

# Annual Price Review

## Electricity Distribution Network

### From 1 April 2018

Vector's electricity distribution network supplies more than 550,000 houses and businesses in the greater Auckland region – see adjacent map.

Parts of this document meet the Electricity Distribution Information Disclosure Determination 2012 (consolidated 2015) requirements for Vector to publicly disclose prices.

From 1 April 2018, we are decreasing prices by a weighted average of 1.35%.

The distribution component of prices increases by a weighted average of 0.5%, primarily associated with the increase in CPI (+1.8% impact) which is partially offset by Vector's settlement with the Commerce Commission's for the 2014 & 2015 price breaches (-1.3% impact). We have held residential distribution prices constant, held general distribution prices constant (to maintain parity with standard residential prices) and increased all price components of commercial and industrial distribution prices by CPI.<sup>1</sup>

The pass-through component of prices decreases by a weighted average of 4.6%, primarily associated with the decrease in transmission costs from Transpower (-5.9% impact), forecast council rates (-0.4% impact), forecast levies (+0.1% impact), SAIDI and SAIFI quality incentive assessment (-1.7% impact), capex washup (-0.1% impact), forecast change in pass-through and recoverable costs balances carried forward (+3.1% impact) and decrease in forecast quantity (+0.2% impact). A uniform price reduction (slight differences due to rounding) has been directed to the pass-through components of volumetric prices of the mass market price categories and of volumetric and demand prices of the commercial price categories.

Changes to individual prices vary from the weighted average price decrease. Based on current consumption, no residential or general consumer will experience a network price increase.

Further information on our electricity pricing methodology can be found at: <http://vector.co.nz/disclosures/electricity/pricing-methodology>. Our electricity prices, including previous prices, are set out in the attached price schedules.

Please note that all prices are exclusive of GST. Transmission charges are recovered as a component of final delivered prices. The amount of each final delivered price which is attributable to transmission charges is approximately 34%.



<sup>1</sup> Except power factor, which was left unchanged, consistent with previous price reviews.

**Prices for residential and general consumers from 1 April 2018 (previous price, if changing)**

Consumer group	Description	Price category code(s)	Number of Consumers	Daily	Daily	Volume	Volume	Volume off-peak	Volume peak	Volume injection
				\$/day	\$/day/fitting	\$/kWh	\$/kWh	\$/kWh	\$/kWh	\$/kWh
				-FIXD	-FIXD	-24UC	-AICO	-OFPK	-PEAK	-INJT
Residential low user	Uncontrolled	ARUL WRUL	26,824 11,288	0.15		0.1019 (0.1037)				-
	Controlled	ARCL WRCL	128,492 87,660	0.15			0.0943 (0.0957)			-
	Gas	ARGL WRGL	15,604 6,512	0.15		0.0943 (0.0957)				-
	Half hourly	ARHL WRHL	7 3	0.15				0.0644	0.1599 (0.1644)	-
Residential standard	Uncontrolled	ARUS WRUS	15,492 13,224	1.01		0.0627 (0.0645)				-
	Controlled	ARCS WRCS	91,507 73,959	1.01			0.0551 (0.0565)			-
	Gas	ARGS WRGS	9,634 4,948	1.01		0.0551 (0.0565)				-
	Half hourly	ARHS WRHS	4 7	1.01				0.0252	0.1207 (0.1252)	-
General	Unmetered	ABSU WBSU	1,862 426		0.15	0.0699 (0.0713)				-
	General	ABSN WBSN	35,949 22,059	1.01		0.0627 (0.0645)				-
	Half hourly	ABSH WBSH	46 18	1.01				0.0252	0.1207 (0.1252)	-

