wellington electricity™

Pricing Methodology

Prepared 10 February 2021

For the assessment period ending 31 March 2022

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1 Glossary

Abbreviation	Definition or description
2021/22 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
CPP Determination	Decision No [2018] NZCC 6, Wellington Electricity Lines Limited Electricity Distribution Customised Price-Quality Path Determination 2018
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
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 (EDB) 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, 3 April 2018
ID Guidelines 2010	The Electricity Authority's previous Pricing Principals were provided in the "Distribution Pricing Principles and Information Disclosure Guidelines", February 2010. This has now been superseded by "Distribution Pricing: Practice Note" August 2019
IM Determination 2012	Electricity Distribution Services Input Methodologies Determination 2012, 3 April 2018

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
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 customers in the Wellington, Porirua, Lower Hutt and Upper Hutt areas.

We are investing around **$161m** 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**.

We own around **2,000 km** of streetlight circuits but none of the streetlights themselves.

WELL has just delivered a three year Customised Price-Quality Path (**CPP**) which included an earthquake readiness programme. We have a number of known earthquake fault lines in the region. In March 2018 we were granted $31.24 million of additional funding to improve our ability to respond after a major earthquake. Our earthquake readiness programme included:

1. Seismically strengthening 91 of our substation buildings to ensure that they can withstand the shaking.
2. Increase our stock of spares and have them distributed around the region so that we can restore critical power quicker.
3. Upgrade our radio and phone systems to improve our communications after an event.
4. Construct three data centres to ensure we have access to vital information which is accessible should telecommunications links fail.
5. Construct two portable substations (one for Wellington and the other for the Hutt Valley) that can be deployed at any substation which may be severely impacted by an earthquake.

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 for electricity lines services. WELL is also regulated by the Electricity Authority (**Authority**) under the Electricity Industry Act 2010. 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 2021.

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 Commission regulates markets where competition is limited, including electricity distribution services. Regulation of electricity distribution services includes the 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 2021 Assessment Period, i.e. the year commencing 1 April 2021.

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 actual net allowable revenue from distribution prices for the year beginning 1 April 2021 and allows distribution prices to increase by CPI in the following years 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.

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

Additionally, the Electricity Authority's ID Guidelines 2010 set out voluntary principles and guidelines for information disclosure relating to EDBs' pricing methodologies. An updated set of Pricing Principles are provided in the final decision paper "More efficient distribution network pricing – principles and practice" 4 June 2019. We demonstrate WELL's pricing methods are consistent with the pricing principles in Appendix B.

3.4 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 of no more than 15 cents per day. 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.
- Schedule 6.4 of Part 6 of the Electricity Code sets out pricing principles for distributed generation.

3.5 Related pricing documents

In addition to this Pricing Methodology disclosure document, the following pricing related material applicable for the 2021/22 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 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/

3.6 Future pricing – The Pricing Roadmap

Like most EDB's, WELL has been working on a pricing reform programme. The objective of WELL's pricing programme is to provide prices that reflect the higher cost of providing electricity at peak periods of demand when networks are congested, encouraging consumers to use electricity when the network is not congested. Practically this means:

- 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.

Our pricing programme is motivated and 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 customers 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 Electricity Authority's work reviewing pricing principles and monitoring activities – this adds impetus to our focus on pricing efficiency;
- The Electricity Pricing Review considered pricing outcomes and frameworks – this supports pricing efficiency, affordability, fairness and points to the phasing out of low-fixed charge restrictions.

3.6.1 Progress against the pricing roadmap

In 2017 WELL published a Pricing Roadmap which outlined how we are developing our prices. Progress against the roadmap is provided in Appendix C. Figure 1 – Summary of progress on the Pricing Roadmap below provides a summary of the pricing programmes for each customer group. The figure provides an assessment of the impact that each customer 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 customers as the main potential contributors to peak demand and therefore the greatest driver for the need to re-enforce the network.

Figure 1 – Summary of progress on the Pricing Roadmap

Prices in development

Prices developed & implemented

Customer group	Impact on peak demand and future price increases	Pricing programmes to signal peak demand						
		2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
Residential customers	**High** – main contributor to peak demand		Optional residential TOU			ToU for all residential, EV & battery customers		
EV & battery owners	**High** – future contributor to peak demand	EV & Battery ToU tariffs				Managed EV & battery changing tariff		
Small/medium commercial	Currently low, expected to increase to **medium** with DER aggregation					Cost reflective tariffs to capture new commercial services operating during peak demand periods		
Large commercial	**Low** – cost reflective prices & contribution policy in place	Refine tariff levels and contribution policy to reflect changes in customer demand						

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 customers, offering it to retailers as an optional price category. From 1 April 2021, WELL will be applying ToU to all residential consumers. Progress has included:

- WELL introduced ToU prices for Electric Vehicles (EV) in 2018 after trailing different pricing methods. An important observation from the EV trial was that an effective pricing structure balances cost reflectivity with practical considerations – whether end users can readily understand and respond to price signals, whether retailers can readily implement prices within their overall retail product and whether the structure allows for the consumer to take the price on offer to encourage the network to make the investment that relieves the congestion. For these reasons, we favour ToU pricing aligned with the emerging industry standard design for mass market consumers;
- WELL introduced optional residential ToU prices in 2020. Residential ToU prices were offered as a pricing option (rather than applying ToU to all residential consumers) following retailer feedback that more time was needed to develop and change internal processes and to consider how to practically apply the new prices.

