Counties Power Limited

Electricity Distribution Business

Pricing Methodology Disclosure

1 April 2020 to 31 March 2021

Pursuant to

Electricity Information Disclosure Information

for compliance with

Part 2.4: Disclosure of pricing and related information

Contents

1.0 Introduction

This document outlines Counties Power's pricing methodology for the period 1 April 2020 to 31 March 2021.

1.1 Overview of Counties Power

Counties Power owns, manages and operates the electricity distribution network in southern Auckland and northern Waikato[1] with a footprint of approximately 2,250 square kilometres. The number of consumers served by the network (active ICPs) is approximately 43,900, the maximum coincident system demand is approximately 129 MW and annual delivered energy after losses is 584 GWh.

Within Counties Power's area of operations, the distribution network includes approximately 3,718 km of lines and cables, nine zone substations, more than 4,156 distribution substations and all associated control, communications, ancillary and protection equipment.

Like most network infrastructure companies, Counties Power's distribution assets are dispersed over a large area and are highly interdependent. The service area is a mix of towns, rural land and remote farmland. Added to this mix is significant residential, commercial and industrial growth particularly between Papakura and Pukekohe, and in Pokeno. Supplying these newly urbanised areas from a predominantly rural electricity network is both an engineering and financial challenge.

To meet this growth, substantial capacity and technology investments have been made in the network over the last decade. This has included investing in an 110 kV sub-transmission network and the deployment of smart meters.

Counties Power is 100% owned by Counties Power Consumer Trust and has exempt status from the Commerce Commission default price-quality path, which sets a cap on distribution revenue. However, Counties Power is required to submit various forms of information disclosure to regulatory authorities, which enables these bodies to have oversight of the activities of the Company.

1.2 Legal requirement

Under section 2.4 (Pricing and Related Information) of the *Electricity Distribution Information Disclosure Determination 2012 (consolidated in 2015),* Counties Power must publicly disclose, before the start of each disclosure year, a pricing methodology which:

- Describes the methodology used to calculate prices payable or to be payable;
- Describes any changes in prices and target revenues;

[1] Appendix A *Map of the Counties Power territory* shows the area covered by Counties Power and key connections on to the national transmission network (Transpower GXPs) and Counties Power substations.

- Explains the approach taken with respect to pricing in non-standard contracts and distributed generation; and

- Explains whether, and if so how, we have 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.

1.3 Consumer survey

Counties Power benefits from consumer (beneficiary) feedback provided by Counties Power Consumer Trust, as publicly elected representatives of the consumer beneficiaries of the Company. Counties Power also conducts a consumer survey. This survey includes questions designed to ascertain the level of consumer satisfaction in both price and quality. The results of the survey are an input to the development of the Asset Management Plan. Capital expenditure driven by this plan is a factor in the Company setting its target revenue. The Company also undertakes regular consumer experience surveys of those consumers who have recently interacted with it in order to establish perceptions of service quality and performance.

2.0 Pricing strategy

Counties Power is committed to cost-reflective pricing to improve utilisation of its electricity network and to support efficient use of its network and of Transpower's national transmission network. Efficient optimisation lowers ongoing investment costs and serves to reduce Transpower charges. These cost savings support lower prices to all consumers and in particular those who wish to make savings by avoiding peak power use.

Counties Power continues to invest in its assets, and the development of tools and tariffs that encourage efficient use of its network and that contribute to improving long-term value for money for its consumers include:

- The installation of smart meters, with over 94% of Counties Power's mass market ICPs having a Counties Power smart meter[2] as at 31 March 2020;

- Consulting with every electricity retailer on the Counties Power network and gaining their commitment to obtaining their consumption data from Counties Power's smart meters;

- The introduction of smart tariffs on 1 January 2014, which were initially made available to all mass market consumers through their retailers, and then on 1 April 2019 all customers were switched over to these new tariffs[3]; and

- Collaborating with metering provider Intellihub to ensure that smart tariff data is available to retailers.

[2] Large commercial and industrial customers use specialised TOU meters.
[3] A default tariff was available for retailers unable to use the peak and off-peak data.