**Prices for commercial consumers from 1 April 2018 (previous price, if changing)**

Consumer group	Description	Price category code	Number of Consumers	Daily	Volume	Capacity	Demand	Excess demand	Power factor	Volume injection
				\$/day	\$/kWh	\$/kVA/day	\$/kVA/day	\$/kVA/day	\$/kVAr/day	\$/kWh
				-FIXD	-24UC	-CAPY	-DAMD	-DEXA	-PWRF	-INJT
Low voltage	Non time of use	ALVN	2,087	1.76 (1.73)	0.0629 (0.0633)	0.0414 (0.0407)			0.2917	-
		WLVN	806	6.16 (6.05)	0.0434 (0.0441)	0.0333 (0.0327)			0.2917	-
	Time of use	ALVT	1,446		0.0136 (0.0134)	0.0414 (0.0407)	0.3277 (0.3377)		0.2917	-
		WLVH	205	11.61 (11.41)	0.0058 (0.0057)	0.0333 (0.0327)	0.2995 (0.3100)		0.2917	-
Transformer	Non time of use	ATXN	164	1.71 (1.68)	0.0616 (0.0620)	0.0405 (0.0398)			0.2917	-
		WTXN	141	5.54 (5.44)	0.0389 (0.0397)	0.0327 (0.0321)			0.2917	-
	Time of use	ATXT	887		0.0134 (0.0132)	0.0405 (0.0398)	0.3207 (0.3308)		0.2917	-
		WTXH	269	10.45 (10.27)	0.0057 (0.0056)	0.0327 (0.0321)	0.2933 (0.3039)		0.2917	-
High voltage	Non time of use	AHVN	8	1.65 (1.62)	0.0597 (0.0602)	0.0393 (0.0386)			0.2917	-
		WHVN	0	5.37 (5.28)	0.0377 (0.0385)	0.0317 (0.0311)			0.2917	-
	Time of use	AHVT	131		0.0130 (0.0128)	0.0393 (0.0386)	0.3105 (0.3208)	0.8646 (0.8492)	0.2917	-
		WHVH	19	10.14 (9.96)	0.0055 (0.0054)	0.0317 (0.0311)	0.2841 (0.2948)	0.6974 (0.6842)	0.2917	-

## Price category codes

First letter of code	Network
A	Auckland
W	Northern

## Consumer definitions

Consumer type	Definition
Residential	The consumer's point of connection is for a home, not normally used for any business activity, and not a building ancillary to a person's principal place of residence (for example, a shed, pump or garage) that is separately metered.
General	The consumer is not a residential consumer and has a capacity less than or equal to 69kVA
Commercial	The consumer is not a residential consumer and has a capacity greater than 69kVA.

## Eligibility criteria for price categories

Vector will allocate price categories to consumers. Where a consumer meets the eligibility criteria for more than one price category, the retailer may request the allocation of an alternative eligible price category to a consumer.

<sup>2</sup> The Northern network controlled price categories (WRCL, WRCS) are closed to all consumers, except those specified by Vector as qualifying for these price categories.

<sup>3</sup> For consumers in these price categories with load connected to Vector's load control system, Vector may control this load at any time for a maximum of 5 hours in any 24 hour period.

## Residential

The table below sets out the eligibility criteria for residential price categories. To be eligible for a particular price category, a residential consumer must meet the criteria in both the applicable row and column.

		Low user	Standard
		Connection is at a consumer's principal place of residence	No additional criteria
Uncontrolled	No additional criteria	ARUL, WRUL	ARUS, WRUS
Controlled <sup>2,3</sup>	Consumer has an electrical hot water cylinder <sup>4</sup> connected to Vector's load control system.	ARCL	ARCS
Gas	Consumers who are not eligible for a Controlled price plan but are connected to Vector's Auckland gas distribution network.	ARGL, WRGL	ARGS, WRGS
Half hourly	Consumer has metering capable of recording half hourly data and is on a qualifying retail price option.	ARHL, WRHL	ARHS, WRHS

<sup>4</sup> An electrical hot water cylinder must be in excess of 50 litres but may be substituted with fittings of a similar rating and load profile at Vector's discretion.

## General

The table below sets out the eligibility criteria for general price categories.

Description	Price category codes	Eligibility criteria
Unmetered	ABSU, WBSU	<p>Consumer's point of connection:</p> <ul style="list-style-type: none"> <li>• does not have a meter measuring consumption;</li> <li>• has a capacity less than 1kVA; and</li> <li>• consists of fixed wired equipment with a predictable annual electricity usage.<sup>5</sup></li> </ul>
General	ABSN, WBSN	Consumer has a metered point of connection.
Half hourly	ABSH, WBSH	Consumer has metering capable of recording half hourly data and is on a qualifying retail price option.

## Commercial

The following table sets out the eligibility criteria for price categories for commercial consumers. To be eligible for a particular price category, a commercial consumer must meet the criteria in both the applicable row and column.