The EV trial results can be found at www.welectricity.co.nz/disclosures/pricing/evtrial/.

3.6.2 This year's pricing programme

The focus of this year's pricing programme is to apply ToU prices to all residential consumers from April 2021 and to develop a managed EV and battery charging service. WELL will also be reviewing the Pricing Roadmap and considering how we will manage the potential removal of the low fixed user price restrictions and Transpower's new pricing methodology.

3.6.2.1 Applying ToU prices to all residential customers

Time of Use (ToU) prices will be applied to all residential customers with communicating smart meters from 1 April 2021. ToU prices were offered as a pricing option from 1 April 2020 to allow retailers time to update their own billing systems, prices and processes. Approximately 12% or 18,000 residential consumers are currently on the optional residential ToU tariff. Following consultation with retailers in 2020, WELL will be offering exemptions from applying ToU for retailers who cannot provided the consumption data needed to apply peak and off peak prices.

3.6.2.2 Reviewing the Pricing Roadmap

WELL will be reviewing and refining its Pricing Roadmap in 2021. The revised Pricing Roadmap will be expanded to include a pricing strategy and the objectives/purpose of its prices and price structures. The Pricing Roadmap will include a summary of the network capacity constraints and characteristics from WELL's AMP and will describe how prices will be used to assist in demand management.

In addition to the implementation of cost reflective prices, the Pricing Roadmap will also be expanded to include a review of price signals, the cost allocation methodology (to reflect the EA's revised approach) and the cross subsidization tests.

3.6.2.3 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 has now developed a prototype and will be trialling this with a retailer later this year.

3.6.2.4 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.

3.6.2.5 Collecting consumption data to assist in network management

In the future, WELL may require consumption data to be provided in 30 minute increments to better understand end-consumer usage patterns and their responsiveness to price signals. More detailed consumption data is also likely to be needed to support the managed EV and battery charging prices and other future services. Consideration will be given to whether billing files are the best way to collect this data or whether alternative collection methods outside of the billing process may be more appropriate.

3.6.2.6 Potential removal of low fixed charge restrictions

The Electricity Price Review recommended that the low fixed charge restrictions are removed from residential prices. If the restrictions are removed, it could cause prices to increase for some customers and decrease for others. In preparation, WELL is considering options to transition the change over time to avoid large price shocks.

4 Changes to WELL's pricing structures

4.1 Residential ToU prices

WELL will be applying ToU prices from 1 April 2021 to all residential consumers. WELL would like to thank retailers for providing feedback to the proposed eligibility criteria and migration process. WELL carefully considered all retailer submissions before finalising the residential ToU eligibility criteria.

4.1.1 Eligibility criteria

Alternative prices will be available for meters that cannot provide the half hour data needed to calculate ToU prices. The alternative prices reflect the current anytime variable 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.

4.1.2 Pricing categories

WELL has also made changes to the ToU price categories to reduce retailer and WELL's administration costs. The final price categories are provided Network Pricing Schedule which can be found on WELL's website.

4.1.3 Residential ToU Pricing Structure

WELL will apply its current ToU pricing structure which is currently offered as a pricing option. 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 2.

Figure 2 – 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 3 below illustrates the residential ToU pricing structure.

Figure 3 – Residential ToU pricing structure

Figure 4 illustrates the ToU structures being offered by different distribution networks. WELL's ToU structure aligns with the five other networks serving the majority of the New Zealand residential consumer market. It is also consistent with our existing EV and battery pricing structures and with the structure the Electricity Network Association are proposing to include in its 'pricing menu'[4].

[4] The pricing menu proposes a set of standard pricing structures designed to align distribution prices.

Figure 4 – ToU structures aligned with WELL's residential ToU prices[5]

