Form of Control for EDB

Advice on submission to the Commerce Commission

NZIER report to Major Electricity Users Group

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Key points

Consideration of the preferred form of control for electricity distribution business price quality regulation needs to be informed by analysis of the tariff structures actually used by electricity distribution businesses (EDB) and any recent changes in the tariff structure.

The main argument for the Commerce Commission's emerging view supporting a move to a revenue cap is that it removes the risk of demand quantity forecasting errors from the setting of price quality paths for EDB[1].

However the root cause of EDB exposure to demand forecasting risk is the tariff structure chosen by EDB. The use of volume based charging varies by customer group and across EDB. Those EDB that do rely on volume based charging tend to predominantly to apply it to retail consumers.

Neither the Commerce Commission nor the Electricity Authority (EA) require EDB to use volume based charging. We note that there is an ongoing debate between the electricity industry and the EA on how the Low Fixed Charge Regulations constrain EDB freedom to set tariff structures. However our comments in this note are based on current practice.

The absence of regulatory requirement to set volume based charges combined with the variation in the reliance on volume based charging among EDB suggest that the reliance of some EDB on volume based charging represents a business decision on their approach to the recovery of the cost so the services they provide rather than an exogenous risk imposed by the regulator.

Uniform rate volume based charging is a poor proxy for signalling the cost of access to the network during peak periods. From an economic perspective volume based pricing is not an efficient signal of the cost of access to the network during peak periods and is therefore:

- not closely linked to either the network assets and investment in new assets that EDB need to make to maintain quality of service
- overstate the savings to consumers of lowering demand on EDB networks during off-peak periods while still relaying on the network during peak periods.

Moving from a weighted average price cap (WAPC) to a revenue cap methodology seems to lower the revenue risks to EDB does not eliminate forecasting risk. It simply replaces the Commerce Commission forecast with an EDB volume forecast and then introduces a wash-up mechanism to allow faster response to forecasting errors than is available under the WAPC regime. A move to a revenue cap also seems to encourage EDB to persist with a volume based charging –a pricing mechanism that does not support efficient recovery of network costs and shifts the risk of over- investment.

The Commerce Commission paper and Wellington Electricity submission both cite comments by the Australian Energy regulator (AER) arguing for revenue cap on the

[1] This appears to be driven by the uncertainty faced by the Commission in forecasting the volume use of electricity for EDB revenue component that are based on volume charges. See 'Input methodologies review Invitation to contribute to problem definition, 16 June 2015, footnote 69 to paragraph 144.

basis that the theoretical incentives under a WAPC for efficient pricing had not been realised in practice. However in parallel with the move to a revenue cap for the state of Victoria the AER has also asked EDB to submit proposals for the introduction of fixed demand charges that reflect the cost of accessing the network at peak periods. Therefore the AER positon seems to be that EDB need to move toward cost reflective pricing and that a WAPC was not effective in achieving this objective so it was replaced by a combination of direct action to make tariffs more cost reflective and a revenue cap.

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1. Introduction

1.1. Context

The discussion on the appropriate 'form of control' for electricity distribution businesses (EDB) seems to have occurred at a relatively high level and focused on a narrow definition of the problem – demand forecasting risk for the electricity industry. The Commission has indicated that its emerging view is that the form of control for EDB should move from a weighted average price cap (WAPC) to a pure revenue cap on the basis that it removes quantity forecasting risk, removes potential disincentives for suppliers to restructures tariffs and removes any potential disincentives on suppliers to pursue energy efficiency options.

The Commission has also cited comments by the Australian Energy Regulator (AER) [2]about the practical failure of the WPAC to encourage efficient pricing incentives because key assumptions of the theoretical incentives are not met in practice. The Commission also refers to the submission by Wellington Electricity as the only submission that made a strong case for a change from the WAPC approach.