To support this investment strategy Counties Power's pricing methodology is driven by the following principles:

- Recover the costs required to run the network and, when needed, invest in new capacity;
- Allocate costs to consumers on an economic basis so that all consumers pay, at the minimum, their incremental cost of supply plus a fair contribution to overheads and at a maximum the standalone cost for their electricity supply;
- Provide pricing that, where possible, promotes price stability and limits rate shock through gradual price changes;
- Maintain high levels of transparency of input costs by aiming to reduce price complexity;
- Adopt line tariffs that send price signals that promote efficient use of the distribution and transmission network through reflecting the cost of delivering the service (i.e. prices are cost reflective); and
- Provide prices that comply with all applicable regulatory obligations.

A key philosophy of Counties Power is working with all electricity retailers to support better price signalling and simpler tariffs for consumers. To this end, the Company is working to develop shared pricing initiatives that enable retailers to present tariffs to consumers that – where possible - align energy, distribution and transmission underlying cost signals that let consumers take action and be rewarded for efficient behaviour, while being simple and straightforward.

3.0 Methodology

Counties Power's pricing methodology is aligned to the pricing principles outlined in the Electricity Authority's (EA) paper "Distribution Pricing Principles and Information Disclosure Guidelines" (dated February 2010).

Counties Power's pricing model is a cost allocation model that is designed to ensure that, as far as possible, prices reflect the costs of serving different consumer groups.

3.1 Target revenue

In the period 1 April 2020 to 31 March 2021, Counties Power will not be increasing consumer prices. The Company has a lines revenue target for the period 1 April 2020 to 31 March 2021 of $61.3 million. This target revenue is built-up from the budgeted costs in the FY2021 year, which in total forms Counties Power's total recoverable revenue.

Table 1 – Breakdown of costs that form the target revenue:

Cost component	2020/21 budget ($k)
Transpower	10,916
ACOT	285
Network operations	9,358
Head office	7,585
Depreciation	11,540
Other costs	1,478
Taxation	4,403
Return on capital	15,750
Total revenue required to cover total costs	**61,315**

4.0 Cost allocation

Counties Power's costs are allocated on a cost driver basis. For instance, Counties Power's Transpower transmission charges are driven by the Company's regional[4] coincidental peak demand (RCPD). Therefore, the transmission cost is allocated to consumer groups based on that groups total proportion of the peak demand. The cost allocators that are used in the model are listed below.

Table 2 – Cost drivers

Allocator	Description	Cost categories and rationale
Asset	There are two steps in determining this allocator. First, the value of assets is divided into distinct parts of the network (e.g. low voltage and high voltage), then the value of the assets in each part of the network is allocated to those consumer groups that use that part of the network. These values are aggregated for each consumer group. Further detail is provided in Table 3	The asset cost allocator was designed by Counties Power to allocate certain budget items based on the extent to which network assets were required to satisfy the demand of each consumer group. These budget items include network operations expenditure, insurances, depreciation and return on capital investment.
CMD	Demand from a consumer group as a proportion of total demand during the 100 periods of highest coincident maximum demand (CMD) on the network.	CMD is used to allocate infrastructure that has been designed to meet the maximum demand on the network. It is also applied to Transpower connection charges as this is the basis of these pass-through costs.
RCPD	Demand from a consumer group as a proportion of total demand during Transpower's regional coincident peak demand (RCPD) measurement periods.	Applied to Transpower's interconnection charges as this is the basis of these pass-through costs.
Major consumers	Costs that relate solely to serving major consumers are allocated entirely to this consumer group.	Administration and asset costs that relate solely to serving major consumers are allocated entirely to this consumer group.

[4] The region being all areas north of the Bombay GXP, which is referred to as the upper North Island.

Allocator	Description	Cost categories and rationale
Volume overheads - kWh	Annual consumption of a consumer group as a proportion of total annual consumption of all consumers.	Applied to administration and overhead costs that Counties Power considers increase with the total volume of consumption.
Consumer overheads - ICP	Number of ICPs (installation control points) in a consumer group as a proportion of the total.	Applied to administration and overhead costs that Counties Power considers increase with the number of consumers.

4.1 Asset cost allocation

The allocation of network asset values to customer groups is then used to allocate expenditure to the related network expenditure. It is assumed that these costs occur in proportion to the total RAB[5] value of assets in each component of the network. For example, low voltage assets comprise 22% of the network asset base, so it is assumed that maintenance costs on low voltage assets will be 22% of the total maintenance costs. Counties Power's intention is to allocate asset-related costs based on the extent to which a consumer group uses those assets. This is largely related to usage (maximum demand) and the specific allocators are shown in table 3.

