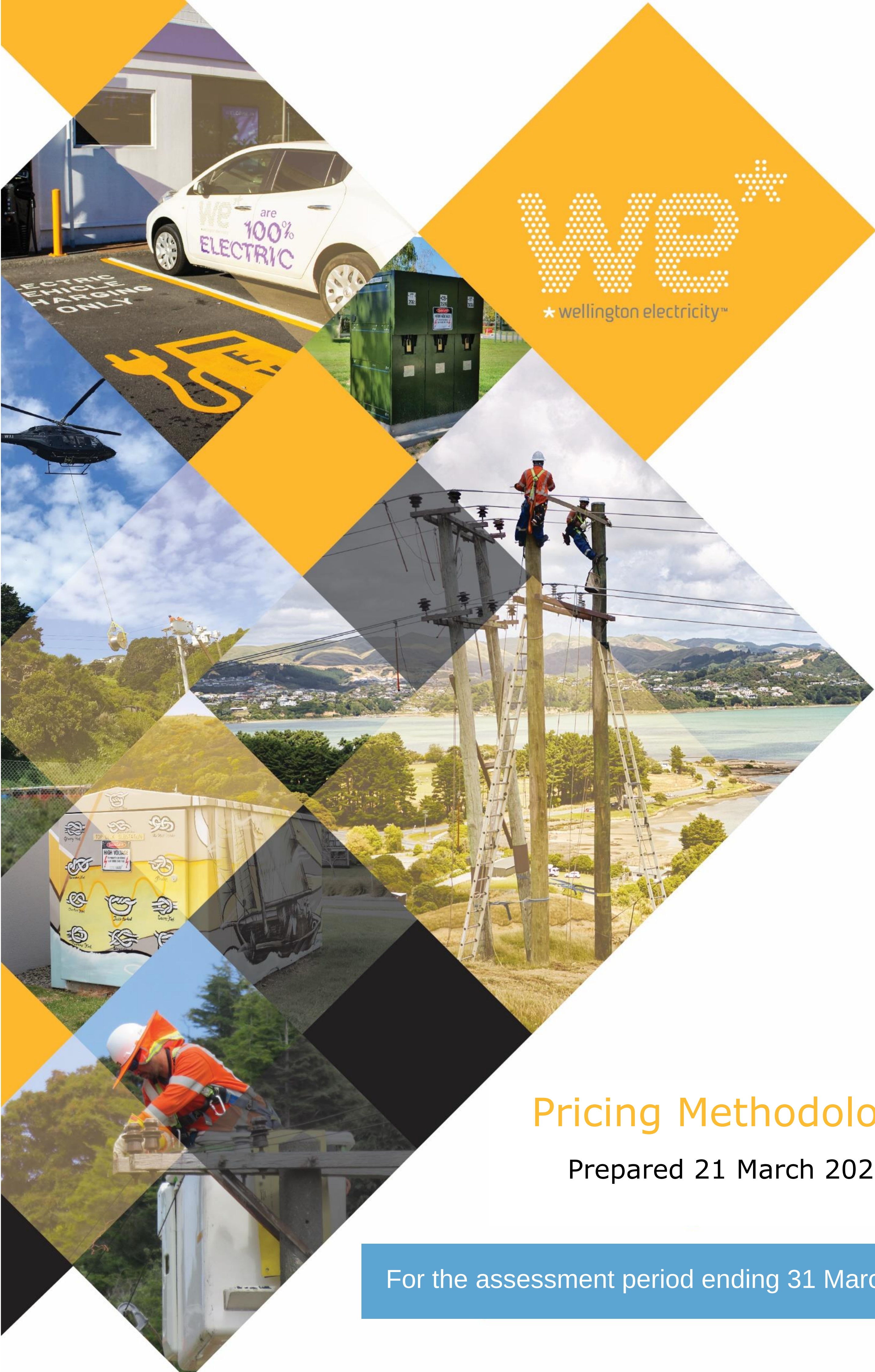

Pricing Methodology

Prepared 21 March 2022

For the assessment period ending 31 March 2023

Contents

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1 Glossary

Abbreviation/Term	Definition or description
2022/23 Disclosure of Prices	Wellington Electricity Lines Limited's Disclosure of Prices
ACOT	Avoided cost of transmission – an amount payable to large, distributed generators within Wellington Electricity's network in recognition that these generators may cause WELL to avoid Transpower charges
Capacity	The maximum amount of energy that a part of the network is able to carry at any point in time
Commerce Commission	New Zealand Commerce Commission (NZCC)
Consumer	A person, residential or business, that uses electricity or acquires electricity lines services
Consumer group	The category of consumer used by the Electricity Distribution Business (EDB) for the purpose of setting prices
Controlled load	An amount of electrical load which a consumer makes available to the distributor's load control system to turn off during periods of network congestion or to assist in restoring supply
CPI	Consumer Price Index inflation
CPP	The Commerce Commission sets a price-quality path for each regulated lines company - a price path is the maximum total revenue a lines company can recover from its consumers and the quality path is the minimum level of quality of service that it must provide. A customised price path (CPP) is a unique price-quality path used to deliver a specific programme of work
Delivery price	The total delivery price for both distribution and transmission services (also known as lines charges)
Demand	Electricity use at a point in time
Distributed generator	Any person who owns or operates equipment that is connected to Wellington Electricity Lines Limited's distribution network, including through a consumer installation, which is capable of injecting electricity into the network

Distribution Network	A distribution network is the network of equipment that carries electricity from the high voltage transmission grid to industrial, commercial and domestic users
Distribution pricing practice note	The 2021 distribution pricing practice note 2nd edition 2021 provides guidelines to help distributors interpret and apply the distribution pricing principles. This can be found on the Electricity Authority's website.
DPP	The Commerce Commission sets a price-quality path for each regulated lines company - a price path is the maximum total revenue a lines company can recover from its consumers and the quality path is the minimum level of quality of service that it must provide. A default price path (DPP) is a low cost, standard method of calculating the price-quality path for lines company's not on a CPP
DPP Determination 2020	WELL's current price-quality path, Decision No [2020] NZCC 25, Electricity Distribution Services Default Price-Quality Path (Wellington Electricity transition) Amendments Determination 2020
EDB	An Electricity Distribution Business is an entity that owns and operates an electricity distribution network to provide electricity distribution services
Electricity Authority	The Electricity Authority. The Electricity Authority is an independent Crown entity responsible for the efficient operation of the New Zealand electricity market. It is the electricity market regulator
Electricity distribution services	Electricity distribution services are the conveyance of electricity on lines from the transmission GXP to consumers ICPs
EV	Electric Vehicle
GXP	A point of supply to Wellington Electricity Lines Limited's distribution network from Transpower's national transmission grid
HV	High Voltage – equipment or supplies at voltages of 11kV, 22kV or 33kV
ICP	An Installation Control Point (ICP) is a physical point of connection on a local network or an embedded network that the distributor nominates as the point at which a retailer will be deemed to supply electricity to a consumer
ID Determination 2012	Electricity Distribution Information Disclosure Determination 2012 – consolidated version – 9 December 2021
IM Determination 2012	Electricity Distribution Services Input Methodologies Determination 2012 (consolidated 20 May 2020) – 20 May 2020

LFC Regulations	Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulation 2004
Lines charges	Refer to Delivery price
LRMC	Long Run Marginal Costs
LV	Low Voltage – equipment or supply at a voltage of 220V single phase or 415V three phase
Network	The electricity distribution network owned by Wellington Electricity Lines Limited for the conveyance of electricity. Network assets include substations, lines, poles, transformers, circuit breakers, switchgear, cabling etc.
Point of connection	A point at which a consumer's fittings interconnect with the Network as described by diagrams as used from time to time by Wellington Electricity Lines Limited
Power factor (PF)	A measure of the ratio of real power to total power of a load. The relationship between real, reactive and total power is as follows: PF = Real Power (kW) / Total Power (kVA) Total Power (kVA = $(kW^2 + kVAr^2)^{0.5}$
Pricing Methodology	Wellington Electricity Lines Limited's Pricing Methodology Disclosure Document
Pricing Principles	The Electricity Authority's updated Distribution Pricing Principles have been provided in "Distribution Pricing: Practice Note", August 2019. This can be found on the Electricity Authority's website.
RAB	Regulated Asset Base – is the regulated value of the distribution assets that Wellington Electricity uses to provide line function services
Regulatory Period	A regulatory period is the period of time that a price-quality path Determination applies to. The Regulatory Period for a DDP is usually five years
Regulatory Year	A regulatory year is the period from 1 April to 31 March
WELL	Wellington Electricity Lines Limited

2 Introduction

Wellington Electricity Lines Limited (WELL) owns and operates the electricity distribution network in the Wellington region. We manage the poles, wires and equipment that provide electricity to approximately 400,000 consumers in the Wellington, Porirua, Lower Hutt and Upper Hutt areas. We will be investing $162m between April 2021 to March 2025 (the current regulatory period) on the network to maintain a modern network and to build new capacity to meet Wellingtons growing electricity use.

- We are investing around **$162m** in infrastructure on the Wellington network
- We provide electricity to over **171,000** households and to **400,000** people
- Our total network is around **6,600 km** in length with over **4,100 km** of it being underground cables.
- We have around **4,000 substations** and **40,000 poles**.
- There are about **5,000** electric vehicles connected to our network, **1,700** more than last year.

WELL recovers the cost of owning and operating the network through a combination of standard (published) and non-standard prices for electricity lines services, and capital contributions for new connections. WELL is regulated by the Commerce Commission (Commission) and is required to publish its pricing methodology used to calculate prices for its electricity lines services. WELL is also regulated by the Electricity Authority (Authority), who provides guidance on how network tariffs are derived. This document describes WELL's price setting methodology and outlines how costs are allocated to and recovered from the consumer groups who receive electricity distribution services from the Wellington distribution network for the pricing year commencing 1 April 2022.

3 Regulatory background

WELL is a supplier of electricity distribution lines services and is regulated by:

- The Commission under Part 4 of the Commerce Act 1986 (Part 4); and
- The Electricity Authority under the Electricity Industry Act 2010.

3.1 Commerce Act 1986 regulation

Under Part 4, the Commerce Commission (Commission) regulates markets where competition is limited, including electricity distribution services. Regulation for electricity distribution services includes regulation of price and quality through a price-quality path to ensure incentives and pressures, similar to those in a workably competitive market, are faced by Electricity Distributors Businesses (EDB) so that consumers will benefit in the long term.

3.2 Price-quality path determination

These prices are compliant with WELL's regulatory DPP Determination for the 2022 Assessment Period, i.e. the year commencing 1 April 2022.

The DPP Determination regulates two components of WELL's prices: the distribution price component and the pass-through price component. The pass-through price component recovers costs that are largely outside WELL's control. These include council rates, levies, transmission costs and other recoverable costs. The distribution price component recovers WELL's costs of operating the electricity distribution network and associated electricity distribution services.

At the commencement of each regulatory period, the Commission determines quantum total amount of allowable revenue for WELL to ensure that the business recovers what the Commission determines as a sufficient return on an efficient level of forecast operating and capital expenditure. This is achieved by computation of "building blocks", whereby the Commission determines the revenue that equates to recovery of operating expenditure, depreciation and an "industry benchmarked" rate of return on capital employed. Once allowable revenue is determined for each year of the regulatory period, the present value of the revenue is calculated; this present value is then "smoothed" over the regulatory period as forecast net allowable revenue.

The DPP Determination 2020 sets WELL's forecast net allowable revenue from distribution prices for each year of the regulatory period. A mechanism at the end of each pricing year allows for any differences between allowable revenue and actual revenue to be washed up in subsequent years with a time value of money adjustment.

Pass-through price components recover the actual pass-through and recoverable costs that WELL incurs. A mechanism at the end of each pricing year allows for any differences between pass-through and recoverable costs and pass-through price revenues to be washed up in subsequent years with a time value of money adjustment.

3.3 ID Determination 2012

WELL is also subject to information disclosure regulation under Part 4[1]. The purpose of this regulation is to ensure that sufficient information is readily available to interested persons to assess whether the purpose of Part 4 of the Act is being met. As a result, WELL must make disclosures under the ID Determination 2012, including publicly disclosing its Pricing Methodology before the start of each disclosure year commencing 1 April. The requirements of the ID Determination 2012 relating to pricing methodologies are set out in Appendix A.

3.4 Distribution Pricing Principles 2019

The Electricity Authority's Distribution Pricing Principles 2019 provides voluntary pricing principles for EDBs to use when developing their tariff structures. The Electricity Authority have also provided the Distribution Pricing Practice note to help distributors interpret and apply the distribution pricing principles. In accordance with the ID Determination 2012, we demonstrate WELL's pricing methods are consistent with the Pricing Principles in Appendix B.

The Authority also provide an annual scorecard assessment of how well an EDBs prices reflect the pricing principles are reflective of their underlying costs of providing distribution services.

3.5 Other regulatory requirements

Other regulatory requirements directly applicable to this pricing methodology are:

- The LFC Regulations - these require EDBs to offer a pricing plan to residential consumers who use less than 8,000kWh per annum. The pricing plan has a fixed daily price. Other variable charges must be set such that residential low users are no worse off than residential standard users when consumption is at 8,000kWh per annum. The legislation applying the fixed restrictions is being phased out over five years. Each year for the next five years, EDBs can increase their fixed price for low energy users by 15 cents. Prices this year included the first fixed price adjustment. The fixed daily change for residential low users has been increased from 15 cents per day to 30 cents per day.
- Schedule 6.4 of Part 6 of the Electricity Code sets out pricing principles for distributed generation.