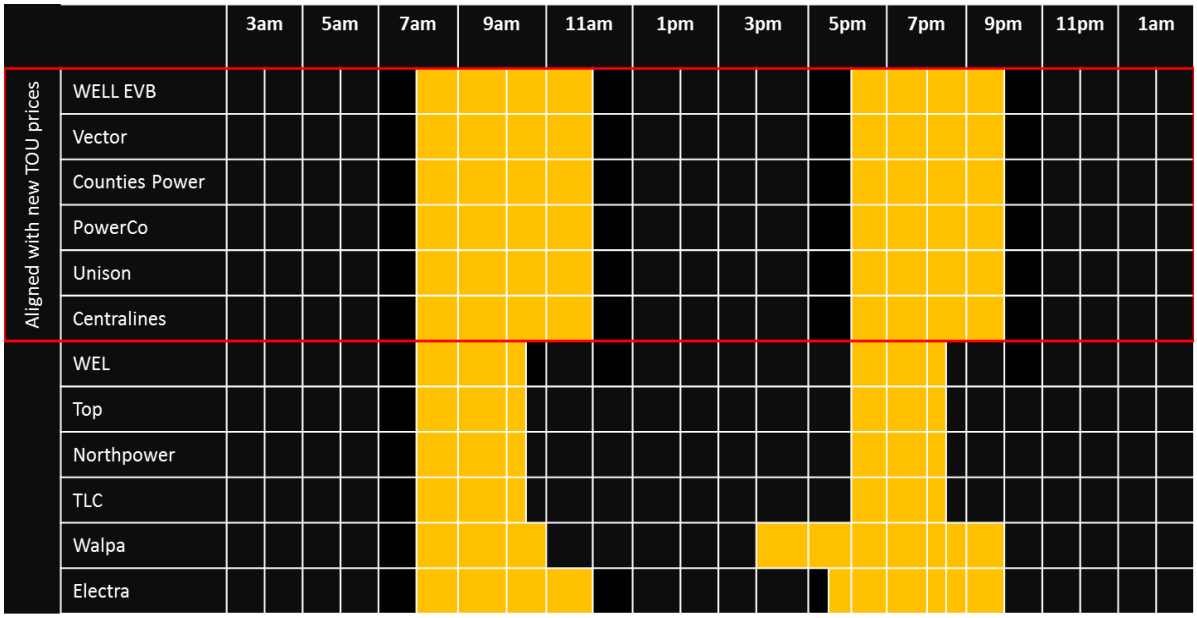
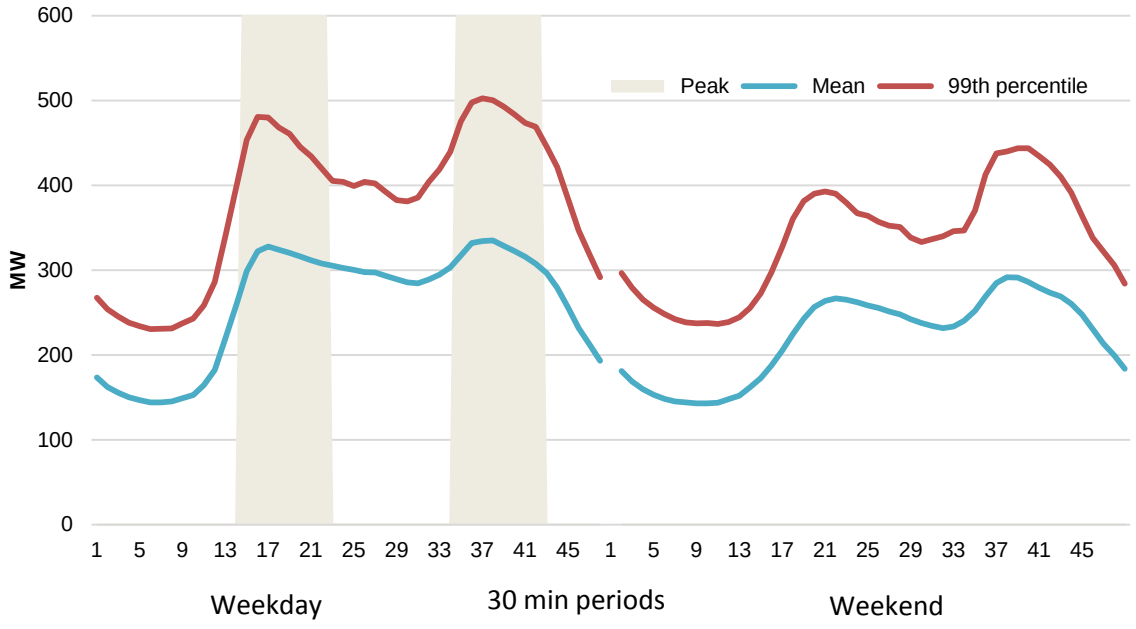


Figure 5 compares the standard time periods against demand patterns on our network. The residential ToU structure is a good match to the Wellington region's demand patterns.

Figure 5 – 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 restrictions 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.

[5] The assessment against other network process was based on 1 April 2019 prices.

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 2021/22 Network Pricing Schedule along with all of WELL's prices. The 2021/22 Network Pricing Schedule can be found at: www.welectricity.co.nz/disclosures/pricing.

5 Objectives for setting prices

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.

6 Consumer groups

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

6.1 Defining consumer groups

WELL has adopted the following consumer groups for pricing purposes:

- Standard contracts:
    - Residential Low User (RLU);
    - Residential Standard User (RSU);
    - Residential Low User EV and Battery Storage (RLUEVB);
    - Residential Standard User EV and Battery Storage (RSUEVB);
    - Residential Low User Time of Use (RLUTOU);
    - Residential Standard User Time of Use (RSUTOU);
    - 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 2021) sets out prices for the 2021/22 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 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[6] and controlled[7] 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 customers. Each of the three types of prices has a low user and standard user variant, resulting in six residential price category's in total. 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. Customers 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 15 cents per day.

[6] 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.

[7] 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.