Table 3 Asset cost allocation

Network component	Consumer groups included in allocation	Allocator
Streetlighting	Unmetered streetlights only	Full allocation
Low voltage cables, lines and plant	All mass market consumer groups (i.e. excludes major consumers, non-standard contracts and unmetered streetlights)	Equally weighted: proportion of ICPs in consumer group and 100 highest anytime maximum demand (AMD) during peak periods (weekdays 0700-1100, 1700-2100) for each consumer group as a proportion of the sum of AMD (so measured) for all consumer groups
Shared distribution substations	All consumer groups except non-standard contracts	AMD (as above)
11kV network, zone substations and sub-transmission network	All consumer groups	CMD (as above)

4.2 Allocation to consumer groups

The aggregated value of each allocation used in the model is then allocated to the consumer groups as detailed in table 4. Once applied to the relevant cost categories, this then gives the aggregate modelled target revenue recovery amount by consumer group, as shown in table 5.

[5] Regulated asset base, which is the regulated capital value of Counties Power's regulated network.

Table 4 – Value of allocators by consumer group

Consumer groups	ICPs	kWh	CMD	RCPD	Asset	Major consumers
Major consumers	0.4%	19.6%	12.8%	16.0%	12.4%	100.0%
LFC	36.5%	14.8%	22.0%	20.4%	23.7%	0.0%
Residential	45.5%	30.2%	43.8%	40.8%	43.9%	0.0%
General	16.8%	34.3%	19.8%	21.2%	17.3%	0.0%
LFC with distributed energy resource (DER)	0.2%	0.1%	0.2%	0.2%	0.2%	0.0%
Residential with DER	0.6%	0.5%	0.8%	0.8%	0.8%	0.0%
General with DER	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%
Unmetered streetlights	0.0%	0.4%	0.5%	0.5%	1.6%	0.0%

The above modelling provides the initial modelled target revenue levels for each consumer group, but this is not the target revenue that would be obtained from final prices. This is because the Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004 state that there must be an adjustment within the cost categories, which requires manipulation of the modelled outcomes[6].

4.3 Split of costs into fixed and variable prices

Counties Power's prices are a combination of both fixed and variable components. The model associates the costs summed to the allocators (ICPs, kWh, CMD, RCPD, Asset) with either a fixed or a variable component of the price[7]. For example, costs allocated to ICPs are those that Counties Power believes are related to the number of ICPs on its network and are therefore most appropriately recovered through a fixed price component.

Counties Power has, from FY2020, modelled its mass market time-of-use prices (peak and off-peak prices) alongside its standard prices for mass market consumers. The pricing model has been designed to also enable future options, including capacity and demand-based pricing.

[6] Counties Power is required to make this correction owing to the LFC regulations. However, the Company considers this to be an inefficient allocation of costs that is unfair to some consumer groups, such as large families in rented homes.

[7] Most of the Company's distribution costs are fixed, however LFC regulations presently prevent the Company from allocating fixed costs in a way that reflects its underlying cost structure and send truly cost-reflective signals to retailers and consumers.

4.4 Revenue allocated to customer groups

The model allocated the required revenue over the customer groups, which will vary year to year depending on peak demands, capital expenditure and customer numbers. Consequently, other critical issues are considered with the determination of prices including consumer bill shock and pricing stability. In addition, over the last six years, Counties Power has either held prices, or held the distribution component of the all lines price.

Table 5 – Modelled target revenue by consumer group

Consumer groups	Target revenue ($k)
Industrial direct contracts	3,442
Commercial and industrial TOU	9,549
LFC (low fixed charge)	13,893
Residential	10,978
General	22,289
LFC with distributed energy resource	255
Residential with distributed energy resource	262
General with distributed energy resource	536
Unmetered streetlights	111
Total	**61,315**

5.0 Pricing for non-standard contracts

5.1 Approach to setting prices for non-standard contracts

Counties Power currently has four consumers on non-standard contracts. These four consumers are connected at eight ICPs. Consumers on non-standard contracts contribute approximately 5.61% of the total target revenue.