[1] Section 54F of the *Commerce Act 1986*

3.6 Related pricing documents

In addition to this Pricing Methodology disclosure document, the following pricing related material applicable for the 2022/23 year is available on WELL's website:[2]

Document	Purpose
Customer Contributions Policy[3]	WELL collects revenue from its (1) on-going tariffs or from (2) customer contributions toward new connections. The Customer Contribution Policy is a regulatory disclosure which sets out how WELL calculates a customer's contribution towards a new connection.
Network Pricing Schedule	The Network Pricing Schedule provides Retailers with WELL's network lines charges and the terms and conditions of their application. Specifically, the Network Pricing Schedule provides: (a) Pricing structure; (b) Pricing categories, and the eligibility criteria for each price category; (c) Price options (if any); and (d) Unit prices.
Disclosure of Prices	The Disclosure of Prices provides stakeholders (consumers, retailers and regulators) with prices and any price changes for the upcoming regulatory year. The Disclosure of Prices is a regulatory Information Disclosure requirement.
Line Charge Notice	The Line Charge Notice provides WELL's tariffs for the upcoming regulatory year. WELL publishes the Line Charge Notice in the Dominion Post newspaper, on news website Stuff and on WELLs own website.
Pricing Roadmap	The Pricing Roadmap updates stakeholders about WELL's plans for future changes to pricing structures and/or prices, together with expected timeframes and progress updates.

[2] Available at: www.welectricity.co.nz/disclosures/pricing
[3] Available at: www.welectricity.co.nz/disclosures/customer-contributions/

4 Pricing Roadmap and future pricing

Our Pricing Roadmap provides a close look at our future pricing plans, including our transition to prices which are more cost reflective. We are planning to introduce prices to support new services that will offer consumers with smart devices (like smart electric vehicle chargers and household solar and battery equipment) the opportunity to participate in services that manage demand away from peak demand periods on the network. If we can shift peak demand away from busy periods on the network, we can delay building a larger network to meet the increase in electricity demand. Participating consumers will be rewarded with cheaper prices and we will be able to keep prices lower for everybody, than they would be if peak demand wasn't reduced.

4.1 Pricing strategy

The objective of WELL's pricing programme is to equitably collect the revenue that it needs to build and operate the network and to signal the future cost of using the network. Practically this means:

- Prices that will recover the cost to build and operate the network;
- Prices that encourage off peak use and discourage peak use;
- Prices that encourage consumers to allow WELL to directly manage demand on the network.

Signalling the cost of network congestion provides consumers with the opportunity to change their energy use behaviour and to reduce their electricity costs by moving their demand to lower congestion periods. This has the immediate benefit of less expensive lines charges (for those who move their energy consumption to off peak periods) and the long-term benefits of lower prices through avoiding or delaying network re-enforcement.

We want to move all consumers to cost-reflective pricing arrangements that better signal economic costs. The speed and shape of this transition is constrained by factors such as the need to limit price shock (especially for consumers who struggle with affordability), to comply with low-user low-fixed charge regulations, and the speed at which retailers can change their own processes and systems to include price signals.

Our pricing programme is informed by:

- The cost impact of re-enforcing the distribution network to meet growing demand during peak congestion periods. Signalling the cost of re-enforcing the network will let consumers choose to avoid network re-enforcement and have lower long-term prices, or to pay more to build a larger network that removes the anticipated restrictions on when energy can be used. The price signal therefore represents a clear price-quality trade-off for consumers;
- The risks (e.g. of congestion and cost of providing higher network capacity) and opportunities (e.g. to reduce network investment pressures) of new and maturing technologies – these increase the value of adopting prices that clearly signal congestion periods and costs of increasing network capacity, which encourages more efficient use of the network;
- The impact that prices changes will have on consumers, especially those in energy hardship. Practically this will likely mean a gradual transition to cost reflect prices over time.
- The Climate Change Commissions Draft Advice work programme;
- The Electricity Authority's revised pricing principles and supporting guidelines.

4.2 Updated pricing approach

The Pricing Roadmap has been updated to incorporate the Authority's new pricing methodology. The Electricity Authority provided updated Pricing Principles in 2019 and supported them with a Distribution Pricing Practice Note (2021) to help distributors interpret and apply the distribution pricing principles. The purpose of the new Pricing Principles is to provide prices that are more reflective of the underlying costs of providing distribution services.

Applying the principles requires a new approach to pricing, an approach which first sets a price signal which reflects the cost of using electricity during peak congestion periods, and then recovers any residual costs in a way that doesn't influence consumers energy use behaviours (i.e. the peak demand price signal already signals the future cost of using energy during peak demand periods and no further price signals are needed. The remaining revenue should then be collected in a way that minimises any volatility from changes in consumer energy use habits, generally by using fixed charges). This differs from the past pricing approach which allocated costs to consumer groups using cost drivers, and then applied price signals that reflect the cost of using energy's during peak demand periods. Appendix C illustrates the new pricing approach – this diagram is sourced from the Electricity Authority's' Distribution Pricing Price Note 2021.

The new pricing approach is an important step in signal the cost of using electricity during busy periods on the network. This will encourage consumers to shift discretionary energy use to less busy periods, and in some cases helping us to expensive network reinforcement.

4.3 Proposed future pricing structure

Our Pricing Roadmap provides an overview of how we have developed pricing structures that reflect the new pricing methodology. Figure 1 summarises the proposed structures for residential consumers. The structure assumes the removal of the current low fixed charge regulations which currently stop the implementation of cost reflective prices.

Our pricing proposed to use different price signals depending on the type of prices and behavioural changes being targeted.

General mass market tariffs: Our pricing proposes to use the long run marginal cost (LRMC) to set pricing signals for the mass market, rather than the more volatile short run costs. We believe that distribution pricing is best suited to signalling enduring (or slow-moving) network economic cost. We recognise that an 'accurate' estimate of network LRMC would vary by location and time – rising as load growth reduces capacity headroom before collapsing after each new capacity investment. However, due to general consumer inability to meaningfully respond to such granular and dynamic prices, distribution pricing is better suited to relatively stable, network-wide estimates of LRMC. To start with we are proposing to use a network level LRMC or possibly geographic pricing zones where the network has significant differences in the LRMC.

Flexibility services solving specific network issues: We will consider short run costs for flexibility services designed to solve specific short term network issues. These services are not designed to be enduring and will be targeted at flexibility providers who have the tools and expertise to respond to more complex price signals.

Our proposed prices include a zero-rated off-peak price signals and rebalancing the variable/fixed price mix. Practically this means reducing the amount of revenue collected from off-peak periods and increasing the proportion of revenue collected from fixed prices. Early estimates show prices could collect 70% of the revenue from fixed prices and 30% from the peak price signal (the LRMC will be recalculated to confirm this). This provides several advantages:

- Reflects that there is excess capacity during off-peak periods and there are no peak period cost impacts.
- It clarifies the price signal to consumers. Currently, consumers must subtract the peak demand price signal away from the off-peak signal to reveal the true peak demand price signal. Rebalancing variable and fixed prices using the long run margin cost will also make the price signal more reflective of the cost of using energy during peak demand periods.
- It removes potential subsidisation distribution prices for solar users. Currently, solar users may be paying less because they are able to reduce their off-peak prices by offsetting their energy use using solar. This means they are avoiding paying for services they should be contributing towards – the network has capacity during the off-peak periods and there is no benefits of reducing demand at this time. Other customer prices then have to be raised to cover the revenue shortfall.

Figure 1 - Future residential price structures

Component	Proposed Method	Reason selected
Peak demand charge	**Time of use for un-managed load, with limited opt-out.** - Weekday peak rate from 7am to 11am and 5pm to 9pm. Structure aligns with sector majority (aiding retail uptake) and network demand (aiding efficiency of price signal). - Zero-rated off peak (incl. weekends). Reflects excess capacity off peak (and no other cost impacts).	- Understood and can be implemented by retailers - Sets an efficient and effective signal for the types of decisions small consumers make (what appliance to buy, simple changes in routine – e.g. delaying running a dishwasher)
	Peak discount for manageable load - Discounted for metered controllable load. - Discounted for managed load - Discounted peak rate for “inclusive” controllable load. - Apply an additional fixed price increment to recover cost of control	- Discount appropriately rewards uptake. - Assumes flexibility service providers would be financially incentivising residential consumers, and not WELL directly
Residual cost allocation and recovery	**Energy-based cost allocation** - Allocate total costs between residential and business consumer groups using energy (GWh) or anytime peak demand as an allocator. - Cross-check against robust subsidy-free analysis. - Net off expected signalling revenue, then spread balance across ICPs to derive fixed charge per ICP.	- Least distortional impact on energy use behaviours - Simple and achieves EPR recommendation of reversing historic over-allocation to residential.
	Higher fixed rate	- Least distortional impact on energy use behaviours

Component	Proposed Method	Reason selected
	• Fixed rate adjusted up to achieve full recovery of costs allocated to residential consumer group.	

The review of our commercial price structures also provides an opportunity to simplify the current structure which has a number of different price categories. Figure 2 summaries our proposed non-residential price structures

Figure 2 - Future non-residential price structures

Component	Proposed Method	Reason selected
Peak demand signal	**Small non-residential users (15kVA or less)** **Time of use** - Weekday peak rate from 7am to 11am and 5pm to 9pm. Structure aligns with sector majority (aiding retail uptake) and network demand (aiding efficiency of price signal). - Zero-rated off peak (incl. weekends). Reflects excess capacity off peak (and no other cost impacts). - No distinction between those with dedicated transformers and those connected to low voltage network – no significant cost difference	- Understood and can be implemented by retailers - Sends an efficient and effective signal for the types of decisions small consumers make (what appliance to buy, simple changes in routine)
	Medium non-residential users (>15 to 300 kVA) **Time of use** - Peak and off-peak periods dependent on local demand profiles. - Zero-rated off peak - The majority of dedicated transformer connections are for connections greater than 300 kVA. Therefore, we are proposing no distinction between those with dedicated transformers and those connected to low voltage network for the medium price category.	- Understood and can be implemented by retailers - Sends an efficient and effective signal for the types of decisions small consumers make (what appliance to buy, simple changes in routine)
	Large non-residential users Current hypothesis is to apply coincident peak demand charge. - Separate prices for dedicated transformer and low voltage connections – as they have different long run marginal costs - Simplify the number of pricing components - Still considering the current power factor charge	- Largest users *may* be energy intensive (and sophisticated) enough to manage a coincident peak demand charge - Remove fixed daily charges and any time variable prices as they are no longer needed
Residual cost allocation and recovery	**Energy-based cost allocation** - Allocate total costs between residential and business consumer groups using energy (GWh) as allocator.	- Least distortional impact on energy use behaviours - A daily fixed fee for small users because there is not a range of different connections sizes

Component	Proposed Method	Reason selected
	- Cross-check against robust subsidy-free analysis. Apply fixed prices: - Small users – a fixed daily charge - Medium users - a fixed charge based on connected capacity - Large users - a fixed charge based on connected capacity	- A fixed charge based on capacity for medium and large users will allow us to reduce the number of price categories and remove the current price steps between categories. - It also reflects that larger user should pay more because they are using a larger share of the network

The new price structures will continue to include direct agreements and individual tariffs for large connections with unique commercial or operating conditions. This will allow WELL:

- To offer services that reflect different price/quality trade-offs. This could include when a customer wants to connect to an area of the network that does not have the capacity to provide standard network security limits, within a time period that would not allow WELL to build more capacity.
- To allow customers to participate in providing flexibility services.

4.3.1 Proposed transition rules

It will take time to develop, implement and then transition to the new pricing setting methodology in a way that avoids large price changes for those consumers that will see price increases. We plan to consult on the new structures this year, including a set of transition rules that limit how much we can change prices to consumer groups. The transition rules are likely to be a percentage limit on any increase to the majority of consumers in a consumer group.

Each year we will then assess the impact of other price drivers (like changes to regulatory allowances and volume growth) and decide on the magnitude of that year's transition step to the new prices, based on what changes can be made while falling within the agreed rules.

4.4 Progress against roadmap

In 2017 WELL published a Pricing Roadmap which outlined how we are developing our prices. We refresh the roadmap as our pricing strategy develops and as we learn from the implementation of the Roadmap workstreams. Progress against the roadmap is provided in Appendix D.

Figure 3 provides a summary of the pricing programmes for each consumer group. The figure provides an assessment of the impact that each consumer group has on peak demand and the pricing programmes that WELL is implementing to reduce that demand. The roadmap initially focused on Electric Vehicle (EV) owners and residential consumers as the main potential contributors to peak demand and therefore the greatest driver for the need to re-enforce the network.

Figure 3 – Summary of progress on the Pricing Roadmap

Development | Implementation

Consumer group	Impact on peak demand and future price increases	Pricing programmes to signal peak demand					
		2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Residential consumers	**High** – main contributor to peak demand	Residential TOU			Develop and transition to new pricing methodology		
					Residential TOU		
Flexibility services & DER	**High** – future contributor to peak demand	EV & Battery ToU tariffs			Managed EV & battery charging tariff		
					EV & Battery ToU tariffs		
Small/medium commercial	Currently **low** – expected to increase to **medium** with DER aggregation				Develop and transition to new pricing methodology		
Large commercial	**Low** – cost reflective prices & contribution policy in place				Develop and transition to new pricing methodology		

In 2018, WELL completed the first phase of the Pricing Roadmap by trialling cost reflective electric vehicle (**EV**) prices and then introducing Time of Use (**ToU**) prices for EV and household battery system consumers. In 2019, WELL widened the eligibility for ToU prices to all residential consumers, offering it to retailers as an optional price category. From 1 April 2021, we then applied ToU to all residential consumers. Updates on specific aspects of the programme can be found at:

- **EV Trial**: Our EV trial helped us understand how consumers want to use their EV's. The EV trial results can be found at www.welectricity.co.nz/disclosures/pricing/evtrial/.
- **EV Connect**: We have been working with stakeholders to articulate the steps required to support EV adoption. An update on progress can be found at: https://www.welectricity.co.nz/about-us/major-projects/ev-connect/
- **ToU prices and how to benefit from them**: If people change when they use electricity, away from busy periods on the network, a larger network doesn't have to be built. Avoiding having to build a larger network means that prices can be kept low. Learn more about ToU prices at: https://www.welectricity.co.nz/disclosures/pricing/time-of-use-pricing/

4.5 This year's pricing programme

The focus of this year's programme is to consult with retailers and non-standard contract consumers about our proposed new pricing structures. We will also be encouraging retailers to continue to develop their billing processes and practices so that more consumers are billed using TOU prices.