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 customers – these are our primary residential price category's. Time of Use prices provide customers 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 customer must be a residential customer as defined in WELL's Pricing Methodology Disclosure. A customer 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.

Customers 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.

Previously, Time of Use was only available to registered Electric Vehicles (EV) which met capacity specifications and households with a smart meter. The new Time of Use category does not have the same restrictions and will enable a wider range of customers to save money if they change move their energy use to off peak periods of the day[8]. 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 customers 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 customers 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 customers with EV's.

6.1.2 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).

6.1.3 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.

[8] This assumes that a consumer uses a retailer that offers Time of Use prices.

6.1.4 Voltage and asset distinctions

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

Figure 6 – 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				✓	✓
Low voltage	✓	✓	✓	✓	
Transformer	✓	✓	✓	✓	✓
High voltage				✓	✓
Dedicated assets	✓[9]			✓[10]	✓[11]

6.1.5 Distributed generation

WELL also has a distributed generation (DG) price. While not classified specifically as a consumer group in the Disclosure of Prices or Network Pricing Schedule, we have created a zero charge against each plan. The primary reason for these charges is to record the volume of generation on the network for market reconciliation purposes. This information is also used to monitor uptake of DG connections on the network to assess their impact on network infrastructure and operations.

6.1.6 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.

[9] Streetlight circuits
[10] Transformers
[11] Dedicated network assets

In accordance with its Customer Contributions Policy[12], 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 to warrant the use of a non-standard rather than standard contract.

6.1.7 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.

7 Target revenue

The target revenue for the 2021/22 pricing year is $154.7 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.

Figure 7 – Key cost components to fund the provision of electricity line services[13]

Components	2021/22 ($m)
Operating expenditure	37.4
Depreciation[14]	32.7
Return on capital[15]	21.1
Transpower charges	55.3
Avoided Costs of Transmission (ACOT)	1.7
Other recoverable costs	2.9
Pass-through costs	3.6
Target revenue	**154.7**

[12] Available at: www.welectricity.co.nz/disclosures/customer-contributions/
[13] Sourced from WELL's forecasts and notifications
[14] Regulatory depreciation
[15] Including tax, revaluations and other income

7.1 Cost components

WELL uses the Input Methodologies[16] to determine total the target revenue in each disclosure year. The following figure describes the cost components of target revenue.

Figure 8 – 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.
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.

8 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.

We have undertaken stand-alone and incremental cost analysis to check that prices are free from economic cross-subsidy[17] (as discussed in Appendix B).

[16] IM Determination 2012

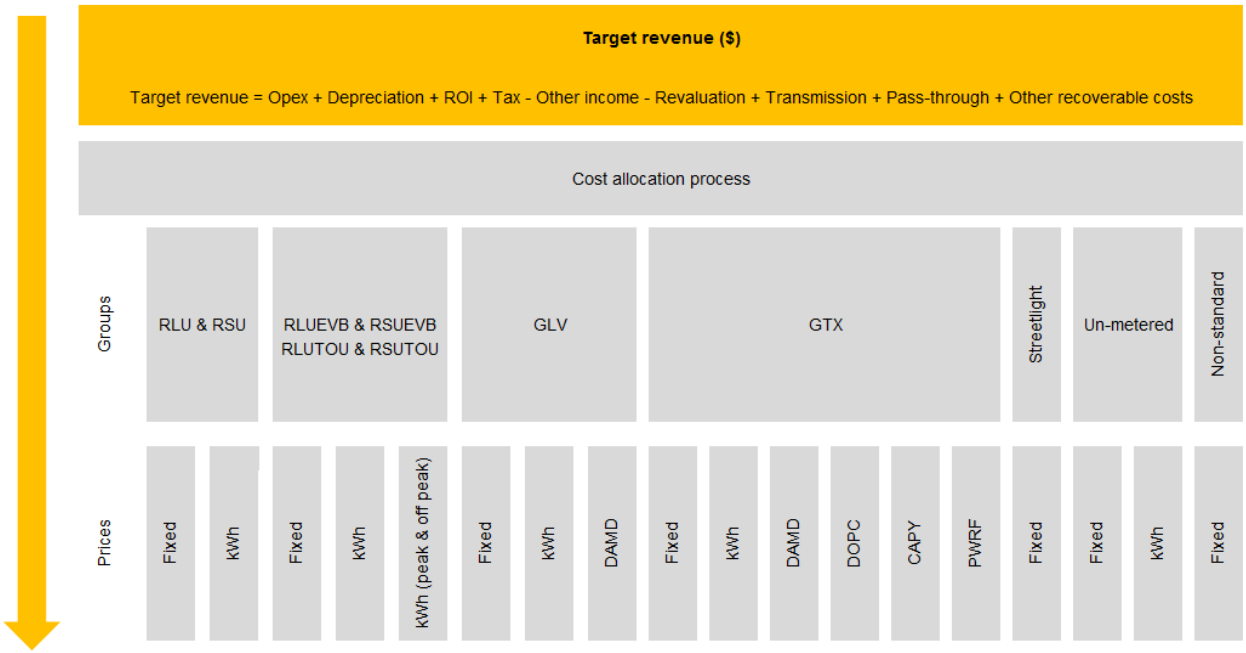
[17] Except where subsidies arise from compliance with other regulations such as the LFC.

