3%	2%	1%	0%	8%
71-150	0%	1%	1%	1%	0%	0%	3%
<i>Subtotal</i>	2%	3%	4%	4%	1%	0%	12%
<b>Total</b>	<b>100%</b>	<b>34%</b>	<b>26%</b>	<b>27%</b>	<b>9%</b>	<b>3%</b>	<b>100%</b>

Appendix 5: Target Revenue by Customer Group and No. of ICPs



### No. of ICPs