4.5.1 Consultation on new pricing structures

This year we plan to consult with retailers and non-standard contract consumers about the changes needed to move to the new price setting methodology and the resulting pricing structures. We will also consult on the transition rules that will limit any price shocks to consumers – practically this means making the changes slowly over time.

In the consultation document we will provide:

1. The benefits of moving to the new structures
2. Proposed new structure and reasons for the selection
3. An estimation of any consumer impact
4. The transition rules
5. A forecast of a potential transition path. Note, the actual transition path will only be a forecast because the final path will be dependent on other pricing factors like forecast allowances and volume growth.

We hope to consult around June.

4.5.1.1 Encourage retailers to support ToU prices

We have offered retailers exemptions from applying ToU if their billing systems and processes cannot provided the consumption data needed to apply peak and off-peak prices. Only 40% of consumers are being charged peak and off-peak process. This year we will encourage retailers to continue to develop their processes so that ToU tariff can be applied as intended. We will consider applying higher prices to those who continue to apply the alternative anytime variable and all inclusive prices from 1 April 2023.

4.5.1.2 Managed EV and battery charging prices

WELL is trialling new technology that will allow management of EV and battery charging to move demand from congested periods. WELL will be working with flexibility providers to develop and trial flexibility services. We will also consider new tariffs to support these services.

4.5.1.3 Combining EVB and residential ToU prices

WELL will consider simplifying the pricing structure by removing EVB prices once we are ready to offer the new managed EV and battery changing service. WELL expects that the new service will provide a comparable replacement to the current EVB prices.

4.5.1.4 Continue to transition from low fixed charge restrictions

The government made legislative changes in 2021 to remove the low fixed charge regulations. The transition is over five years to reduce any price shocks to consumers. We made the first step in the transition this year, increasing the daily fixed charge of residential low users from 15 cents to 30 cents. A corresponding decrease in the variable price component was also made.

4.6 Electricity Authority's pricing scorecard

The Electricity Authority make an annual assessment about how cost reflective a distribution networks tariffs are. The Authority makes the assessment using a scorecard of different pricing attributes. Figure 4 summarises the 2021 assessment and the changes that have resulting in the improved score. We had the second highest scorecard score.

Figure 4 - Pricing scorecard assessment

Scorecard category	Score		Improvement made and work programmes updates
	2020	2021	
Description of network demand characteristics	2	5	A detailed description of the network capacity constraints and demand characteristics was provided in the updated roadmap. The description included the impact of the climate change actions on network demand.
Meets pricing principles	3	3	An updated pricing principles assessment has been included in this Pricing Methodology update.
Pricing strategy	2	4	Revised pricing strategy was included in the 2021 roadmap. The strategy focused on developing demand management tools in response to the expected increase in demand from the climate change actions.
Roadmap	2	5	Updated roadmap reflecting the Authorities new pricing methodology.
Peak pricing signal	2	3	Will be address in next review of Pricing Methodology – scorecard feedback was received after the last update.
Customer impact	2	3	Will be address in next review of Pricing Methodology – scorecard feedback was received after the last update.
Overall (average)	2.2	3.8	

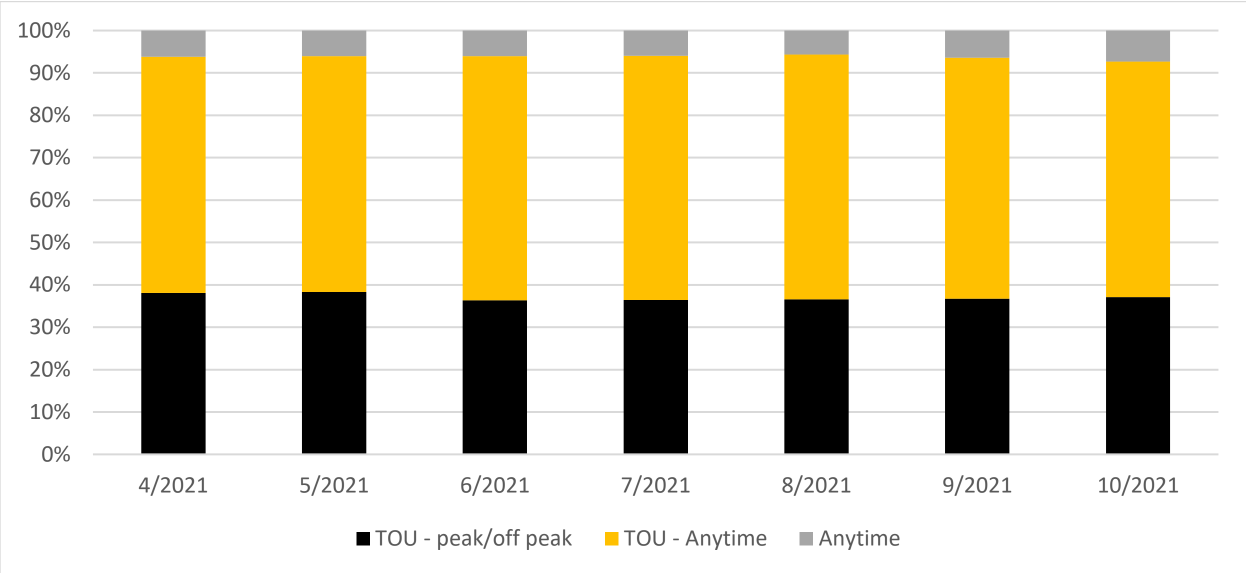
5 Changes to WELL's pricing structures

No changes have been made to pricing structures this regulatory year.

Last year Wellington Electricity Lines Limited (WELL) applied Time of Use (ToU) prices to all residential consumers which have a communicating smart meter. Our consultation with retailers before the new prices were applied showed that some retailer billing processes and billing systems could not provide the peak and off peak data needed to apply ToU prices. To provide those retailers more time to update their system, we included an anytime variable and an all inclusive price option within the ToU codes with the expectation that retailers could submit data to these codes until they were ready to provide data in the peak and off-peak format.

The figure below shows that approximability 40% of consumers are currently being billed using peak and off-peak prices. About 55% of consumers have communicating smart meters but aren't submitting data in the peak/off peak format. This year we will be encouraging retailers to update their systems and processes to apply ToU prices as intended. We are considering whether to apply higher prices to those who don't next year.

Figure 5 - ToU uptake



We have retained last year's ToU pricing structure changes in this Disclosure of Prices to assist consumers still transiting to using ToU prices. Our website provides useful tools and guidance on how to benefits from the new prices: https://www.welectricity.co.nz/disclosures/pricing/time-of-use-pricing/.

5.1 Residential ToU prices

ToU prices were applied to all residential consumers from 1 April 2021.

5.2 Eligibility criteria

Alternative prices are available for meters that cannot provide the half hour data needed to calculate ToU prices. The alternative prices reflect previous current anytime variable and all inclusive price structure. The eligibility for the 'alternative pricing', are:

- Consumers who do not have communicating smart meters that record consumption data in 30 minute time periods needed to calculate ToU prices.
- ICPs with intermittent or stopped communications,
- Retailers who do not have smart meter agreements with meter providers,
- Retailers who need validation process and billing system upgrades to process half hour consumption data needed to calculate ToU prices.

Details of the eligibility criteria are provided in the Network Pricing Schedule which can be found on WELL's website. WELL does expect that retailers will correct issues which prevent data being provided in half hour increments. In time, only those ICPs who do not have communicating smart meters will be exempt from ToU prices.

5.2.1 Pricing categories

The final price categories are provided Network Pricing Schedule which can be found on WELL's website.

5.2.2 Residential ToU pricing structure

Our residential ToU pricing structure reflects demand patterns *and* aligns with other network distribution ToU structures. Aligning pricing structures with other networks will help minimise implementation costs for retailers. Our ToU pricing structure is summarised in Figure 6.

Figure 6 - ToU price structure

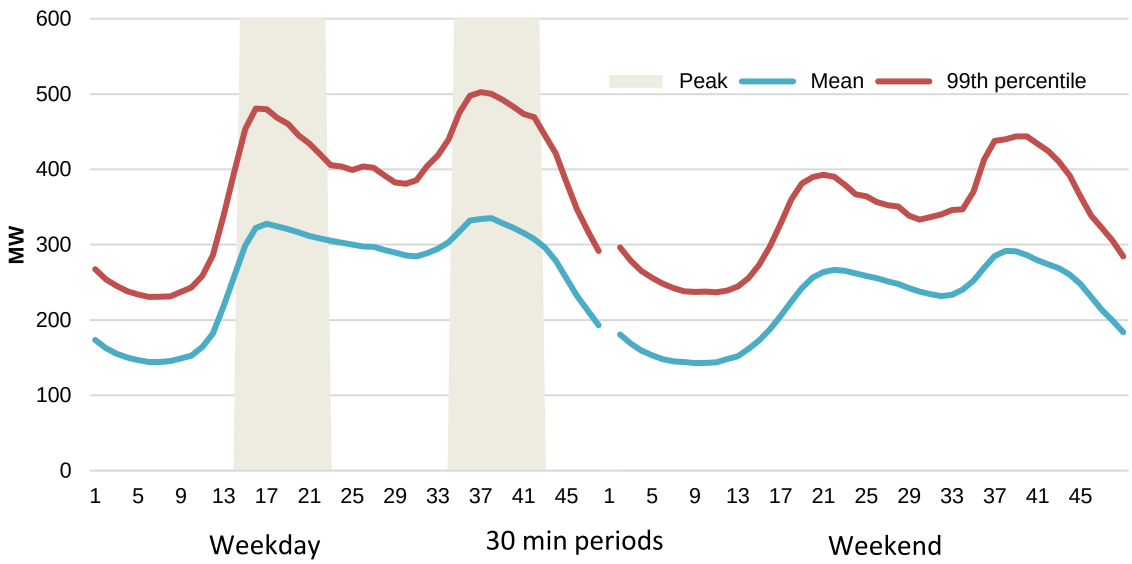
Design parameter	Industry standard?	Approach	Comment
Hourly Pattern	Y	AM peak = 7 to 11 PM peak = 5 to 9 No shoulder	A shoulder period has not been included as consumers changing their 'discretionary' load are most likely to do this using timers on appliances (e.g. EV charging, or dishwashers) and are unlikely to discriminate between a peak and shoulder. In addition, a daytime shoulder will over-signal the value of midday solar production.
Weekly Pattern	Y	No peak periods on weekends	Low-cost weekend concept is relatively simple for consumers to understand and adjust to.
Seasonal Pattern	Y	Consistent signals year-round	Seasonal pattern adds complexity (for supply chain and consumers) and exacerbates winter energy hardship for vulnerable consumers facing budgeting challenges.

Figure 7 below illustrates the residential ToU pricing structure.

Figure 7 – Residential ToU pricing structure

Figure 8 compares the standard time periods against demand patterns on our network. The residential ToU structure is a good match to the Wellington region's demand patterns.

Figure 8 - Illustrating the peak pricing period's alignment with peak demand



ToU unit rates have been designed so that the pricing signals are consistent with WELL's existing prices and its unit rates for ripple control. A common fixed charge has been used for all residential consumers, with the exception of the low fixed charge regulations which WELL will continue to apply in accordance with the applicable rules, noting that the current low fixed user restrictions are expected to change as a result of the Electricity Price Review recommendations.

ToU prices will not be applied to dedicated control prices as dedicated control prices are already low to reflect that this tariff provides WELL with the ability to move the supply of energy during peak demand periods.

Residential ToU prices and their eligibility criteria are provided in the 2022/23 Network Pricing Schedule along with all of WELL's prices. The 2021/22 Network Pricing Schedule which can be found on WELL's website.

The 2022/23 Network Pricing Schedule can be found at: www.welectricity.co.nz/disclosures/pricing/2022/

6 Setting prices for the 2022/23 regulatory year

The objective of WELL's pricing methodology is to develop electricity distribution prices that:

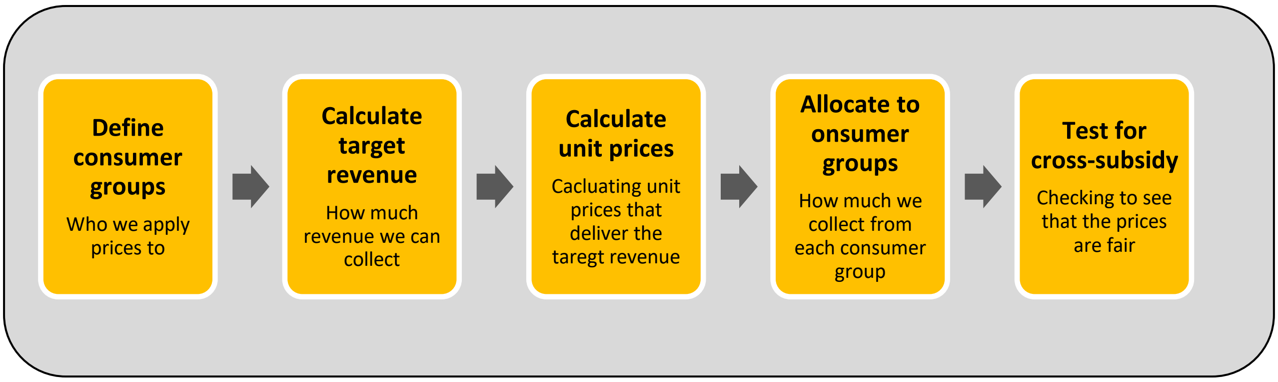
- Are cost reflective – better signalling to consumers the impact of their usage on future expenditure;
- Are consumer and retailer centric, such that prices:
    - Are logical and simple to understand;
    - Allow consumers to manage their usage and bills;
    - Can be passed on transparently by retailers
- Minimise revenue volatility and under-recovery;
- Seek to reduce price shock to consumers;
- Are forward looking, being robust to changes in technology and regulation;
- Are practical and achievable to implement within the next 1-5 years; and
- Are not inconsistent with pricing structures used by other EDBs.