WELL notes that the Electricity Authority have recommended an 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 will consider the revised Electricity Authority cost allocation approach once the recommendations of the Electricity Price Review have been finalised. Considering the changes together will help avoid multiple pricing changes and allow better management of potential price shocks. WELL will continue to use its current COSM approach until then.

8.1 COSM summary

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

Figure 9 – 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 10 – 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.

The resulting allocators are applied as follows to each consumer group:

Figure 11 – COSM allocators by consumer group

Consumer group	Demand (%)	RAB (%)	ICPs (%)	kWh (%)	Weighted ICPs & kWh (%)
Residential	65.1	66.7	85.3	47.9	66.6
General Low Voltage	22.3	21.9	9.0	27.6	18.3
General Transformer	11.7	9.1	0.2	23.7	12.0
Non-metered	0.1	0.1	0.3	0.1	0.2
Streetlights	0.8	2.2	5.2	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.

Figure 12 – COSM allocations of costs to consumer groups

	% of target revenue (1 April 2021 to 31 March 2022)		
Consumer group	**Transmission**	**Distribution**	**Total**
Residential	65.3	65.6	65.4
General Low Voltage	21.8	20.8	21.3
General Transformer	11.7	10.2	10.8
Non-metered	0.1	0.1	0.1
Streetlights	1.1	3.3	2.4
Total	**100.0**	**100.0**	**100.0**

8.2 Application to prices

WELL intends to continue to move towards aligning prices to the components of the cost of supply.

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. This reflects the inherent volatility in some allocator metrics (e.g. demand) and costs (e.g. maintenance). We have also not sought to apply the COSM at the price level as there is significant complexity in doing so. The chance of volatility and/or misspecification in the COSM outputs also rises at this level.

The following table shows the extent of alignment between prices and the cost of supply for the regulatory year 1 April 2021 to 31 March 2022. 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.

Figure 13 – Revenue from prices relative to cost of supply (excl. non-standard)

	% of target revenue (1 April 2021 to 31 March 2022)		
Consumer group	**Implied COSM allocation**	**2021/22 pricing (applied)**	**Difference**
Residential	65.4	66.5	-1.1
General Low Voltage	21.3	20.0	1.3
General Transformer	10.8	11.2	-0.4
Non-metered	0.1	0.2	-0.1
Streetlights	2.4	2.1	0.3
Total	**100.00**	**100.00**	**-**

9 Impact of 2021/22 price changes

Prices for all consumers are set in accordance with the Input Methodologies defined by the Commerce Commission in the DPP Determination 2020. The DPP Determination 2020 allows WELL to recover a net allowable revenue for the 1 April 2021 to 31 March 2022 assessment period of $91.1m. They also define how pass-through and recoverable costs are treated.

In 2021/22 WELL will be starting a new regulatory period and will move from the Customised Price Path to the Default Price Path . 2021/22 prices are based on the starting regulatory allowances provided by the DPP Determination 2020 and changes in pass-through and recoverable costs. Changes from 2020/21 prices include:

- New starting regulatory allowances provided by the DPP3 Determination[18]
- 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.

9.1 Changes to standard prices

The following adjustments have been made to prices.

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

9.1.1 New starting regulatory allowances provided by the DPP3 Determination

The Commission calculated a new regulatory allowance (as provided in the DPP Determination 2020) for WELL's transition to the new regulatory period. Allowances for Distribution Services have decreased by 0.6% from the last year of the previous CPP Determination. The decrease reflects a reduction in operation expenditure allowances due to operational cost savings made by WELL.

9.1.2 Transpower transmission charges

Transpower Electricity Lines Service charges have increased by 2.9% and Transpower New Investment charge has reduced by 1.1% 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.

9.1.3 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.

9.1.4 Pass-through costs

Pass-through costs have decreased from last year by 2.3%. Pass-through costs comprise of council rates and industry levies. Pass-through costs are charged on to consumers at cost.

9.1.5 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.

9.1.6 Balance between fixed and variable prices for users

Residential standard users have a higher fixed daily price than low users to reflect the higher capacity used by these consumers. As at 1 April 2021, the fixed daily price for residential standard users is $1 per day, a 6.2% increase from last year. Residential low user fixed daily price has not changed and is fixed at $0.15 in line with Low Fixed Charge Regulation. Whilst residential standard users will have a higher fixed daily price, they will generally have lower variable prices ($/kWh) than residential low users.

9.1.7 Summary of adjustments

The figure below summarises the change in lines charges for the 1 April 2021 to 31 March 2022 regulatory year compared to the previous year. The percentage change is calculated as a weighted average of all prices.

Figure 14 – Change in delivery charge

Price change element	Contribution to total average change in delivery charges
Change in allowances (from the 2020/21 CPP allowance to the 2021/22 DPP allowance)	-0.4%
Transpower transmission charges	1.0%
ACOT charges	0.1%
Pass-through costs (rates, levies etc)	-0.1%
Other recoverable costs (incl. wash-ups, incentives and pass-through balance movement)	5.2%
Total change in costs	5.8%
Volume changes	-0.4%
Total weighted average price change	5.4%

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.