		Non time of use	Time of use
		Capacity of consumer's connection is less than or equal to 345 kVA	Consumer has metering capable of recording half hourly data which contains at least two of the following channels: kWh, kVArh, kVAh.
Low voltage	Consumer is connected to Vector's low voltage (400V three phase or 230V single phase) network.	ALVN, WLVN	ALVT, WL VH
Transformer	Consumer's low voltage (400V three phase or 230V single phase) network is supplied directly from transformers owned by Vector.	ATXN, WTXN	ATXT, WTXH
High voltage	Consumer is supplied directly from Vector's high voltage (11kV or higher) network.	AHVN, WHVN	AHVT, WHVH

To aid with interpretation of the eligibility criteria for commercial price categories, the following table presents as an example the price categories available to low voltage consumers on the Auckland network for different capacities and metering configurations.

<sup>5</sup> Where any of these criteria are not met, the consumer will be required to install a meter and will be placed on the appropriate metered price category.

		Consumer has metering capable of recording half hourly data which contains at least two of the following channels: kWh, kVARh, kVAh?	
		Yes	No
Consumer capacity	Less than or equal to 345kVA	ALVN, ALVT <sup>6</sup>	ALVN
	Greater than 345kVA	ALVT	Not available <sup>7</sup>

### Price component definitions

Description	Price component code(s)	Applies to
Daily	-FIXD	The number of days each consumer's point of connection is energised. <sup>8</sup>
Volume	-24UC, -AICO	All electricity distributed to each consumer.
Volume off-peak	-OFFK	Electricity distributed to each consumer during off-peak periods.
Volume peak	-PEAK	Electricity distributed to each consumer during peak periods.

<sup>6</sup> Vector will allocate a price category to the consumer. The retailer may request allocation of an alternative eligible price category.

<sup>7</sup> Consumers must either: reduce their connection capacity to 345kVA or lower; or install metering capable of recording half hourly data which contains at least two of the following channels: kWh, kVARh, kVAh.

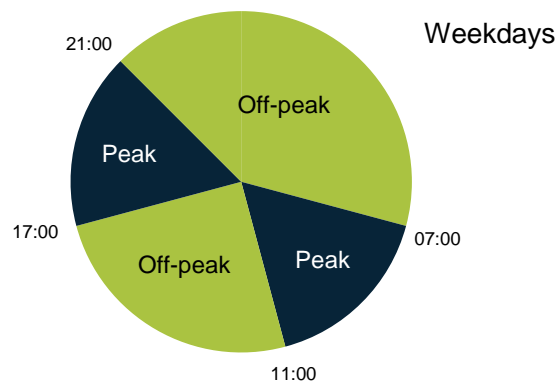
Description	Price component code(s)	Applies to
Volume injection	-INJT	All electricity injected into the network by each consumer.
Capacity	-CAPY	The capacity of each consumer's connection to Vector's network.
Demand	-DAMD	The average of each consumer's ten highest kVA demands (twice the kVAh half hourly reading) between 08:00 and 20:00 (time periods 17 to 40) on weekdays including public holidays in any one month.
Excess demand	-DEXA	The difference between the anytime maximum kVA demand (twice the maximum kVAh half hourly reading) and the nominated capacity in any one month, where the consumer's anytime maximum demand is greater than the nominated capacity.
Power factor	-PWRF	The power factor amount.

<sup>8</sup> Except for the daily prices ABSU-FIXD and WBSU-FIXD, which apply to the number of days each consumer's unmetered point of connection or fitting is energised.

**Peak and off-peak periods for half hourly price categories (ARHL, ARHS, ABSH, WRHL, WRHS, WBSH)**

Period type	Days	Times	Period numbers
Peak	Monday to Friday (including public holidays)	07:00 – 11:00	15 – 22
		17:00 – 21:00	35 – 42
Off-peak	Monday to Friday (including public holidays)	11:00 – 17:00	23 – 34
		21:00 – 07:00	43 – 14
	Saturday and Sunday	All times	All periods

The following chart shows the times on weekdays to which the peak and off-peak volume prices apply for the half hourly price categories:



**Qualifying retail price options for half hourly price categories (ARHL, ARHS, ABSH, WRHL, WRHS, WBSH)**

Vector will determine whether a retail price option qualifies for Vector’s half hourly price categories, following an application by a retailer, based on the extent that Vector’s distribution price signals are incorporated into the retail option and the number of consumers affected.