WELL's price setting process is described in Figure 9. Each step is described in detail in the following section of this chapter. The Pricing Methodology starts with defining the consumer groups that WELL will apply different prices to. WELL then calculates how much revenue overall it will collect from prices. The revenue calculation is determined by the Commerce Commission and provided in the 2020 DPP Determination.

Unit prices are then calculated to deliver the target revenue. The calculation includes the impact of any forecast volume changes. In parallel, WELL uses a cost of supply model to allocate revenue to each consumer group based on how much it costs to provide distribution services to each consumer group. The revenue from the cost of supply model is then compared to revenue from prices to check that they are approximability the same. If they are not, unit prices are adjusted. This ensures unit prices are reflective of the costs to provide services.

Lastly, WELL checks that there is no cross-subsidisation between customer groups – that costs are allocated equitably between groups. This is done by testing whether revenue from prices for each consumer group falls with the subsidy free range – that revenue from prices is less than the stand-alone cost (it's not better for consumers to receive services from another source) and greater than the avoidable cost (another consumer group isn't subsidising the direct costs of providing the service).

Figure 9 - The Price setting process



6.1 Consumer groups

This section sets out the rationale and criteria for our consumer groups.

6.1.1 Defining consumer groups

WELL has adopted the following consumer groups for pricing purposes:

- Standard contracts:
  - Residential Low User Time of Use (RLUTOU);
  - Residential Standard User Time of Use (RSUTOU);
  - Residential Low User (RLU);
  - Residential Standard User (RSU);
  - Residential Low User EV and Battery Storage (RLUEVB);
  - Residential Standard User EV and Battery Storage (RSUEVB);
  - General Low Voltage Connection (GLV);
  - General Transformer Connection (GTX); and
  - Unmetered (G).
- Non-standard contracts.

Consumers are grouped by voltage level connection, end use, and their utilisation of electricity assets. As an example, the General Transformer Connection group does not make use of the low voltage (LV) reticulation network, as it connects directly to the high voltage network via a dedicated transformer.

Our Price Schedule (called Wellington Electricity Lines Charges Notice from 1 April 2022) sets out prices for the 2022/23 year for the standard contract consumer groups. Non-standard contract consumer groups are notified directly of their pricing.

The criteria used by WELL to allocate consumers to consumer groups is as follows:

6.1.1.1 Residential (including EVB and Time of Use)

The Residential consumer groups are consistent with the definition of “Domestic consumer” in the Low Fixed Charge Regulations, where the primary use of the point of connection is a home not normally used for any business activity. Consumers in these groups almost exclusively are connected to the LV Network, place similar capacity demands on the network, and can use night boost[4] and controlled[5] tariffs, provided they have the required metering, dedicated interruptible load and meet other eligibility criteria.

WELL has three types of residential prices – (1) ToU prices that signal peak congestion periods, (2) an alternative price for residential consumers who do not have meters that can provide the data to calculate ToU prices and (3) ToU prices for EV and battery consumers. Each of the three types of prices has a low user and standard user variant, resulting in six residential price categories in total.

[4] Night boost is a separately metered supply to permanently wired appliances, such as night store heaters, which are switched on and off at specific times. Night boost supply will be switched on during the night period (11pm to 7am) and for a minimum two hour boost period during the day (generally between 1pm to 3pm). Customers on EVB plans are not eligible for night boost pricing.

[5] A controlled supply is a supply that allows WELL to control energy supply to permanently wired appliances, such as hot water cylinders. The load control associated with a controlled supply is not operated based on specific daily times.

The residential price categories are:

Price category	Price category code	Purpose
Residential Low User Time of Use	RLUTOU	ToU prices signal peak and off peak periods of network demand. These are our standard residential consumer prices that most residential consumers will be on. Lower off peak prices encourage consumers to use energy away from the more expensive peak periods. Consumers who move their energy use away from peak periods will benefit from lower prices.
Residential Standard User Time of Use	RSUTOU	
Residential Low User	RLU	Alternative prices for consumers that do not have meters that can provide the half hour data needed to calculate ToU prices. We estimate that about 10% of consumers will need these price categories.
Residential Standard User	RSU	
Residential Low User Electric Vehicle & Battery Storage	RLUEVB	These price categories are legacy ToU prices for Electric Vehicle and Battery consumers. These prices operate in the same way as the ToU prices but have different price levels. In the future we expect to combine these prices with residential ToU prices and offer an alternative manage charging price for EV and Battery consumers at a similar price level as the current EV and Battery ToU prices.
Residential Standard User Electric Vehicle & Battery Storage	RSUEVB	

A low user (Residential Low User, Residential Low User Electric Vehicle and Battery and Residential Low User Time of Use) is a residential consumer who consumes less than 8,000 kWh per year and who is on a low fixed charge retail pricing plan. The Low Fixed Charge Regulations require electricity distribution businesses (EDB's) to offer a pricing plan to domestic low users with a fixed price of no more than 30 cents per day. The low fixed user restrictions are being removed over a five-year prices have increased from 15c to 30c per day from 1 April 2022. Low fixed prices will increase by 15 cents per day each year until 1 April 2027, when Low Fixed Charge Regulations are removed. An accompanying decrease in variable prices is also applied to each increase in fixed prices.

A standard user (Residential Standard User, Residential Standard User Electric Vehicle and Battery and Residential Standard User Time of Use) is a residential consumer who consumes more than 8,000 kWh per year.

Time of Use prices (Residential Low User Time of Use and Residential Standard User Time of Use) apply to all residential consumers – these are our primary residential price category's. Time of Use prices provide consumers with the opportunity to save money by changing when they use energy to less congested period of the day. To be eligible for Time of Use, a consumer must be a residential consumer as defined in WELL's Pricing Methodology Disclosure. A consumer must also have an advanced meter with reliable communication (AMI meters that provide usage in half hour increments). This is required to allow different prices to be applied to different times of the day.

Consumers who do not have an advanced meter with reliable communication are eligible for the alternative Residential Low User and Residential Standard default price categories. These alternative prices do not need data in half hour increments. See the Network Pricing Schedule for details around eligibility for the different residential prices.

The Time of Use category will enable a wider range of consumers to save money if they move their energy use to off peak periods of the day[6]. Managing congestion on the Wellington network supports the electrification of New Zealand's vehicle fleet and industrial processes – essential steps to achieving New Zealand's zero carbon targets.

WELL will continue to offer EVB pricing to EV and Battery consumers. When EV prices were introduced in 2016, the unit rates were set lower than would normally be available to consumers with Uncontrolled or All-inclusive metering configurations. The lower rate was intended to help support the introduction of what was at the time was a relatively new technology by partially offsetting the high purchase price of EVs.

Only private owners of Electric Vehicles (EV) with a battery capacity of 12kWh and above and/or household battery systems of 4kWh capacity and above, who also have a smart meter, are eligible for the EV and battery price plans RLUEVB and RSUEVB. For electric vehicle eligibility, only private PHEV and private registered EVs qualify for this plan. Scooters or bikes do not qualify. RLUEVB and RSUEVB are optional plans and consumers can choose the Residential ToU price categories.

WELL is trialling new technology to allow the charging of EV's to be managed when the network is congested and will consider new prices for this service in the future for consumers with EV's.

6.1.1.2 General Low Voltage Connection

The General Low Voltage Connection group is connected to the LV network with a connection capacity of up to 1500kVA, where the premises are a non-residential site used for business activity (e.g. a shop or a farm).

6.1.1.3 General Transformer Connection

The General Transformer Connection group includes consumers who receive supply from a transformer, owned by WELL and dedicated to supplying a single consumer, where the premises is a non-residential site used for business activity.

6.1.1.4 Voltage and asset distinctions

The following figure depicts the relationship between consumer groups, load and asset utilisation characteristics.

Figure 10 – Consumer group and load characteristics

Connection asset characteristics	Unmetered	Residential	General Low Voltage	General Transformer	Non-Standard
<1kVA	✓				
<=15kVA		✓	✓	✓	
>15kVA & <=69kVA			✓	✓	
>69kVA & <=138kVA			✓	✓	
>138kVA & <=300kVA			✓	✓	
>300kVA & <=1500kVA			✓	✓	
>1500kVA				✓	✓

6 This assumes that a consumer uses a retailer that offers Time of Use prices.

Connection asset characteristics	Unmetered	Residential	General Low Voltage	General Transformer	Non-Standard
Low voltage	✓	✓	✓	✓	
Transformer	✓	✓	✓	✓	✓
High voltage				✓	✓
Dedicated assets	✓[7]			✓[8]	✓[9]

6.1.1.5 Non-standard contracts

The non-standard contracts group is made up of consumers who have atypical connection characteristics. For non-standard consumers, a confidential agreement exists between WELL and the individual consumer which sets out the terms and conditions for the supply of the electricity lines services including the price.

In accordance with its Customer Contributions Policy[10], WELL uses the following criteria to determine if a non-standard contract is appropriate:

- The consumer represents an unusual credit risk; or
- The consumer wants to reserve future network capacity; or
- There are unusual asset ownership or demarcation issues; or
- The consumer and/or WELL wishes to contract for additional services not covered in standard contracts; or
- The site to be connected has unusual locational or security issues; or
- Any other unusual circumstances that WELL, at its discretion, considers warranting the use of a non-standard rather than standard contract.

6.1.1.6 Unmetered

The Unmetered consumer group includes consumers who do not have any metering because the cost of metering is prohibitive relative to their consumption. This includes streetlights, bus shelters, traffic lights etc.

6.2 Calculate target revenue

The target revenue for the 2022/23 pricing year is $156.4 million, reflecting the revenue WELL expects to earn from the provision of electricity lines services, based on prices that will apply for the period. Target revenue is determined in accordance with the input methodologies defined by the Commerce Commission. The input methodologies outline the amount which WELL can collect through prices to cover costs and to provide the allowable return on investment. The figure below summarises the components of WELL's target revenue.

[7] Streetlight circuits
[8] Transformers
[9] Dedicated network assets
[10] Available at: www.welectricity.co.nz/disclosures/customer-contributions/

Figure 11 – Key cost components to fund the provision of electricity line services[11]

Components	2022/23 ($m)
Operating expenditure	36.6
Depreciation[12]	32.5
Return on capital[13]	23.9
Transpower charges	55.5
Avoided Costs of Transmission (ACOT)	2.0
Other recoverable costs	1.6
Pass-through costs	4.2
Target revenue	**156.4**

6.2.1 Cost components

WELL uses the Input Methodologies[14] to determine total the target revenue in each disclosure year. The following figure describes the cost components of target revenue.

Figure 12 – Key cost components to cover provision of electricity line services

Cost component	Description
Operating expenditure	Operating expenditure includes forecast costs associated with operating and maintaining the network and managing day to day business activities. Operating expenditure is provided by the DPP determination.
Depreciation	Reduction in the value of WELL's asset base over time, due in particular to wear and tear. Depreciation is provided by the DPP determination.
Return on capital	A pre-tax return on WELL's regulatory asset base. Return on capital is provided by the DPP determination.
Transpower charges	Charges payable to the national electricity grid operator, Transpower, to transport energy from generators to WELL's network. This includes connection charges, interconnection charges and new investment agreement charges. WELL passes these charges onto its consumers at cost.
ACOT	ACOT payments are payable to large distributed generators in recognition that local generation may cause WELL to avoid Transpower charges. See section 8 for further detail on how ACOT is calculated.

11 Sourced from WELL's forecasts and notifications
12 Regulatory depreciation
13 Including tax, revaluations and inflation smoothing
14 IM Determination 2012

safer together

Cost component	Description
Other recoverable costs	Other recoverable costs include the recovery of capex wash up adjustments, incentives and pass-through balances, as allowed under the DPP.
Pass-through costs	This includes local council rates, Commerce Commission levies, Electricity Authority levies and Utilities Disputes Limited levies. WELL passes on these charges to consumers at cost.

6.3 Calculating unit prices

WELL's prices are a function of how much revenue it needs to collect and volumes. The price setting process is disclosed each year in its Price Setting Compliance Statement which can be found at: https://www.welectricity.co.nz/disclosures/price-quality-path-annual-compliance-statements/. The statement includes the target revenue calculation and any volume changes. It also includes final prices, quantities and the resulting revenue.

6.4 Cost allocation

WELL has a Cost of Supply Model (COSM), which is used to allocate distribution costs between different consumer groups. Transmission costs have historically been reflected in prices based on the relative demand of each consumer group.

WELL notes that the Electricity Authority have recommended a new approach towards allocating costs in its "Distribution Pricing: Practice Note", August 2019. WELL also notes that the Electricity Price Review recommendations may also impact a distribution networks cost allocations. WELL is currently reviewing its pricing methodology and will be consulting with retailers on a new methodology this year. The revised methodology will also consider how we transition to any new pricing structures and how to minimise any resulting price shocks. WELL will continue to use its current COSM approach until then.