9.2 Non-standard contracts

For consumers on non-standard contracts WELL changed the distribution price component from 1 April 2021 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.[19]

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

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

Figure 15 – Non-standard contract statistics[20]

Non-standard contract statistics	Total
Number of non-standard contracts	6
Number of ICPs	14
Target revenue	**$2.04m**

9.3 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.

9.4 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.

[20] 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[21]

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.

[21] 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.

9.5 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 2021/22 year. Prices have been calculated by applying 2% inflation uplift to last year's prices.

Figure 16 – Service charges

Description	Unit	Charge Effective 1 April 2020	Charge Effective 1 April 2021
New connection fee – single phase connection	per connection	$170	$173
New connection fee – two or three phase connection	per connection	$424	$433
Site visit fee	per site visit	$170	$173
Permanent disconnection fee	per disconnection	$318	$324
General administration fee - to cover costs such as late, incorrect or incomplete consumption data, administering Embedded Networks, etc	per hour	$130	$133

WELL's Network Pricing Schedule[22] provides further descriptions of these charges.

9.6 Consumer views on pricing

Since November 2017, WELL regularly surveys consumers who have been recently impacted by outages to better understand consumers' expectations of price and quality. As at November 2020, 4,121 consumers have responded to the questions asking about outages experienced and the price of services. Figure 17 summarises the responses.

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 17.

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

Figure 17 – 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?	9%	14%	54%	16%	38%	70%
2	Would you be prepared to have slightly more power cuts if it meant prices were a bit cheaper?	5%	9%	77%	68%	17%	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?	47%	10%	19%	10%	34%	80%

The results for question 1 show that 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 customers willing to pay more to be better prepared for a natural disaster or were unsure. The 'No' responses is still small enough to indicate consumer support for our investment in earthquake readiness.

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

9.7 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 2021 to 31 March 2022 below.

Figure 18 – Proportion of target revenue by price component

Consumer group	Consumer plan code	Fixed (FIXD) connection/day $	Demand (DAMD) kVA/month $	Capacity (CAPY) kVA/day $	On peak demand (DOPC) kW/month $	Power factor (PWRF) kVAr/month $	Uncontrolled (24UC) kWh $	Night (NITE) kWh $	Controlled (CTRL) kWh $
Residential low user	RLU	5,035,914	0	0	0	0	9,041,089	44,799	895,715
Residential standard user	RSU	22,694,305	0	0	0	0	6,946,067	68,792	470,739
General low voltage	GLV15	1,042,814	0	0	0	0	2,133,302	0	0
General low voltage	GLV69	4,967,704	0	0	0	0	10,136,894	0	0
General low voltage	GLV138	1,160,557	0	0	0	0	2,084,628	0	0
General low voltage	GLV300	1,431,372	0	0	0	0	1,657,553	0	0
General low voltage	GLV1500	2,148,194	2,727,809	0	0	0	999,162	0	0
General transformer	GTX15	359	0	0	0	0	2,411	0	0
General transformer	GTX69	8,638	0	0	0	0	14,125	0	0
General transformer	GTX138	42,572	0	0	0	0	71,136	0	0
General transformer	GTX300	374,915	0	0	0	0	713,712	0	0
General transformer	GTX1500	2,047,410	5,527,903	1,098,939	0	0	2,047,255	0	0
General transformer	GTX1501	676	0	837,743	3,861,173	196,912	206,462	0	0
Unmetered - non-street lighting	G001	20,830	0	0	0	0	306,774	0	0
Unmetered - street lighting	G002	3,208,552	0	0	0	0	0	0	0
Non-standard Contracts	IC	0	0	0	0	0	0	0	0
Total network revenue		**44,184,812**	**8,255,712**	**1,936,682**	**3,861,173**	**196,912**	**36,360,572**	**113,591**	**1,366,455**

Consumer group	Consumer plan code	All-inclusive (AICO) kWh $	Peak uncontrolled (P-24UC) kWh $	Off peak uncontrolled (OP-24UC) kWh $	Peak all-inclusive (P-AICO) kWh $	Off peak all-inclusive (OP-AICO) kWh $	Non-standard contracts (IC) $	Total revenue regulatory year $
Residential low user	RLU	6,421,539	6,277,071	8,847,863	4,876,099	5,831,817	0	**47,271,905**
Residential standard user	RSU	4,670,009	5,444,543	6,192,802	4,332,005	3,468,441	0	**54,287,703**
General low voltage	GLV15	0	0	0	0	0	0	**3,176,116**
General low voltage	GLV69	0	0	0	0	0	0	**15,104,598**
General low voltage	GLV138	0	0	0	0	0	0	**3,245,185**
General low voltage	GLV300	0	0	0	0	0	0	**3,088,925**
General low voltage	GLV1500	0	0	0	0	0	0	**5,875,166**
General transformer	GTX15	0	0	0	0	0	0	**2,770**
General transformer	GTX69	0	0	0	0	0	0	**22,763**
General transformer	GTX138	0	0	0	0	0	0	**113,708**
General transformer	GTX300	0	0	0	0	0	0	**1,088,628**
General transformer	GTX1500	0	0	0	0	0	0	**10,721,507**
General transformer	GTX1501	0	0	0	0	0	0	**5,102,966**
Unmetered - non-street lighting	G001	0	0	0	0	0	0	**327,605**
Unmetered - street lighting	G002	0	0	0	0	0	0	**3,208,552**
Non-standard Contracts	IC	0	0	0	0	0	2,037,258	**2,037,258**
Total network revenue		**11,091,547**	**11,721,613**	**15,040,665**	**9,208,104**	**9,300,258**	**2,037,258**	**154,675,354**