1.2. Our approach

We welcome a review of the form of control for EDB to promote the purpose of Part 4 Section 52a but we note the previous comments by the commission in its invitation to contribute to the problem definition that[3]:

> *The choice of the form of control is often characterised as a choice between a 'price cap' and a 'revenue cap'. However, in reality there are a number of different ways a control can be specified (eg, specification of price for particular services, extent to which revenue can be 'washed up' in subsequent periods). Therefore the impact on a supplier will depend on the specific rules and any associated decision.*

We suggest that before a decision is made or indicated on the preferred form of control it would be appropriate to consider some of the detail and complexity of:

- variation in pricing behaviour across EDB under the current WAPC regime
- an estimation of the demand risk faced by EDB and the extent to which this risk reflects variation in their chosen tariff structure
- analysis of the other actions apparently taken by the AER in the state of Victoria to secure efficient pricing of services

[2] 'Input methodologies review – Emerging views on form of control' Commerce Commission of New Zealand, 29 February 2016, paragraph 29, p 7.

[3] 'Input methodologies review -Invitation to contribute to problem definition, Commerce Commission of New Zealand, 16 June 2015

- co-ordination of the form of control chosen by the Commerce Commission with the issues raised by the Electricity Authority (EA) in respect of efficient pricing for services in their recent consultation paper[4].

Consideration of these issues would inform a more detailed discussion of how the proposed change in form of control will resolve the problems identified by the Commerce Commission for individual EDB. We note that the Commerce Commission is planning to publish a paper 'Summary and analysis of the profitability of electricity distributors 2010-2015'[5] before the draft IM decision. However we suggest that the considerations in this paper along with a discussion of the drivers of EDB investment decisions in response to the diverse market outlooks that they face and their response to emerging technologies are important factors in the consideration of the form of control for regulation of the price and quality of EDB services that is most likely to promote the long term benefits of consumers as described in section 52.

4 'Implications of evolving technologies for pricing of distribution services Consultation Paper' 3 November 2015, Electricity Authority.

5 Ibid paragraph 29, footnote 11 on p7

2. Commission rationale

2.1. Introduction

This section contains our high-level comment on the rationale resented by the Commission for its emerging view in favour of applying revenue cap to EDB.

2.2. Problem definition

The Commission describes the problems with the EDB WAPC form of control as:

- leaving EDB with unmanageable quantity forecasting risk
- acting as a potential disincentive for suppliers to either:
  - restructure tariffs
  - pursue energy efficiency and demand side management initiatives.

Although it is not explicitly stated the Commission definition of demand seems to be based on the volume of electricity supplied through the network measured in energy units per hour (e.g. kWh). (This interpretation is based on the reference to the constant price revenue growth paths which are effectively based on the current tariff structure,)

2.3. Observations

Our key observations on the rationale are that:

- distinct concepts of energy supplied and network capacity are blended in the rationale which fails to show how a switch to a revenue cap would assist EDB to meet network reliability standards more efficiently
- EDB have chosen a tariff structure that relies heavily on energy supplied. This contributes to the revenue risk under the WAPC form of control but this reliance is not preferred by regulators and the technical constraints that made it necessary in the past are disappearing
- It does not fully address the differences in the scale and market conditions facing EDB

2.3.1. Capacity or energy supplied

EDB provide reliable access to a network and therefore the main costs of the network investment requirements for the network are related to peak demand levels and the need to maintain access rather than the volume of electricity supplied over the year.

This suggests that the quantity forecasting risk and supplier incentives to promote consumer energy efficiency and demand side management should be assessed on the basis of their contribution to either lowering peak demand levels or allowing EDB opportunities to shed load. These measures potentially allow EDB to meet reliability standards with a lower level of investment in network capacity than would otherwise be required.

The volume of electricity is not regarded as a good proxy for the required level of investment in capacity to deliver network services either by the Electricity Authority or the Australian Energy Regulator (AER). Both of these regulators have indicated that they expect the volume of electricity to become a worse proxy for the need for network capacity as emerging technology is adopted by consumers. This would lead to less efficient pricing of network services if the tariffs continue to be dominated by volume of energy supplied charges. (The AER has acted on this concern by requiring Victorian EDB to introduce capacity related charges for access to the network alongside its movement to a revenue cap for EDB.)

It would help to advance the discussion on the relative of the merits of revenue cap in reducing the contingent level of capacity required by EDB if the links between annual energy demand and either peak load or capacity required to manage outages were made explicit. Also in our analysis of the EDB information disclosure we have found it difficult to identify a single or composite measure of the profile of use of EDB network capacity. (We have reviewed statistics on peak demand, transformer capacity and energy supplied.)