6.4.1 How the COSM is used

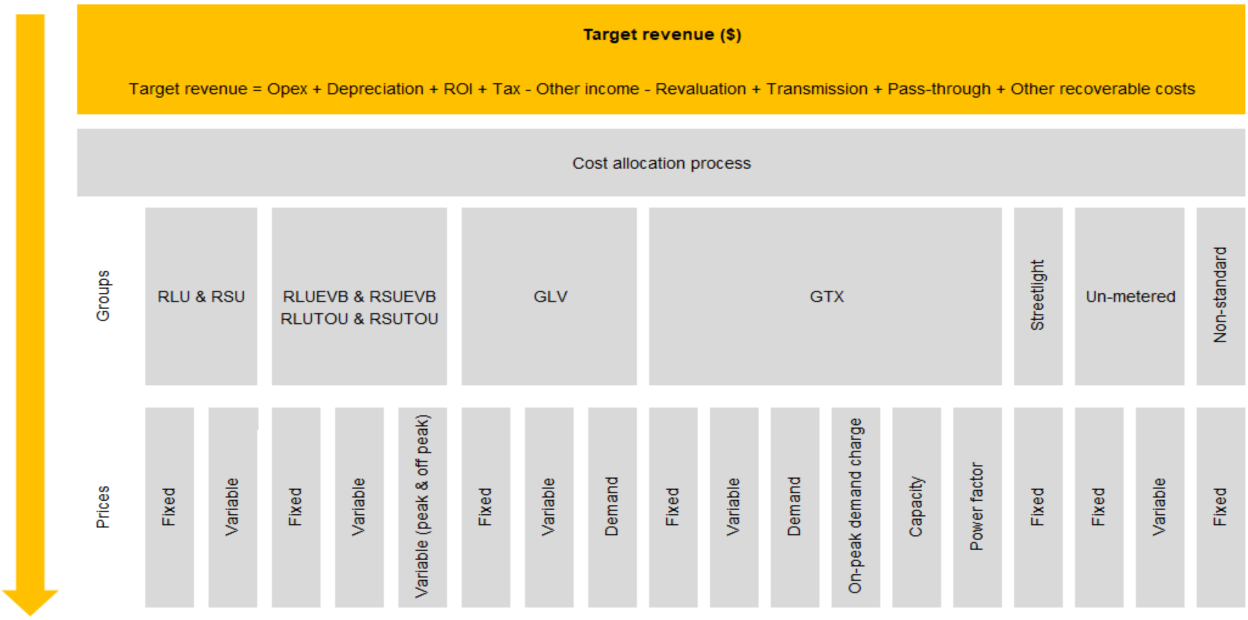
We used the COSM model to calculate unit prices in 2016 when it was first implemented. Rather than use the COSM model to calculate unit prices each pricing year following its introduction, we now use it to test whether unit prices, calculated by applying volume changes to previous years prices, are collecting the approximant correct levels of revenue. The focus of our COSM analysis for the majority of consumer groups is on the proportion of target revenue to recover from each consumer group, rather than the dollar amount to recover. Applying the COSM at the price level adds significant complexity and increases unnecessary volatility due to the inherent volatility in some allocator metrics (e.g. demand) and costs (e.g. maintenance).

The following table shows the extent of alignment between prices and the cost of supply for the regulatory year 1 April 2022 to 31 March 2023. The difference represents the under/(over) recovery of costs. The figure shows the difference is not significant and there is no need to adjust prices. If there was a significant difference, WELL would progressively move to align prices to the cost of supply over time to mitigate the risk of price shocks occurring.

6.4.2 COSM summary

The COSM allocates the various expenditure components of WELL's target revenue to consumer groups and pricing categories.

Figure 13 – COSM model



Revenue from non-standard consumers is initially removed from target revenue, as these consumers are typically priced based on recovery of actual costs. Allocators and other inputs are also adjusted to remove non-standard consumers.

The remaining cost components of target revenue are allocated to consumer groups as follows:

- Costs are directly attributed to consumer groups where known (e.g. streetlight maintenance).
- Any remaining shared costs are allocated as set out in the following figure.

Figure 14 – Key cost components to cover provision of electricity line services

Consumer group cost allocator		Cost components	Rationale
Demand	Coincident maximum demand is calculated based on an average of WELL's highest half-hourly peaks which generally aligns to Transpower's RCPD peaks. Actual ToU meter records are used where available. For groups with limited meter data, analysis of feeder demand and sampling of consumers with ToU meters is undertaken.	• Transpower charges • ACOT	This recognises that Transpower charges and ACOT payments are based on providing supply capacity, determined by the capacity of the GXP and core grid assets.
RAB	A composite RAB allocator is created by allocating regulatory asset base values to consumer groups as follows: • Connection assets: by ICPs • Streetlight assets: directly attributed to streetlights • LV network assets are allocated to non-metered, residential, LV and streetlights by proportion of their demand • All other assets: demand This seeks to directly attribute asset costs to consumers where possible	• ROI • Network depreciation • Revaluations • Tax • Opex (routine and asset renewal)	RAB costs are allocated to consumer groups based on that consumer group's utilisation (share of demand) of the network assets.
ICPs	Consumer connections	• Opex (service interruptions, emergencies, vegetation management)	A general allocator that recognises that all consumers benefit from expenditure to prevent and respond to interruptions to supply.
kWh	kWh consumption	• Other income • Opex (system operations and network support) • Non-network depreciation	A general allocator to recognise that consumers benefit from operation of the network in proportion to their use of the network.
ICPs & kWh	A 50:50 weighting of ICPs and kWhs	• Opex (business support) • Pass-through costs • Wash-ups and incentives	This weighting recognises that larger consumers create relatively higher costs per connection, and that levies are incurred in proportion to ICPs and kWhs.

Figure 15 provides the cost allocations for each of the cost drivers provides in Figure 14.

Figure 15 – COSM allocators by consumer group (excl. non-standard)

Consumer group	Demand (%)	RAB (%)	ICPs (%)	kWh (%)	Weighted ICPs & kWh (%)
Residential	69.0	70.2	85.0	50.7	67.8
General Low Voltage	18.1	17.7	8.9	25.6	17.3
General Transformer	12.0	9.7	0.3	23.0	11.6
Non-metered	0.1	0.1	0.8	0.1	0.4
Streetlights	0.8	2.2	5.0	0.7	2.9
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

The key COSM outputs at the consumer group level are detailed below, showing the cost of supply for each consumer group, as a proportion of costs. The COSM outputs have been calculated by applying the cost driver allocations provided in Figure 15 to the cost groups summarised in Figure 14. The total figure is the weighted average of combined transmission and distribution prices.

Figure 16 – COSM allocations of costs to consumer groups (excl. non-standard)

	% of target revenue (1 April 2022 to 31 March 2023)		
Consumer group	**Transmission**	**Distribution**	**Total**
Residential	68.9	68.4	68.6
General Low Voltage	17.9	17.5	17.7
General Transformer	11.9	10.3	11.0
Non-metered	0.1	0.2	0.2
Streetlights	1.1	3.5	2.5
Total	**100.0**	**100.0**	**100.0**

6.4.3 Application to prices

Figure 17 compares revenue collected from prices and revenue allocated using the COSM for the regulatory year 1 April 2022 to 31 March 2023. The difference represents the under/(over) recovery of costs. The figure shows the difference is not significant and there is no need to adjust prices. If there was a significant difference, WELL would progressively adjust prices over time to mitigate the risk of price shocks.

Figure 17 – Revenue from prices relative to cost of supply (excl. non-standard)

	% of target revenue (1 April 2022 to 31 March 2023)		
Consumer group	**Implied COSM allocation**	**2022/23 pricing (applied)**	**Difference**
Residential	68.6	68.3	0.3
General Low Voltage	17.7	18.6	-0.9
General Transformer	11.0	10.7	0.3
Non-metered	0.2	0.2	0.0
Streetlights	2.5	2.2	0.3
Total	**100.00**	**100.00**	**-**

6.5 Test for cross-subsidisation

To help ensure the consumer groups are free from cross subsidisation, we test whether revenue collected from prices is less than the stand alone cost and greater than the avoidable cost (the cross subsidy free range), for each consumer group. The customer groups tested are residential and small, medium and larger non-residential customers.

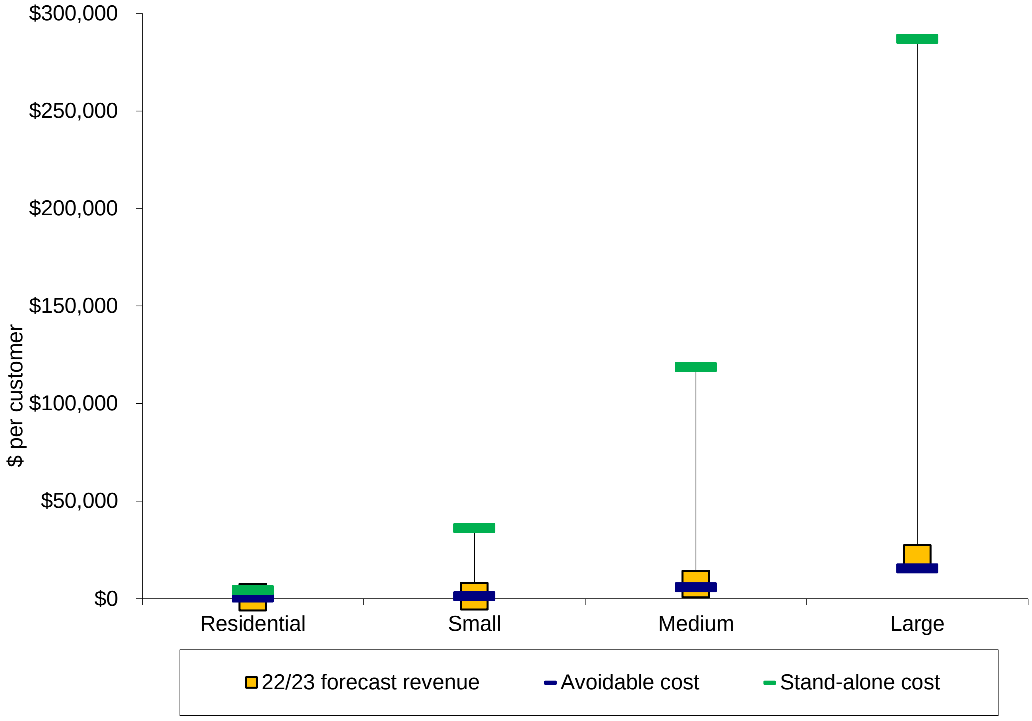
Stand-alone cost (SAC): considers the costs that a consumer would face to supply their energy needs from alternative energy sources. This represents the cost of going ‘off-grid’ or bypassing the network. The Electricity Authority’s pricing principles practice note (the Guidance) suggests that SAC should be estimated with reference to micro grid schemes under which a group of consumers share energy resources.

Prices above stand-alone cost could not be sustained due to threat of competing energy sources and may create the possibility of inefficient bypass of the network. That is, consumers would be better off disconnecting from the electricity network and taking up the alternative energy solution where total electricity charges exceed SAC. This is inefficient as WELL’s average unit cost to operate the network will increase for the remaining consumers, which may potentially further distort network usage. It is therefore better to discount prices below SAC in order to retain those consumers that are at risk of bypass.

Avoidable costs: the avoidable cost for a consumer group is the cost that can be avoided, should the distribution business no longer serve that consumer group (whilst still supplying all other remaining groups). If a consumer group were to be charged below its avoidable cost, it would be economically beneficial for the business to stop supplying that consumer group as revenue obtained from the consumer would not cover these costs. Further, where avoidable costs are higher than revenue recovered, the associated price levels may also result in inefficient levels of consumption.

As demonstrated in Figure 18, the revenue for each consumer group is within the subsidy free range established by stand-alone (SAC) and avoidable costs (AC). Revenue from the residential customer groups falls on the avoidable cost limit but is within the margin of error for the test. There is no requirement to adjust prices. There is no requirement to adjust prices.

Figure 18 – Comparison of avoided costs, stand-alone costs, and revenue from prices[15]



[15] Includes distribution, pass- through and recoverable costs.

7 Impact of 2022/23 price changes

Prices for all consumers are set in accordance with the IM Determination 2012 and DPP Determination 2020 which are defined by the Commerce Commission. The DPP Determination 2020 allows WELL to recover a net allowable revenue for the 1 April 2022 to 31 March 2023 assessment period of $93.0m. The IM Determination 2012o defines how pass-through and recoverable costs are treated.

In 2022/23, WELL will be in its second year of the regulatory period determined by the DPP Determination 2020. Prices include:

- Regulatory allowances provided by the DPP3 Determination[16]
- Transpower transmission costs;
- Pass-through costs;
- Other recoverable costs; and
- Cost of supply allocations.

Prices for residential consumers are also adjusted to comply with the LFC Regulations.

7.1 Changes to standard prices

The following adjustments have been made to prices.

7.1.1 Regulatory allowances provided by the DPP3 Determination

The Commission calculated a regulatory allowance (as provided in the DPP Determination 2020) for WELL's four-year regulatory period. Allowances for Distribution Services have increased by 2.0% from last year's allowance. The increase reflects an inflationary allowance increase as determined by the regulatory model.

7.1.2 Transpower transmission charges

Transpower Electricity Lines Service charges have increased by 0.8% and Transpower New Investment charge has increased by 1.0% from the previous year. The change in costs reflects changes in Transpower's investment programme, offset by inflationary cost increases. WELL passes these charges on to consumers at cost.

7.1.3 ACOT

WELL pays Avoided Cost of Transmission (ACOT) charges to large distributed generators within WELL's network in recognition that these generators may cause WELL to avoid Transpower charges. These distributed generators reduce WELL's reliance on Transpower's transmission grid at peak times as peak demand is partly served through these distributed generators. WELL recognises these Transpower savings by paying an ACOT payment to the local distributed generator and WELL in turn pass these charges on to consumers at cost.

ACOT charges can fluctuate significantly depending on how much the distributed generation contributes to reducing coincident demand on the network in line with the lower North Island transmission peaks.

[16] As defined in Electricity Distribution Services Default Price-Quality Path Determination 2020

7.1.4 Pass-through costs

Pass-through costs have increased from last year by 9.4%. Pass-through costs comprise of council rates and industry levies. Pass-through costs are charged on to consumers at cost. The increase is largely due to above inflation increases in council rates and Commerce Commission levies due to the Commissions increased work program.