10 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.

11 Appendix B – Consistency with Pricing Principles

The Electricity Authority's Pricing Principles have been updated and provided in "Distribution Pricing: Practice Note" August 2019. WELL understands that the Pricing Principles consist of well accepted, high level principles and were introduced on a voluntary compliance basis.

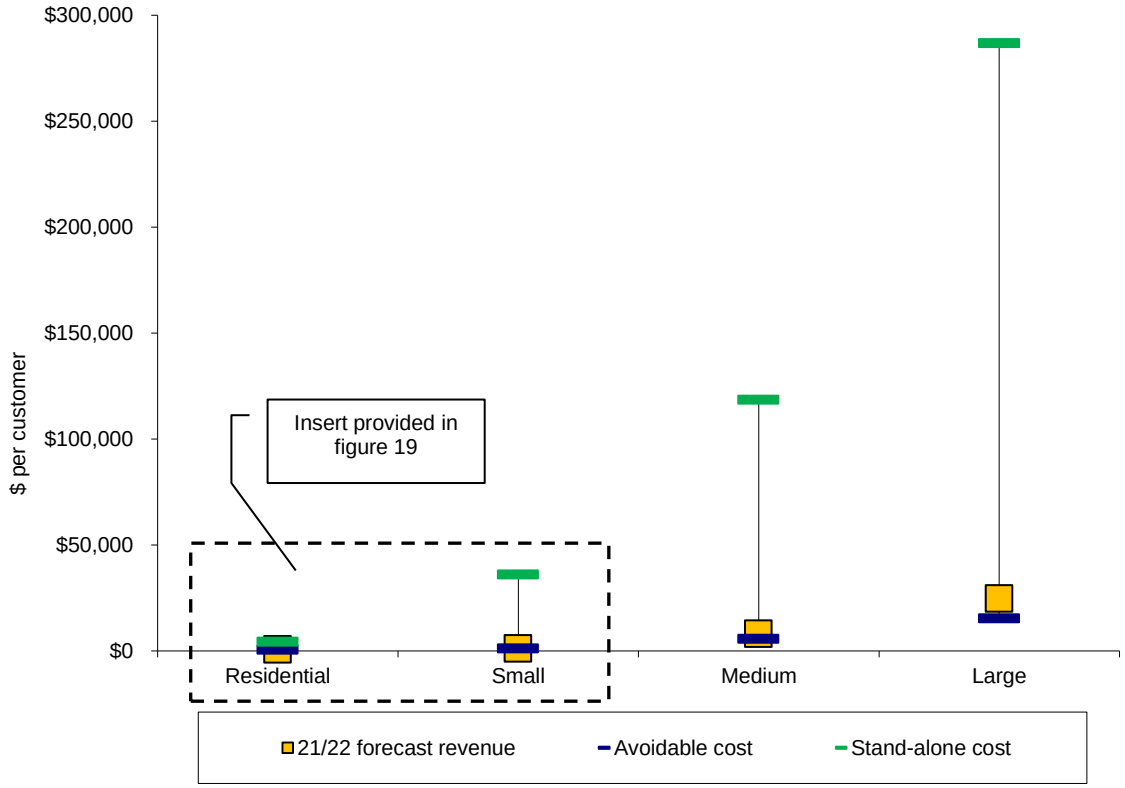
Pricing Principle (a) (i)

(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);

