

## **Modelled charges on mass-market ‘residential load’, adopting a per-MWh pass-through basis**

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Table 15b of the options working paper<sup>1</sup> (page 130) presented the modelled charge impact of Application A across all electricity distribution businesses (EDB).

The modelling, as identified in a note to table 15b, represented total transmission charges on each EDB divided by the number of active installation control points (ICPs) in that EDB. The figures shown in table 15b exceed the modelled expected impact of transmission charge changes on residential households. This is because typical residential households consume substantially less than typical commercial and industrial consumers, but table 15b represented the impact based on an amount averaged across all the customer groups.

The Authority has now modelled the impact of Application A on typical residential households, on the basis that transmission charges on EDBs would be passed on from EDBs to retailers, and retailers to customers, on a per-MWh basis.

Table 1 in this document shows the modelled impact on households under this assumption.

Table 2 shows the difference between modelling on an average ICP pass-through basis (as per Table 15b of the options working paper) and on a per-MWh basis. The figures in Table 1 are much lower than those in Table 15b of the working paper. For example, Westpower residential customers are modelled to pay \$187 per year in Table 1 as opposed to \$676 in Table 15b of the options working paper; and Top Energy \$223 as opposed to \$421.

Note that the impact analysis underpinning Table 15b of the working paper, and Tables 1 and 2 in this document, does not take into account that:

- consumers, including residential consumers, that would pay higher charges have also gained greater benefits from recent major transmission investment (ie reduced prices and improved reliability)
- the Authority’s proposals would be expected to lead to more efficient investment, and hence to place downward pressure on costs faced by all parties in the mid- to long-term.

Furthermore, the impact analysis presented in the tables does not take into account the transition and capping mechanisms that the Authority has identified which would further moderate the impact on residential consumers.

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<sup>1</sup> <http://www.ea.govt.nz/development/work-programme/transmission-distribution/transmission-pricing-review/consultations/#c15374>

The key assumptions used in this modelling are provided on page 4.

**Table 1: Modelled charges on mass-market 'residential load, as \$ per year for a typical household – modelled on the basis of pass-through according to consumption (MWh)**

<b>EDB area</b>	<b>Base Option</b>	<b>Base Option + LRMC</b>	<b>Base Option + SPD</b>	<b>Status quo</b>
Alpine Energy	91	89	89	119
Aurora Energy	115	113	110	122
Buller Electricity	80	88	81	77
Counties Power	217	215	215	118
Eastland Network	134	132	134	115
Electra	145	143	145	100
Electricity Ashburton	76	82	75	62
Horizon	63	62	65	33
Mainpower	139	137	134	159
Marlborough Lines	195	203	191	120
Network Tasman	100	101	98	97
Network Waitaki	88	87	85	113
Northpower	187	185	192	100
Orion	114	117	111	179
Powerco	113	111	115	104
PowerNet ( <i>incl The Power Company, Electricity Invercargill, OtagoNet JV and Electricity Southland</i> )	88	85	87	116
Scanpower	114	112	116	125
The Lines Company	128	127	126	106
Top Energy	223	221	220	82
Unison ( <i>incl Centralines</i> )	112	110	115	130
Vector	225	224	230	142
Waipa Power	97	95	102	129
WEL	100	99	102	115
Wellington Electricity	115	112	120	157
Westpower	187	190	186	50

**Table 2: Comparison between the figures in Table 1 above and those in Table 15b of the working paper, for the Base Option only**

<b>EDB area</b>	<b>Modelled charge, as \$ per year for a typical household, from Table 1 above (on a passed through consumption (MWh) basis)</b>	<b>Modelled charge, as \$ per ICP per year, from Table 15b of the working paper</b>	<b>Difference</b>
Alpine Energy	91	263	172
Aurora Energy	115	220	105
Buller Electricity	80	372	292
Counties Power	217	339	122
Eastland Network	134	259	125
Electra	145	246	101
Electricity Ashburton	76	270	194
Horizon	63	214	151
Mainpower	139	228	89
Marlborough Lines	195	435	240
Network Tasman	100	252	152
Network Waitaki	88	229	141
Northpower	187	560	373
Orion	114	233	119
Powerco	113	258	145
PowerNet ( <i>incl The Power Company, Electricity Invercargill, OtagoNet JV and Electricity Southland</i> )	88	257	169
Scanpower	114	220	106
The Lines Company	128	211	83
Top Energy	223	421	198
Unison ( <i>incl Centralines</i> )	112	250	138
Vector	225	519	294
Waipa Power	97	203	106
WEL	100	222	122
Wellington Electricity	115	258	143
Westpower	187	676	489

## Key assumptions

Table 1 shows the modelled transmission charge that would be passed on to a typical household, in dollars per year (excluding GST).

Key assumptions are that:

- all transmission charges on EDBs would be passed on from distributors to retailers, and retailers to customers, on a per-MWh basis
- all customer classes in a given EDB area would face the same transmission charge in per-MWh terms
- a typical household would consume the following quantity of electricity: <sup>2</sup>

EDB area	Typical household electricity consumption (kWh per year)	EDB area	Typical household electricity consumption (kWh per year)
Alpine Energy	8,339	Orion	8,790
Aurora Energy	8,233	Powerco	6,371
Buller Electricity	5,481	PowerNet	7,993
Counties Power	7,998	Scanpower	7,110
Eastland Network	6,319	The Lines Company	8,033
Electra	6,465	Top Energy	6,065
Electricity Ashburton	8,725	Unison	7,101
Horizon	6,322	Vector	7,119
Mainpower	8,887	Waipa Power	7,648
Marlborough Lines	7,215	WEL	7,026
Network Tasman	6,979	Wellington Electricity	7,160
Network Waitaki	7,577	Westpower	6,151
Northpower	6,369		

Assumptions have also been made about the total amount of electricity consumption in each EDB area. (The more consumption in the area, the lower the charge on each individual MWh of consumption, all else being equal.)

The analysis does not take into account that some EDBs make avoided cost of transmission (ACOT) payments to embedded generators. As a result, 'status quo' charges may appear anomalously low for networks that include substantial amounts of embedded generation, relative to their amount of load (such as Top Energy or Westpower). If current ACOT payments from distributors to distributed generators within their network areas were accounted for, the difference for consumers between the status quo and modelled charges, regardless of whether they were modelled on an average ICP basis or a MWh basis, would be even smaller where ACOT is paid.

<sup>2</sup> Unpublished Electricity Authority data for 2014, based on Registry information. The Authority plans to publish these data on EMI.