7.1.5 Other recoverable costs

Other recoverable costs include cost savings incentives, quality incentives and the wash-up account balance. The wash-up account balance is the difference between actual revenue collected and the revenue that WELL is allowed to collect. This ensures that WELL does not earn more revenue than it is allowed. These adjustments are made in line with the IM Determination and the DPP Determination 2020.

7.1.6 Balance between fixed and variable prices for users

As dictated by the Low Fixed Charge regime, residential standard users have a higher fixed daily price than low users to reflect the higher capacity used by these consumers. As of 1 April 2022, the fixed daily price for residential standard users is $0.9975 per day, the same price as last year. Residential low user fixed daily price has increased to $0.30 in line with the maximum charge allowed under the Low Fixed Charge Regulation. Last year this price was $0.15. Whilst residential standard users will have a higher fixed daily price, they will have lower variable prices ($/kWh) than residential low users.

7.1.7 Volume changes

WELL also forecasts unit volumes that the prices are applied to – the unit volumes that unit prices are applied to, to calculate a consumer's bill. An increase in volumes means that there are more consumers and higher volumes of electricity use that WELL's can spread its costs over. This means that lower prices are needed to recover those costs. Prices have fixed and variable volume components, each requiring separate quantity forecasts – the fixed component requiring a forecast for the number of new connections and the variable component requiring a forecast of electricity used (kWh). This year's volume forecasts are summarised below.

Figure 19: Volume forecasts

Standard consumer groups (excl. unmetered)	Forecast connections		Forecast volume (kWh)	
	Annual % change from 2020/21 base year	Forecast base	Annual % change from 2020/21 base year	Forecast base
Residential (includes low user, standard user and EV)	+0.7%	5-year historic average	+0.8%	5-year historic average plus an additional +0.5% for EV growth applied for one year
General Low Voltage	+0.3%	5-year historic average	-1.8%	5-year historic average
General Transformer	+1.8%	5-year historic average	-1.8%	5-year historic average

We are forecasting an increase in volumes overall which has offset inflationary cost increases and provides an overall price decease. This is a change from the historic trend of declining volumes.

7.1.8 Summary of adjustments

The figure below summarises the change in lines charges for the 1 April 2022 to 31 March 2023 regulatory year compared to the previous year. The percentage change is calculated as a weighted average of all prices.

Figure 20 - Change in delivery charge

Price change element	Contribution to total average change in delivery charges
Change in allowances	1.2%
Transpower transmission charges	0.2%
ACOT charges	0.2%
Pass-through costs (rates, levies etc)	0.4%
Other recoverable costs (incl. wash-ups, incentives and pass-through balance movement)	-0.8%
Total change in costs	1.1%
Volume changes	-2.6%
Total weighted average price change	-1.5%

Our delivery charges represent around 30-40% of the total electricity bill paid by consumers. However, consumers should be aware that energy retailers will package up our prices into their own retail offerings and the actual impact on consumer electricity bills will vary according to price plans, consumption and the extent to which energy retailers pass through WELL's network prices. Consumers should check with their energy retailer if they wish to further understand the actual impact on their total electricity bill.

7.2 Non-standard contracts

For consumers on non-standard contracts WELL changed the distribution price component from 1 April 2022 in accordance with the conditions of the non-standard contracts. Total delivery charges are the sum of the distribution and transmission prices.

For non-standard contracts established prior to the transfer of ownership of the network in 2009, WELL continued previously agreed connection policies and prices (reviewed annually). For non-standard contracts established under WELL's ownership, WELL has applied the methodology in accordance with WELL's Customer Contributions Policy.[17]

The following figure shows the number of contracts and connections covered under non-standard agreements.

[17] Available at: www.welectricity.co.nz/disclosures/customer-contributions/

Figure 21 – Non-standard contract statistics[18]

Non-standard contract statistics	Total
Number of non-standard contracts	11
Number of ICPs	19
Target revenue	**$2.00m**

7.3 Obligations and responsibilities to consumers on non-standard contracts

All of WELL's non-standard contracts contain the same commitments to supply security and restoration priority as WELL's standard Use of Network Agreements and Default Distribution Agreements with retailers. WELL's non-standard agreements have some special conditions:

- One non-standard contract commits WELL to contract specific communications protocols in the event of supply disruption;
- None of WELL's non-standard pricing is affected by supply disruptions; and
- WELL has one non-standard contract where certain types of supply disruptions impose financial obligations on WELL.

As noted above, where WELL's non-standard contracts were established prior to 2009, WELL will honour the previously agreed connection policy and price.

7.4 Distributed generation

Distributed generators may be on either standard or non-standard contracts depending on the circumstances.

A $0.00/kWh-injection price applies for standard DG connections. This is done so that billing information can be recorded for these connections for monitoring purposes.

For further information on connection of distributed generation refer to our website: www.welectricity.co.nz/getting-connected/generating-your-own-electricity/

A distributed generator injecting energy directly into the Wellington network may help WELL avoid transmission charges if less energy from Transpower is needed (because the distributed generator is providing locally generated energy instead). WELL may pay a distributed generator that injects into its network an ACOT payment if the distributed generator:

- Has an injection capacity of 200kVA or greater;
- The distributed generator is included on the Electricity Authority's list of distributed generators who are eligible for ACOT payments; and
- Is deemed by WELL to be supporting its network during the 100 Transmission peaks on a pro-rata basis.

[18] Target Revenue includes transmission and pass-through cost recovery

The benefit of distributed generators supplying energy into the network is approximated by the direct avoidance of Transpower interconnection transmission charges (interconnection charges) during peak demand periods. In determining the magnitude of any ACOT payment to a distributed generator, WELL considers that:

- The distributed generator must generate in a way that reduces interconnection charges incurred by WELL in accordance with the applicable Transmission Pricing Methodology (TPM);
- WELL and its consumers should be no worse off than had the distributed generation investment not occurred; and
- No potential long term transmission connection or interconnection benefits are payable to the distributed generator[19]

The distributed generator must invoice WELL on a monthly basis from 1 April following submission of the data.

WELL calculates the ACOT payment based on Transpower's current TPM approved by the Electricity Authority. WELL will amend the calculation of the ACOT payment if Transpower's TPM is changed or where the Distributed Generation Pricing Principles are amended.

Based on Transpower's current TPM the calculation of the gross ACOT payment to a distributed generator will be determined as follows:

$$RCPD_{G} * IR_{CF} - (RCPD_{WELL} * (IR_{A} - IR_{CF}-)) * (1 - Admin)$$

Where:

$RCPD_{G}$	Average of the generation (kW) injected by the distributed generator coincident with the 100 Lower North Island Peaks for the measurement period relating to each 12 month period commencing 1 April.
IR_{A}	The interconnection rate published by Transpower for the relevant 12 month period commencing 1 April.
IR_{CF}	The counterfactual interconnection rate (IR_{CF}) is calculated as: $= IC\ Revenue / (RCPD_{TP} + RCPD_{G})$
$RCPD_{WELL}$	The average of the sum of demand across all Wellington Electricity GXPs coincident with the 100 Lower North Island Peaks for the relevant 12 month period commencing 1 April.
$RCPD_{TP}$	Sum of the average of the RCPD for each consumer at a connection location for all consumers at all connection locations for all regions (excluding $RCPD_{WELL}$) for the relevant 12 month period commencing 1 April.
Admin	A percentage recovery of the benefits attributable to the Generator reflecting the incremental costs incurred by WELL. This percentage is determined on a case by case basis.

[19] Any potential long term benefits of avoided transmission cannot be ascertained by Wellington Electricity nor ascribed to individual distributed generators. Any potential benefits should be negotiated with Transpower directly by the Generator.

7.5 Service charges

A service charge relates to work performed for a consumer by WELL's approved contractors. These charges are set to recover incremental costs and include external contractor rates and an administration fee to recover WELL's processing costs (e.g. updating network records and registry information etc.). The figure below sets out the charges applicable for the 2022/23 year. Prices have been calculated by applying 2% inflation uplift to last year's prices.

Figure 22 – Service charges

Description	Unit	Charge Effective 1 April 2021	Charge Effective 1 April 2022
New connection fee – single phase connection	per connection	$173	$176
New connection fee – two or three phase connection	per connection	$433	$442
Site visit fee	per site visit	$173	$176
Permanent disconnection fee	per disconnection	$324	$330
General administration fee - to cover costs such as late, incorrect or incomplete consumption data, administering Embedded Networks, etc	per hour	$133	$136

WELL's Network Pricing Schedule[20] provides further descriptions of these charges.

7.6 Consumer views on pricing

WELL seeks consumer views of changes to price structures before a change in made by consulting retailers as the consumer advocate. We also regularly check with consumers that we continue to provide services at a level of quality that they are willing to pay for.

7.6.1 Consulting before price structure changes

WELL consults with retailers, as the consumers representative, before any changes are made to price structures, The consultation documents include an estimate of the impact that any change will have on different customer groups, the benefits that the change will provide consumers and any potential downside. WELL then uses retailer feedback to refine the prices to help ensure any changes made benefit consumers overall and in the long term. We will usually consider transitioning changes over time to avoid price shocks.

7.6.2 Understanding expectations of price and quality

Since November 2017, WELL has surveys consumers who have been impacted by outages to better understand consumers' expectations of price and quality. As at January 2022, 5,721 consumers have responded to the questions asking about outages experienced and the price of services. Figure 23 summarises the responses.

[20] Available at: www.welectricity.co.nz/disclosures/pricing

WELL also conducted a similar survey of randomly selected consumers in 2018, to act as a control group and to determine whether frequency of outage experience had any impact on the survey results. The results of that survey have been added to responses from a survey published on the Wellington Electricity website to form a control group, shown in Figure 23.

Figure 23 – Monthly cost/quality trade-off survey questions

		Yes		No		Maybe	
No.	**Question**	**Post outage survey**	**Control Group**	**Post outage survey**	**Control Group**	**Post outage survey**	**Control Group**
1	Would you be prepared to pay a bit more for your power if it meant fewer power cuts?	3%	14%	57%	16%	39%	70%
2	Would you be prepared to have slightly more power cuts if it meant prices were a bit cheaper?	3%	9%	77%	68%	20%	23%
3	Would you be prepared to pay $2 on top of your monthly electricity bill if it meant that the Wellington region was better prepared for a major natural disaster?	55%	10%	11%	10%	34%	80%

The results for question 1 show that the majority of consumers surveyed after an outage were comfortable with the current price/quality balance – that they are not willing to pay more for fewer outages. There is some inconsistency with the control group who were unsure whether they would pay more for fewer outages.

The results for question 2 are more consistent between those surveyed after an outage and the control group. The results suggest that consumers are broadly satisfied with their current level of reliability and the price of delivering that service.

The results for question 3 differ significantly between the two sample groups with consumers willing to pay more to be better prepared for a natural disaster or were unsure.

We do not believe that the survey results provide any compelling reasons to adjust our approach to calculating base prices from prior years.

7.7 Proportion of target revenue by price component

Clause 2.4.3(8) of the ID Determination 2012 requires that the proportion of target revenue collected through each price component is noted. This is shown for the regulatory year 1 April 2022 to 31 March 2023 below.

Figure 24 – Proportion of target revenue by price component

Consumer group	Consumer plan code	Fixed (FIXD) connection/ day $	Uncontrolled (24UC) kWh $	All inclusive (AICO) kWh $	Controlled (CTRL) kWh $	Night (NITE) kWh $	Peak uncontrolled (P-UC) kWh $	Off-peak uncontrolled (OP-UC) kWh $	Peak all inclusive (P-AI) kWh $	Off-peak all inclusive (OP-AI) kWh $
Residential low user time of use	RLUTOU	9,230,509	9,924,248	6,372,057	776,696	33,129	5,647,189	6,759,755	3,635,025	4,329,542
Residential standard user time of use	RSUTOU	20,071,632	7,485,684	4,714,802	426,248	52,673	4,863,913	4,499,999	3,376,216	2,523,602
Residential low user	RLU	1,025,612	2,481,062	1,593,014	86,300	3,681	0	0	0	0
Residential standard user	RSU	2,230,181	1,871,421	1,178,700	47,361	5,853	0	0	0	0
Residential low user EV and battery storage	RLUEVB	16,309	0	0	523	0	0	0	0	0
Residential standard user EV and battery storage	RSUEVB	49,775	0	0	674	0	0	0	0	0
General low voltage	GLV15	1,047,356	1,987,102	0	0	0	0	0	0	0
General low voltage	GLV69	4,861,118	9,227,690	0	0	0	0	0	0	0
General low voltage	GLV138	1,167,509	1,963,059	0	0	0	0	0	0	0
General low voltage	GLV300	1,432,001	1,581,927	0	0	0	0	0	0	0
General low voltage	GLV1500	2,076,768	901,478	0	0	0	0	0	0	0
General transformer	GTX15	373	1,823	0	0	0	0	0	0	0
General transformer	GTX69	9,083	16,845	0	0	0	0	0	0	0
General transformer	GTX138	45,864	77,689	0	0	0	0	0	0	0
General transformer	GTX300	413,047	715,411	0	0	0	0	0	0	0
General transformer	GTX1500	2,136,578	1,910,256	0	0	0	0	0	0	0
General transformer	GTX1501	664	209,381	0	0	0	0	0	0	0
Unmetered - non-street lighting	G001	19,797	281,442	0	0	0	0	0	0	0
Unmetered - street lighting	G002	3,448,310	0	0	0	0	0	0	0	0
Non-standard Contracts	IC	0	0	0	0	0	0	0	0	0
Total network revenue		**49,282,485**	**40,636,519**	**13,858,574**	**1,337,801**	**95,335**	**10,511,102**	**11,259,754**	**7,011,240**	**6,853,144**