**Consumption for the unmetered price category (ABSU)**

Consumption for ABSU non-streetlight unmetered consumers is determined by Vector based on load profile and fitting input wattages. A minimum load factor of 1.1 is applied to the input wattage for non-streetlight appliances and 1.0 for streetlight appliances.

Consumption for ABSU streetlight unmetered consumers is determined by multiplying the input wattage of each fitting in a database administered by Vector, with the load factor, the number of days in each month and the night hours per day stated in the following table:

Month	Night hours per day
January	9.61
February	10.57
March	11.61
April	12.87
May	13.81
June	14.33
July	14.13
August	13.29
September	12.17
October	11.00
November	9.93
December	9.32

### Power factor prices

Vector's distribution code requires consumers to maintain a power factor of greater than 0.95 lagging. If the consumer's power factor is below 0.95 lagging, Vector may apply power factor prices. Where the consumer's metering equipment does not record power factor, Vector may install power factor monitoring equipment and monitor the consumer's power factor.

The power factor amount is determined each month where a consumer's power factor is less than 0.95 lagging. This power factor amount (kVAr) is represented by twice the largest difference between the consumer's kVArh recorded in any one half-hour period and the kWh demand divided by three recorded in the same half-hour period, during each

month. The price is applicable between 08:00 and 20:00 (time periods 17 to 40) on weekdays including public holidays.

### Consumer capacity

Price category	Capacity charging basis
All except AHVT, WHVH	The nearest standard capacity of each consumer's point of connection as determined by Vector.
AHVT, WHVH	Capacity nominated by the retailer.

The following conditions apply to all price categories:

- Vector may require the consumer's demand not to exceed the capacity of their point of connection at any time;
- Changes to the capacity of the consumer's point of connection may be requested by the retailer;
- Vector may pass some or all of the costs associated with the change in capacity on to the retailer (including removal of stranded assets such as transformers); and
- Changes to the consumer's capacity are subject to the agreement of Vector and the availability of spare capacity on Vector's network and may be subject to additional charges (such as capital contributions).

The following condition applies all price categories except AHVT and WHVH:

- Any change to the consumer's capacity requires the current limiting device (such as a fuse or transformer) to be changed by Vector to the nearest standard capacity.



The following conditions apply to the AHVT and WHVH price categories:

- The nominated capacity may only be changed once in each 12 month period ending on 31 March each year;
- Nominated capacities must reasonably estimate the capacity requirement of each high voltage consumer connected to Vector's network;
- Vector does not guarantee the availability of increased nominated capacity at any time; and
- The application of excess demand prices does not imply or guarantee the availability of increased nominated capacity above the consumer's existing nominated capacity.

### **Extent of prices**

Vector's prices published in this schedule relate to the cost of owning, operating and maintaining the distribution network as it currently exists but do not include amongst other things, energy charges for the electricity consumers use, metering equipment charges, load control equipment located at the point of connection to the network, the cost of reading meters and the cost of consumer electrical installations or fittings.

In order for Vector to supply any new or changed distribution service, including but not limited to; changes to service standards, distributed generation, the connection to the network of additional points of connection and the modification, increased capacity, relocation or removal of current points of connection, Vector may apply non-standard prices other than those outlined in this schedule, or require a capital contribution on a case by case basis.

Vector's prices do not include ancillary service charges and loss constraint excess payments from the system operator and transmission provider respectively. These costs may be passed through by Vector directly to electricity retailers.

Should Vector forecast a potential price breach under the regulated price path, then Vector may provide a refund or rebate of electricity distribution charges directly to the electricity retailer in order to avoid such a breach.

All prices are exclusive of GST.

### **Provision of billing information**

The consumer's retailer must provide Vector with consumption data for each residential consumer and for each price as described in this schedule.

Where more than one meter at a point of connection is in use, but a single volume price applies, consumption data must be aggregated by the retailer before submitting to Vector.

For residential and general consumers, where a half hourly meter is fitted, consumption data must be aggregated by the retailer to match the appropriate prices and time periods before submitting the data to Vector.

For commercial consumers, where a half hourly meter is fitted and the consumer's price category requires half hourly data, the consumer's retailer must submit half hourly consumption information. Half hourly data provided by the retailer must contain at least two of the following channels: kWh, kVA<sub>rh</sub> and kVA<sub>h</sub>.