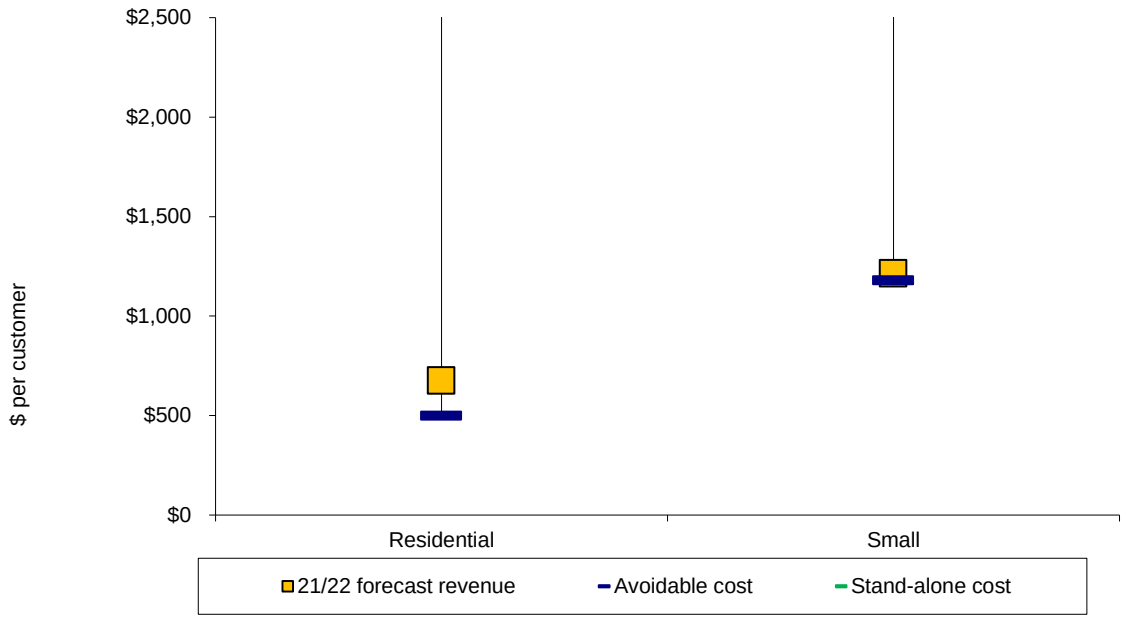
As demonstrated in Figure 19, the revenue for each consumer group is within the subsidy free range established by stand-alone (SAC) and avoidable costs (AC). Figure 19 provides a more detailed comparison of the AC and prices for the Residential and Small Commercial customer groups as the scale provided in Figure 19 makes a clear comparison difficult.

Figure 19 – Comparison of avoided costs, stand-alone costs, and prices by consumer group[23]



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

Figure 20 – Comparison of avoided costs and prices for the Residential and Small Commercial customer groups



Definition of stand-alone and incremental cost

WELL's definition of stand-alone cost and incremental cost is as follows:

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.

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 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.

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.

(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 customer usage to develop prices for each customer 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 customers from 1 July 2018 and expanded it to include all residential customers in 2020. WELL continues to investigate efficient pricing options and is considering efficient prices for small commercial customers and prices for managing EV charging. WELL will be reviewing its Pricing Roadmap this year and will incorporate feedback from the Electricity Authority's Pricing Scorecard assessment.

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

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.

- **Firmness of 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 customer requirements.
- **Dedicated equipment:** WELL pricing and connections policy provides customers 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 customers.
- **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.

(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 demand management. 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. In addition, many features of our pricing structures (e.g. ToU, NITE, Controlled, and demand pricing) encourage investments in on-grid network alternatives where these alleviate network demand constraints:

- Investments in distributed generation are encouraged where generation coincides with peak periods. Solar PV, for example, is typically not as encouraged under new ToU pricing structures as it does not generate in the early evening in winter when the network is most constrained. The adoption of ToU pricing is the first move away from anytime consumption based prices that are seen to inefficiently encourage solar PV investments.
- Battery storage is encouraged under the pricing structures by incentivising storage (including from solar) during off-peak periods for release during peak periods.
- Similarly, ToU, NITE and controlled prices encourage consumers to manage their discretionary demand by using appliances and equipment, such as heating or dishwashers, during off-peak periods or by offering up interruptible loads.

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.

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.

We are still investigating how this principle could be applied and what changes we would need to make to our pricing. Our initial thinking is that our demand and ToU based pricing will signal the future cost of investing in network capacity, with residual costs recovered through a broad based charge. We are also still awaiting the potential policy and regulatory outcomes of the Electricity Pricing Review before making significant changes to pricing to align to this principle.

c) Prices should be responsive to the requirements and circumstances of end users by allowing negotiation to:

i. reflect the economic value of services; and

As noted above, prices above stand-alone cost could not be sustained in a competitive market and may result in inefficient bypass of the existing infrastructure. As WELL'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.

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.

> *(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 and the impact of price changes on different consumer groups. 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.

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.

12 Appendix C – Progress against current Pricing Roadmap[24]

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 customers 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 ● Developing managed EV and battery charging prices
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 customers from old to new price structures.	✓ **T**ransitioning 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 customers on how to save money on distribution charges by managing usage and shifting load to off-peak periods.	✓ Energy Mate programme ● Consider other resources
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 ● New billing systems requirements being developed	Resolve implementation issues.	● Considering new billing capability to process and analysis 30 min data.
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.	● Plan to be developed. This will consider cost reflective small commercial prices and future cost reflective structures available once LFC restrictions removed.
Introduce trial demand charge for residential EV customers.	✓ Completed	Detailed modelling of new pricing structures and prices, including likely impacts on customers. Customer trials if required.	✓ High level industry analysis completed ✓ Customer 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 customers 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 customers.	✓ Consulted with retailers – majority suggested they would pass price signal through in some form.		

[24] 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.

13 Appendix D – 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
Director

10 February 2021

Charles Tsai
Director

10 February 2021