Consumer group	Consumer plan code	Peak (PEAK) kWh $	Off-peak (OFFPEAK) kWh $	Demand (DAMD) kVA/month $	Capacity (CAPY) kVA/day $	On-peak demand charge (DOPC) kW/month $	Power factor (PWRF) kVAr/month $	Non-standard contracts (IC) $	Total revenue regulatory year $
Residential low user time of use	RLUTOU	0	0	0	0	0	0	0	**46,708,150**
Residential standard user time of use	RSUTOU	0	0	0	0	0	0	0	**48,014,767**
Residential low user	RLU	0	0	0	0	0	0	0	**5,189,669**
Residential standard user	RSU	0	0	0	0	0	0	0	**5,333,516**
Residential low user EV and battery storage	RLUEVB	43,515	55,864	0	0	0	0	0	**116,211**
Residential standard user EV and battery storage	RSUEVB	59,779	30,964	0	0	0	0	0	**141,192**
General low voltage	GLV15	0	0	0	0	0	0	0	**3,034,459**
General low voltage	GLV69	0	0	0	0	0	0	0	**14,088,808**
General low voltage	GLV138	0	0	0	0	0	0	0	**3,130,567**
General low voltage	GLV300	0	0	0	0	0	0	0	**3,013,929**
General low voltage	GLV1500	0	0	2,463,621	0	0	0	0	**5,441,866**
General transformer	GTX15	0	0	0	0	0	0	0	**2,196**
General transformer	GTX69	0	0	0	0	0	0	0	**25,928**
General transformer	GTX138	0	0	0	0	0	0	0	**123,553**
General transformer	GTX300	0	0	0	0	0	0	0	**1,128,458**
General transformer	GTX1500	0	0	5,135,728	1,093,739	0	0	0	**10,276,301**
General transformer	GTX1501	0	0	0	812,224	3,714,498	173,297	0	**4,910,063**
Unmetered - non-street lighting	G001	0	0	0	0	0	0	0	**301,239**
Unmetered - street lighting	G002	0	0	0	0	0	0	0	**3,448,310**
Non-standard Contracts	IC	0	0	0	0	0	0	1,996,542	**1,996,542**
Total network revenue		**103,293**	**86,828**	**7,599,349**	**1,905,963**	**3,714,498**	**173,297**	**1,996,542**	**156,425,725**

8 Appendix A – Pricing Methodology - Information Disclosure Requirements

2.4.1 Every EDB must publicly disclose, before the start of each disclosure year, a pricing methodology which-

(1) Describes the methodology, in accordance with clause 2.4.3 below, used to calculate the prices payable or to be payable;

(2) Describes any changes in prices and target revenues;

(3) Explains, in accordance with clause 2.4.5 below, the approach taken with respect to pricing in non-standard contracts and distributed generation (if any);

(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.

2.4.2 Any change in the pricing methodology or adoption of a different pricing methodology, must be publicly disclosed at least 20 working days before prices determined in accordance with the change or the different pricing methodology take effect.

2.4.3 Every disclosure under clause 2.4.1 above must-

(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;

(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;

(3) State the target revenue expected to be collected for the disclosure year to which the pricing methodology applies;

(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;

(5) State the consumer groups for whom prices have been set, and describe-

(a) the rationale for grouping consumers in this way;

(b) the method and the criteria used by the EDB to allocate consumers to each of the consumer groups;

(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;

(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;

(8) State the proportion of target revenue (if applicable) that is collected through each price component as publicly disclosed under clause 2.4.18.

2.4.4 Every disclosure under clause 2.4.1 above must, if the EDB has a pricing strategy-

(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;
(2) Explain how and why prices for each consumer group are expected to change as a result of the pricing strategy;
(3) If the pricing strategy has changed from the preceding disclosure year, identify the changes and explain the reasons for the changes.

2.4.5 Every disclosure under clause 2.4.1 above must-

(1) Describe the approach to setting prices for non-standard contracts, including-

(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;
(b) how the EDB determines whether to use a non-standard contract, including any criteria used;
(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;

(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-

(a) the extent of the differences in the relevant terms between standard contracts and non-standard contracts;
(b) any implications of this approach for determining prices for consumers subject to non-standard contracts;

(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-

(a) prices; and
(b) value, structure and rationale for any payments to the owner of the distributed generation.

9 Appendix B – Consistency with Pricing Principles

The Electricity Authority's Pricing Principles have been updated and provided in "Distribution Pricing: Practice Note" August 2019. We have assessed how well our current Pricing Methodology meets the principles.

We are also developing a revised Pricing Methodology that reflects the Electricity Authority's updated Pricing Principles and Cost Reflective Pricing Methodology. Our proposed Pricing Methodology is provided in our Pricing Roadmap. We will be refining our thinking this year by consulting with retailers on the new price structures.

For each of the Pricing Principles we have assessed alignment with our current methodology and against our future Pricing Methodology.

Pricing Principle (a) (i)

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

(i) i. being subsidy free (equal to or greater than avoidable costs, and less than or equal to stand-alone costs);

Subsidy free means that consumers in consumer groups are no worse off by being part of the whole network – that they are not better off with another service, or they are not paying for the incremental costs of another consumer group. WELL calculates the stand alone and avoidable cost for each major consumer group – residential, non-residential consumers connected to the low voltage network and non-residential consumers with dedicated transformers.

Stand-alone cost calculation: considers the costs that a consumer would face to supply their energy needs from alternative energy sources. This represents the cost of going 'off-grid' or bypassing the network. The Electricity Authority's pricing principles practice note (the Guidance) suggests that SAC should be estimated with reference to micro grid schemes under which a group of consumers share energy resources.

To estimate SAC we have investigated micro-grid schemes under which consumers generate and store their own electricity and use LPG substitutes to create a hypothetical standalone network. We note that there are few real world off-grid micro-grid schemes in New Zealand. However, using publicly available information we were able to design and cost a hypothetical micro-grid that might be capable of supplying a subdivision or business park grouping of consumers. Our research suggests that the most common and economic off-grid solution would use a combination of solar PV, batteries, backup diesel generation, and LPG.

Avoidable costs: The avoidable costs associated with each of the consumer groups were derived by estimating how short-term costs reduce if a specific consumer group is no longer supplied. Consistent with the guidance, avoidable costs include short-term variable cash costs, such as repairs and maintenance, billing and customer service costs, and transmission charges. Network asset costs are excluded as they are fixed in nature and are not avoided if a consumer group disconnected from the network.

Principle	Current Methodology	Future Methodology
Being subsidy free	Estimated short run avoidable cost and the cost of a standalone alternative in line with the Authority's Distribution Pricing Practice Note 2021.	The stand-alone cost will also be updated as alternatives to distribution services are developed.

(ii) reflecting the impacts of network use on economic costs, and

Pricing structures are economically efficient where they assist to efficiently signal the economic costs of servicing different network usage profiles. WELL's prices are initially based on building block allowable revenues under Part 4 regulation, reflecting key network investment and operating costs. WELL then considers the drivers of consumer usage to develop prices for each consumer group. WELL's pricing has regard to the economic cost of using existing network capacity and to the cost of future capacity, as follows:

Time of use (ToU) charges: From 1 April 2021, Wellington Electricity will implement mandatory ToU pricing for Residential consumers. These pricing structures incentivise efficient use of peak network capacity and signal the cost of investing in new capacity by charging a higher price during periods when the network is typically congested and a lower price during off-peak periods.

Demand (kW): The demand charge applied to GTX1500 and GTX1501 pricing plans provides a price signal by incentivising larger consumers to reduce their demand at high network congestion periods. Our current cost of supply model also allocates network and transmission related costs by each consumer group's contribution to demand.

Night boost: The night boost pricing option ('NITE') applies to separately metered and permanently wired appliances, such as night store heaters, which are switched on and off at specific times. This controlled option will be switched on during the off-peak night period (11pm to 7am) and for a minimum "boost period" during the day of two hours generally between 1pm and 3pm. This incentivises consumers who have invested in these heating options to use these loads during off-peak periods.

Load management: Wellington Electricity provides lower prices to consumers that offer up dedicated controllable loads (e.g. electric hot-water cylinders). This lower price signals to consumers the cost savings associated with shifting consumption away from network peaks or other congestion periods (e.g. during outages).

Use of LV and HV assets: All pricing categories disaggregate consumers by their use of LV and HV assets. Our cost of supply model also only allocates LV costs to consumer groups that use these assets aligning use of these assets to network pricing.

WELL does not specifically factor circuit length into prices. The relatively compact and interconnected nature of our network makes this difficult to apply in practice.

Dedicated equipment: The GTX pricing group distinguishes the distinct costs associated with providing dedicated transformers, as well as recognises that these consumers do not typically use LV circuit assets. This is also reflected in our cost of supply model which allocates a higher proportion of transformer costs direct to the GTX group.

Connection capacity: kVA bands are applied across our general pricing groups to reflect differences in installed connection capacity. This typically reflects differences in the usage of different sizes of transformers and circuit voltage capacity.

Power factor charge: To encourage power factor management, a power factor charge is applied to General Transformer Connections greater than 1500 kVA (GTX1501) who fail to correct inductive loads. This signals to the consumer the need to manage power factor to optimise network capacity and quality of supply.

Streetlights: Separate streetlight charges seek to directly recover the cost of streetlight assets and maintenance.

Connection costs: Differences in connection costs are recognised through fixed daily charges, capacity bandings, and capital contributions for new connections.

Looking forward: WELL's Future Pricing Roadmap summarises the changes WELL expects to make to its pricing in the future. WELL implemented ToU pricing initially for EVB consumers from 1 July 2018 and expanded it to include all residential consumers in 2020. WELL continues to investigate efficient pricing options and is considering efficient prices for small commercial consumers and prices for managing EV charging. This year, WELL will be consulting on new price structures that reflect the Electricity Authority's new Cost Reflective Pricing Methodology.

Principle	Current Methodology	Future Methodology
Signal economic cost	We signal the economic cost of using the network by: • Tariffs that reflect the cost of using electricity during peak demand periods • A Customer Contribution policy that ensures connecting consumers fund the incremental cost of connecting Recent improvements include the application of mandatory ToU pricing for all residential consumers.	Continue to refine its price signals for using energy during peak demand periods. Key programmes include: 1. Refine the LRMC calculation and reflect the cost of using electricity during peak periods in the allocation of variable and fixed prices. 2. Consideration will be given to geographic price signals – prices that reflect significantly different LRMC for specific parts of the network. 3. Develop cost reflective prices for small and medium size non-residential consumers, replacing any-time variable price components. 4. Consider capacity based fixed prices for medium and large non-residential consumers

Principle	Current Methodology	Future Methodology
		5. Transition away from low fixed charges to standard pricing

(iii) reflecting differences in network service provided to (or by) consumers;

Networks in New Zealand generally do not offer different levels of service for its core distribution services. The regulatory framework is based on providing set levels of quality for all consumers within a service area. Regulatory penalties and incentives are applied to quality targets based on those service levels.

However, we note the Distribution Pricing Practice note broadens the definition of this principle to encompass any differences in the network service provided by or to a distributor.

WELL's pricing reflects different network service offerings that account for price and quality trade-offs, asset usage requirements, and consumption preferences. Specific examples of consumer service preferences that are catered for in our pricing are also discussed above and include:

- **Time of use and night boost prices**: Time reflective cost reflective prices reflect consumer preferences over when they use the network.
- **Interruptible supply**: Consumers can offer up interruptible hot water load in exchange for a discount on prices. Specific reliability requirement can also be negotiated as part of our network connections policy.
- **Connection capacity**: The different pricing categories reflect a range of connection sizes reflecting different consumer requirements.
- **Dedicated equipment:** WELL pricing and connections policy provides consumers with the option of being provided with dedicated equipment. Dedicated transformers are provided under GTX pricing. WELL also provides a range of dedicated equipment using direct agreements with consumers.
- **Non-standard terms:** Large industrial connections with atypical seasonal or daily load profiles are also offered non-standard terms to better meet their preferences for fixed of variable pricing or asset charges. Non-standard terms could also reflect different levels of security and operating restrictions for a specific consumer.

Principle	Current Methodology	Future Methodology
Prices that reflect the service being provided	Different service levels are reflected by:	We will continue to develop new services and prices to reflect changing consumer demand. We are currently developing:

Principle	Current Methodology	Future Methodology
	• Pricing differentials reflecting different levels of distribution services provided. • Non-standard contractual terms, prices and consumer contributions reflecting different service levels.	• Managed EV charging services that will allow demand to be managed during peak demand periods. Consumer will receive lower prices in return. • Continue to offer large consumers non-standard terms that reflect their specific operational needed and budgets.

(iv) encouraging efficient network alternatives;

Network pricing should encourage efficient investments in alternatives to traditional transmission or distribution network supply (including demand response). Network alternatives include distributed generation (e.g. Solar PV, wind, hydro), storage, interruptible demand, and flexibility services. Our pricing structures (e.g. ToU, NITE, Controlled, and demand pricing) encourage investments in non-traditional network alternatives where they are more efficient:

- As discussed in Principle (a) (i) above, our prices are less than stand-alone cost for all consumer groups so are therefore likely to discourage inefficient investment in off-grid alternative energy solutions. This reflects that most residential solar solutions only provide 25% of a household's energy needs. The network is still needed to provide the remaining 75%. Conversely, if an individual or consumer group can find a more cost-effective alternative than the prices signal, they would be better to use that service.

- Our prices signal the cost of future network reinforcement if consumers use electricity during peak demand periods (i.e. price signals are set using the LRMC). This allows consumers to choose to use electricity during peak demand period and pay more, or avoid using electricity during busy periods and avoid the investment cost.

- Our peak period prices encourage alternative network solutions where they are more efficient than using traditional solutions to solve capacity or security constraints. Examples are lower prices for hot water control and peak ToU tariffs that signal when it is efficient to purchase distributed energy resources like household batteries to shift load to off peak periods.