The line tariffs for the four non-standard contracts used by Counties Power take the same form i.e. a single fixed charge calculated annually and invoiced monthly.

The calculation of the charge involves a distribution component and a Transpower component. The distribution component is determined on the average of the twelve highest peak demands in the previous 12-months multiplied by a negotiated per kW price. This per kW price reflects a return on capital employed, the associated maintenance and operating costs, plus a contribution to Counties Power's overhead costs.

The Transpower component of the charge is determined as the consumers' contribution to the Counties Power peak demand and contribution to the GXP connection charges. This charge uses the rates published by Transpower as pass-through costs plus a handling fee.

5.2 Pricing for distributed generation

There are 799 small[8], nineteen medium sized and four large distributed generators connected to the Counties Power network. Consumers owning distributed generation, and connected to the Counties Power network, pay 1.03c per kWh to export electricity over the Counties Power network. The revenue recovered seeks to recover the incremental costs of connecting the distributed generation which includes network and overhead costs. These costs relate to the additional compliance and administrative costs, rather than the additional network infrastructure costs. Table 6 below summarises these charges and payments.

Table 6 – Distributed generators

	Capacity <= 10kW	Capacity >10kW	
		<0.5GWh/annum	>0.5GWh/annum
No. of ICPs	799	19	4
Export charge	Yes	Yes	Yes

6.0 Pricing Reform Roadmap

Counties Power is committed to improving the efficiency of its distribution pricing to ensure better utilisation of the network and because technology is rapidly changing how electricity is produced and consumed. These changes affect how the network is used, and how distribution services should be priced. Counties Power is experiencing unprecedented levels of network growth, which when added to the anticipated increase load associated with electric vehicle charging, will create network constraints and drive significant future network investment.

In 2019, Counties Power introduced a requirement that any new customer with a capacity requirement of 2MVA or greater enters into a line function services agreement (LFSA). This LFSA allows for tailored time and location-specific pricing, which typically includes a termination payment to protect Counties Power's future revenue and alleviate any risk of stranded assets. In addition, Counties Power introduced an updated capital contribution policy that seeks to ensure that the cost of future network investment, which is driven by new connections, will have minimal cost impact for existing consumers.

Counties Power believes that cost-reflective pricing is imperative to the long-term efficient management of the network. Without the correct price signals, consumers may make inefficient investment decisions in emerging technologies, or they may utilise new technologies in an inefficient manner. Consumer feedback on network pricing indicated that flexibility, transparency and simplicity in pricing is vital to elicit the required demand response. In response, Counties Power introduced a standardised pricing structure from April 2019. This standardised pricing structure, which is closely aligned with the Electricity Network Association's pricing guidelines,

[8] As at February 2020.

aims to ensure that Counties Power's pricing is user friendly for consumers and retailers.

In addition to the introduction of a standardised pricing structure, Counties Power introduced a peak/off-peak time-of-use (TOU) pricing structure across all mass market ICPs effective April 2019. This TOU pricing structure will continue to be refined.