Principle	Current Methodology	Future Methodology
encouraging efficient network alternatives	Our current prices signal when it would be efficient to use network alternates.	Refine and improve the price signals, including: • Refine the stand alone and avoidable cost calculation]

Principle	Current Methodology	Future Methodology
		• Refine peak demand periods to reflect any changes in peak periods due to changes in energy use behaviours. • Refine the LRMC calculation, including considering geographic price signals • Develop and offer flexibility services as an alternative to traditional solutions to capacity and security constraints.

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.

Prices are first set to signal future economic costs. Where these prices result in a short-fall of revenue, this short fall should be recovered by a pricing mechanism that least distorts network usage. Because this residual amount has no need to send a price signal (because all the price signalling work is done in the first step) this residual recovery process should be done in a way that means a consumer has no reason to change their electricity consumption use or pattern.

In practice, non-distortionary charges are likely to target consumers that demand a service the most or which are less likely to change their usage behaviour due to a price change. A challenge with this approach is it can be difficult to identify consumers based on willingness to pay due to lack of information on price elasticities (i.e. a measure of willingness to pay) specific to different consumer groups in the New Zealand electricity sector.

WELL's recovery of the residual revenue is in line with the Distribution Pricing Practice Note 2021 and applies a fixed daily charge per ICP. WELL has different non-residential pricing categories that reflect different size connections. Fixed prices are larger for larger sized connections reflecting that those connections are using a larger proportion of the network.

Principle	Current Methodology	Future Methodology
least distorting recovery of residual revenue	Fixed charges are applied by ICP. The size of the charge reflects the size of the connection and reflects how much of the network's capacity is being used (or is available to the consumer). Currently, WELL collects 30% of its revenue from fixed charges which does not align with the LRMC. The	Refine and improve the fixed charges used to recover residual revenue: • Refine the LRMC calculation and the residual amount to be collected from fixed prices. • Retain the least distorting fixed daily prices for residential and small non-residential connections where the connections sizes are similar.

Principle	Current Methodology	Future Methodology
	overall residual amount could be refined.	• Apply least distorting fixed charge based on connected capacity for medium to large non-residential connections that reflect the portions of the network that a connection uses.

> *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*

Prices above stand-alone cost could not be sustained in a competitive market and may result in inefficient bypass of the existing infrastructure. As Wellington Electricity's prices are below the stand-alone costs, bypassing the network is discouraged suggesting that the prices reflect the economic value of services.

However, we are open to considering non-standard arrangements for large connections that may be prone to bypass to the gas or electricity transmission network. Note, EDBs cannot offer different quality levels to the mass market i.e. the mass market use shared assets that provide a single level of quality.

Principle	Current Methodology	Future Methodology
reflect the economic value of services	Prices are set below the standalone cost and reflect the economic value of services. We offer individual prices and terms for large customers with unique requirements.	We will continue to offer individual prices and terms for large customers with unique requirements.

> *i. enable price/quality trade-offs*

Price/quality trade-offs are reflected through different service and asset level offerings affecting firmness of supply, reliability and connection capacity:

- Uncontrolled pricing plans have higher prices recognising the higher willingness to pay for consumers that do not want their hot-water load interrupted.
- ToU and NITE prices are targeted to consumers that are willing to shift their demand to the off-peak.
- Demand pricing and kVA bands allow consumers to self-select the capacity service they require, consistent with their willingness to pay.

- WELL's connections policy enables non-standard connection or assets to be recovered through capital contributions. For example, higher security of supply through multiple levels of redundancy can be recovered through these contributions at the time of connection.
- Large general connections can choose between sharing a distribution transformer on the GLV group or, having their own dedicated transformer on the GTX pricing group. This reflects consumer preferences over security of supply.

WELL has committed to standard pricing categories for most consumers. However, non-standard pricing structures can be agreed by negotiation for large industrial connections. This policy seeks to balance the need for non-standard pricing arrangements with the need to reduce transaction costs for retailers and consumers.

Principle	Current Methodology	Future Methodology
enable price/quality trade-offs	Standard prices reflect different service offering. We offer individual prices and terms for large customers with unique requirements.	We will continue to offer new prices for new services offering different service levels. In the future this will include flexibility services. We will also continue to offer individual prices and terms for large customers with unique requirements.

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

Our pricing methodology and annual price changes are transparently published on our website. These disclosures are designed to provide all the relevant information that consumers and retailers need in order to understand how prices are set. The level of aggregate prices has been set within the constraints of the DPP Determination 2020 which is set and overseen by the Commerce Commission.

We also seek to signal changes in prices in our pricing strategy. We have sought to reduce retailer transaction costs by developing pricing to reflect standard consumer profiles and connection characteristics, where possible. New ToU pricing, in particular, has been developed to try to align to ToU structures that other EDBs are adopting, thereby reducing transaction costs for retailers.

Before we make any price structure changes, we consult with retailers as the consumers representative. The consultation document includes the potential impact on customer electricity bills and options to transition or smooth changes if there is a risk of price shocks.

WELL seeks to limit transaction costs arising from its network charges, by limiting the complexity of charges and structures and the number of charging parameters within each charge. However, economic efficiency criteria are weighted more highly.

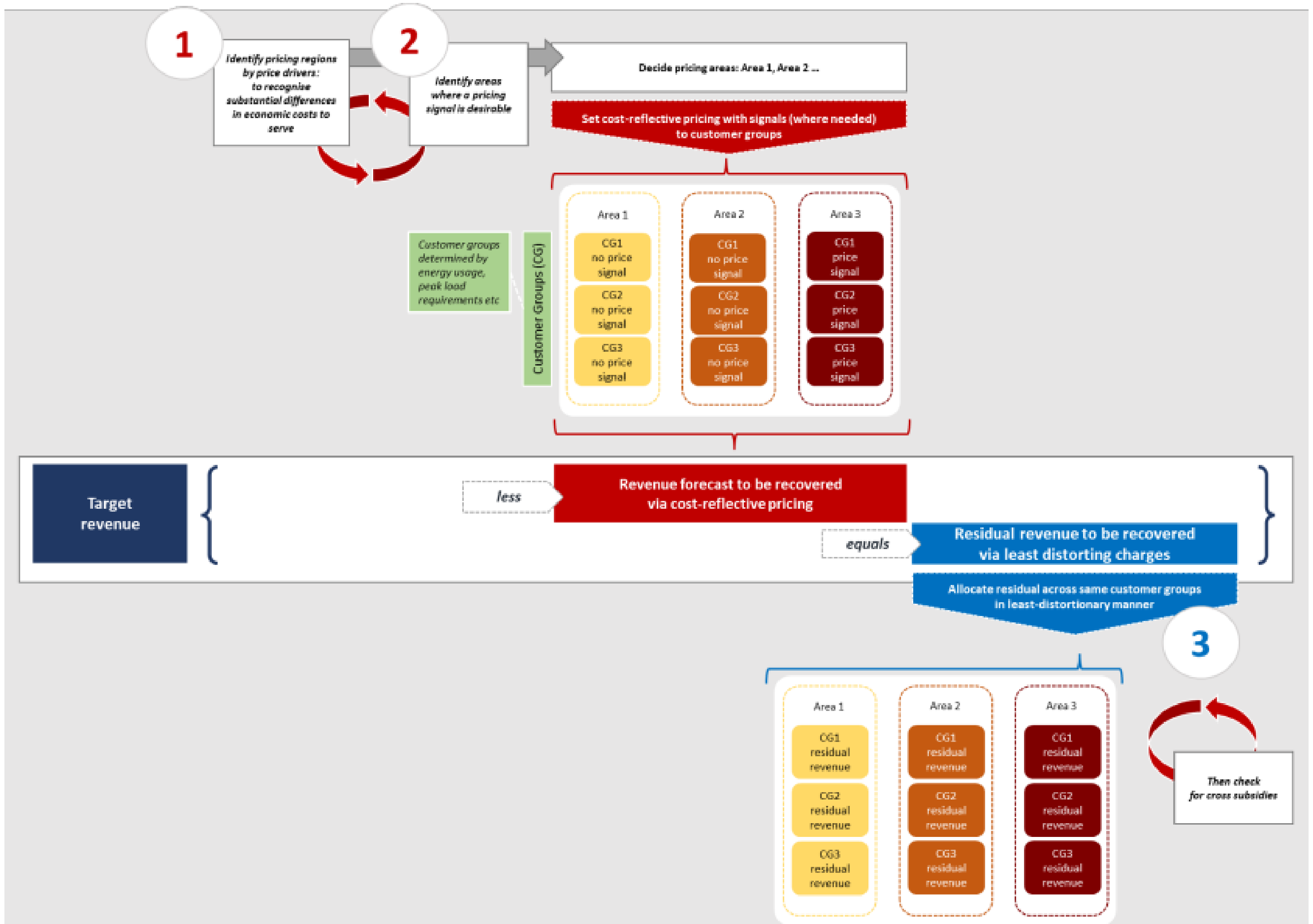
WELL applies the same charging structure to all retailers, excluding any non-standard contracts. A separate contractual agreement is negotiated with non-standard consumers as they have unusual connection characteristics making the tariff structure to all retailers inappropriate.

Principle	Current Methodology	Future Methodology
Transparent	We provide out Pricing Methodology to explain how prices are derived and the Pricing Roadmap outlining how we are refining our Pricing Methodology going forward.	Continue to publicly disclosure our pricing methodology and future pricing plans.
Transaction costs	• We have developed our ToU pricing structures to align with other networks. • Limiting the complexity of charges and structures and the number of charging parameters within each charge	• We are planning to simplify our pricing structures. We will be consulting on the new structures with retails this year. This includes reducing the number of price categories and pricing components. • We will align new price structures with other networks where it is sensible. • The exit of the low fixed user tariffs will clarify residual pricing.
Customer impacts	We consult with retailers as the consumers representative before changes are made. The consultation document includes the potential impact on customer electricity bills and options to transition or smooth changes if there is a risk of price shocks.	We will continue to consult with retailers on any price structure changes.
Uptake incentives	We ensure that price signals for our different price options are consistent in the value they reflect – that consumers aren't incentivised to select a pricing options over another which has a better economic benefits.	• Refine the price signals for our prices, aligning them with the LRMC. • Correct the relativity of the ToU and EVB ToU price signals.

10 Appendix C – New Pricing Methodology

From the Electricity Authority's Distribution-Pricing-Practice-Note-2021-2nd-edition, https://www.ea.govt.nz/assets/dms-assets/29/Distribution-Pricing-Practice-Note-2021-2nd-edition.pdf

Figure 1: Steps to setting efficient distribution pricing: 1) cost drivers and 2) any price signalling and 3) least distortionary residual allocation



11 Appendix D – Progress against current Pricing Roadmap[21]

Initiate pricing reform (April 2017 – March 2018)		Develop detailed plans for pricing reform (April 2018 – March 2020)		Manage roll-out of future pricing (April 2020 – March 2025)	
Initiative	**Progress**	**Initiative**	**Progress**	**Initiative**	**Progress**
Identify overall objectives for pricing reform and update strategy and plan.	✓ Completed ✓ Updated for phase 2	Work with ENA and other distributors to ensure alignment of proposed price structures.	✓ Industry standard for residential consumers developed	Implement new price structures and prices (under revenue cap).	✓ Large commercial cost reflective already in place ✓ Residential ToU prices implemented ● Developing small commercial cost reflective (in progress) ● Developing managed EV and battery charging prices (in progress)
Determine preferred future price structures, e.g. ToU and/or demand and/or capacity.			✓ Residential ToU + DER management price ● Small commercial structures still to be developed and implemented	Transition consumers from old to new price structures.	✓ Transitioning all residential ToU in 2021
Consult with stakeholders on future pricing structures.	✓ Completed for EV trial	Further consult with stakeholders to explain preferred pricing structures and to educate them about upcoming pricing changes.	✓ Industry review panels ✓ Retailer residential ToU consultation complete	Further consult with stakeholders. Educate consumers on how to save money on distribution charges by managing usage and shifting load to off-peak periods.	✓ Energy Mate programme ✓ Educational webtools
High level scoping of metering, data and billing constraints/issues.	✓ Competed – industry review	Develop plan for remediation of metering / billing / data issues.	✓ Billing system tested for ToU rollout	Resolve implementation issues.	✓ ToU billing operational
Gather data for analytics.	✓ Completed for EV trial ✓ High level industry study ✓ Still to get for WELL network	Seek funding from Commerce Commission for required changes to billing systems. Work with 3rd parties (retailers, MSP) to resolve metering and data issues.	✓ Funding needs included in DPP capex ● Access to meter data now part of Code – consider most appropriate data source	Ongoing review of progress towards achieving pricing objectives.	✓ New Cost Reflective Pricing Methodology and pricing structures developed ● Consult with retailers on new structures and transition rules.
Introduce trial demand charge for residential EV consumers.	✓ Completed	Detailed modelling of new pricing structures and prices, including likely impacts on consumers. Consumer trials if required.	✓ High level industry analysis completed ✓ Consumer impacts of residential ToU analysed		
		Check of regulatory compliance	✓ New residential ToU prices comply with low fixed user restrictions		
		Separate pricing categories for EV residential consumers and update of demand charge from $0.00/kW/month.	n/a Considering combining EV ToU with residential ToU ✓ Demand pricing replaced with ToU		
		Agree with EA/Retailers how retailers will pass through distribution price signals to end consumers.	✓ Consulted with retailers – majority suggested they would pass price signal through in some form.		

[21] Note, the roadmap in Appendix 1 is focused on residential prices as the main driver of peak demand. Prices for Commercial consumers will be addressed in the later stages of the roadmap.

12 Appendix E – Directors' Certification

Schedule 17 Certification for Year-beginning Disclosures

Clause 2.9.1

We, Richard Pearson and Charles Tsai, being directors of Wellington Electricity Lines Limited certify that, having made all reasonable enquiry, to the best of our knowledge-

a) The following attached information of Wellington Electricity Lines 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 the basis consistent with regulatory requirements or recognised industry standards.

Richard Pearson
Chairman

21 March 2022

Charles Tsai
Director

21 March 2022