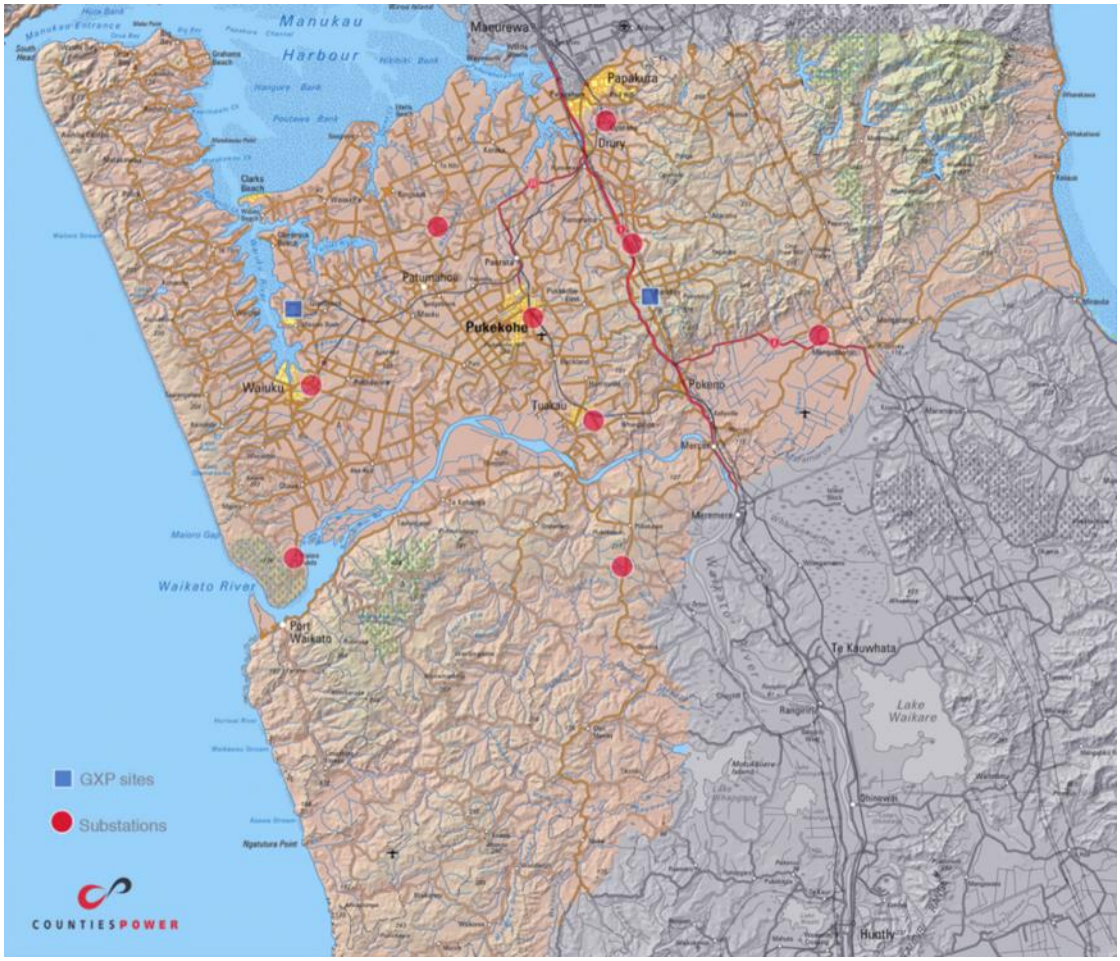
Going forward, Counties Power will seek to rebalance future revenue from variable to fixed charges, with a view to increasing fixed prices and reducing the variable prices. An increase in mass market fixed daily prices will not only reduce household budget stress from seasonal variation in monthly bills, it will allow Counties Power to significantly decrease the variable off-peak and controlled rates. However, the consumers who are most effected have fixed charges set at no more than 15 cents per day under the low fixed charge regulations. Until these regulations are repealed, any fixed to variable pricing correction will be of limited impact.

Counties Power anticipates that having a peak/off-peak rate, while reducing variable charges, will encourage electricity consumption (e.g. electricity over gas for space and water heating) and electric vehicle charging. In addition, Counties Power is hopeful that the decreased controlled rate will result in a significant number of electric vehicle chargers being connected to Counties Power's controlled tariff.

7.0 Summary

Counties Power has made significant investment into smart meter technology, data analysis and development of pricing models to bring cost-reflective pricing to Counties Power's consumers. The long-term benefits from this improved price signalling will flow back to consumers if consumers wish to opt for electricity cost savings through shifting their power use from Counties Power's peak demand periods to off-peak times. The consumer savings are possible because reduced peak demand results in cost savings to Counties Power through deferred capital expenditure and reduced Transpower charges.

Appendix A: Map of the Counties Power territory



Appendix B: Electricity Authority pricing principles

a. Prices are to signal the economic costs of service provision, by:

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

   ii. having regard, to the extent practicable, to the level of available service capacity; and

   iii. signalling, to the extent practicable, the impact of additional usage on future investment costs.

b. Where prices based on 'efficient' incremental costs would under-recover allowed revenues, the shortfall should be made up by setting prices in a manner that has regard to consumers' demand responsiveness, to the extent practicable.

c. Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of stakeholders in order to:

   i. discourage uneconomic bypass;

   ii. allow for negotiation to better reflect the economic value of services and enable stakeholders to make price/quality trade-offs or non-standard arrangements for services; and

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

d. Development of prices should be transparent, promote price stability and certainty for stakeholders, and changes to prices should have regard to the impact on stakeholders.

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

Appendix C: Alignment with Electricity Authority's pricing principles

This section describes how the Counties Power methodology links back to the Electricity Authority's pricing principles[9].

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

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

ii. having regard, to the extent practicable, to the level of available service capacity; and

iii. signalling, to the extent practicable, the impact of additional usage on future investment costs.

To capture these pricing principles Counties Power introduced mass market time-of-use tariffs on 1 January 2014. These tariffs are currently comprised of an off-peak and a peak c/kWh charge. The higher peak charge reflects the available capacity and future investment costs. This is because most of Counties Power's investments are to increase network capacity because of increasing peak loads.

Counties Power's legacy tariffs capture the future and available capacity by being allocated to all the associated network costs. However, the price signals are blunted by the implicit average pricing of the legacy tariffs.

Pricing principle (b)*: Where prices based on 'efficient' incremental costs would under-recover allowed revenues, the shortfall should be made up by setting prices in a manner that has regard to consumers' demand responsiveness, to the extent practicable.*

Counties Power believes that the most efficient mechanism to recover unallocated costs is through the fixed daily charge. This is because consumers would reduce consumption if the charge was applied to a kWh charge, however, few if any consumers would not consider connecting because of a higher fixed daily charge.

Pricing principle (c)*: Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of stakeholders in order to:*

i. discourage uneconomic bypass;

ii. allow for negotiation to better reflect the economic value of services and enable stakeholders to make price/quality trade-offs or non-standard arrangements for services; and

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

[9] The pricing principles are set out in the EA paper *Distribution Pricing Principles and Information Disclosure Guidelines*.

Counties Power negotiates as required to ensure pricing principle (c) is met. This includes negotiation with large consumers for non-standard pricing arrangements and negotiations with Counties Power's largest distributed generator for connection to the Counties Power network.

Pricing principle (d)*: Development of prices should be transparent, promote price stability and certainty for stakeholders, and changes to prices should have regard to the impact on stakeholders.*

Counties Power has promoted price stability by increasing prices on 1 April 2017, 1 April 2018 and 1 April 2019 by only passing through Transpower increases and absorbing internal cost increases. In addition, smart tariffs were simplified and continued to be made available on a voluntary basis rather than making them mandatory. The effect of this will be monitored during the 2019/20 year to determine an optimal approach for future years.

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

Prices are economically equivalent across retailers. Counties Power is seeking to reduce transaction costs through minimising the number of line tariffs that are available.

Appendix D: Definitions

ACOT - Avoided cost of transmission, which is a payment made to large distributed generators for reducing Counties Power's Transpower transmission charges.

AMD - Anytime maximum demand, which for major consumers is defined as the average of the 12 highest offtake quantities for the consumer at the connection location during the capacity measurement period.

Capacity measurement period - 12-month period starting 1 September and ending 31 August inclusive, immediately prior to the commencement of the pricing year.

CMD - Coincident maximum demand, which is the consumer's demand during Counties Power's peak demand.

Code - Electricity Industry Participation Code 2010.

Counties Power and/or Company – Counties Power Limited.

EA - Electricity Authority.

GWh - Gigawatt hour.

GXP - Grid exit point - the Transpower substation that connects Counties Power to the national transmission network.

ICP – Installation control point - the consumer's point of connection to the network.

kWh - Kilowatt hour.

Legacy meters – The old mechanical meters that measure only aggregate kilowatt-hours sold.

Legacy tariffs – Simply average priced kWh tariff that does not reflect how the cost for providing the power varies over the time of day.

LFSA - form of agreement to record terms between Counties Power and a (new) customer with capacity requirement of 2MVA or greater, regarding use (and when relevant development) of the network to enable supply of electricity to that customer.

MWh - Megawatt hour.

RCPD - Regional coincident peak demand, relates to the consumer's off-take at the connection location during the upper North Island regional peak demand period.

Smart metering – Counties Power's Landis & Gyr meters with Silver Spring Networks communications. These meters allow half-hour data consumption to be read remotely while providing real time network data to Counties Power.

Smart tariffs – Line tariffs that vary by time of day. Counties Power's smart tariffs have peak and off-peak time periods.