2.3.2. EDB tariff structure

EDB reliance on a charges for energy supplied in their tariff structure varies widely by EDB and by customer group. (We provide more detailed analysis of the variation of EDB tariff structure in section 3 EDB tariff structures.) This variation suggests that the choice of tariff structure is a business decision made by EDB rather than a structure that has emerged as the most efficient approach to recovering the cost of network services. We suggest that this variation raises two questions for the Commission:

- how can the efficiency of the different reliance of tariff structures on fixed network access charges be compared?
- should the Commission be encouraging the adoption of tariff structures with greater emphasis on demand or capacity charges to achieve the efficiency outcomes sought in Section 52A (1)(b) of the Commerce Act?

A market revenue cap seems to weaken the incentives for EDB to move toward fixed capacity charges.

2.3.3. One-size does not fit all

EDB vary widely in size, customer composition and in particular with respect to recent changes in transformer capacity, maximum coincident demand, ICP numbers and volume of energy supplied. The form of control applied to the EDB as a group needs to be able to send the correct price and quality signals to networks that are growing, static and shrinking. In view of the challenges posed by changing network size and emerging technology it may be helpful for the Commission to consider the suitability of a form of control for networks that are changing size in shape. This consideration should be in addition to rather than as a subset of the comparison of gas distribution business (GDB) and EDB described in paragraph 63 of the Commission's Form of Control paper.

3. EDB tariff structures

3.1. Introduction

EDB information disclosures to the Commerce Commission have included a classification of the amount of lines revenue by the type of charge and customer group since 2013. We have used this information to compare the reliance of EDB revenue on energy delivered tariffs both across EDB and for different customer groups within each EDB.

3.1.1. Customer groups

The disclosure includes the average number of ICPs and the total energy supplied. This data is used to calculate the average energy delivered to each customer group. As the definition of customer groups and description of plans varies[6] widely across EDB we have used bands of average energy delivered per ICP to group the line charge revenue into customer bands. Both the range of the bands and attached to the bands are illustrative based on our initial interpretation of the EDB tariff structure.

3.1.2. Tariff elements

The main types of tariff included in the information disclosure are:

- energy delivered usually expressed in $ per kWh[7]
- fixed charges based on time expressed as flat daily, monthly, annual fees[8]
- peak demand charges usually expressed as $ per kW
- capacity charges expressed as $ per kVA
- reactive power charges expressed as $ per kVAr
- other fixed charges for items such as invoices, equipment etc.

3.2. Reliance on volume based tariff

The following tables group EDB according to their reliance on volume based tariffs and for the full EDB and customer band within the EDB. (A summary of the data used to create these tables is included in **Error! Reference source not found.** Tariff structure.)

The first table groups EDB into bands for the proportion of their revenue from all customers that is earned from volume of energy supplied ($per kWh) charges. The first row of the each column of the table shows of the share of all EDB revenue earned by the EDB listed in the column.

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6 The additional data disclosed in Section 8 since 2013 is much more informative than the highly aggregated data previously disclosed. However the variation in EDB reporting terminology and classification of charges still makes it time-consuming to collate and compare this data across EDB.

7 Some EDB provide data on different rates for day and night use or the availability of ripple control but this information is not reported separately for most EDB and is therefore not analysed for this submission. Also EDB take different approaches to compliance with the Low Fixed Charge Regulations. These differences are not analysed in this submission.

8 This grouping also includes per fitting charges for street-lighting.

Table 1 EDB reliance on energy volume fees – 'all customers'

Proportion of EDB lines revenue earned from $per kWh charges

Less than 50%	50% to 60%	60% to 70 %	70% to 90%	More than 90%
18% of all EDB	**29% of all EDB**	**36% of all EDB**	**12% of all EDB**	**5% of all EDB**
The Lines Co	EA Networks	Vector	Northpower	Top Energy Ltd
Horizon Energy	Powerco	Westpower	Buller Electricity	Electra Limited
Orion NZ Ltd	Aurora Energy	Wellington	Counties Power	MainPower NZ
Marlborough	The Power Co	Invercargill	Eastland	
Alpine Energy	Unison	Net. Tasman	WEL Networks	
OtagoNet Joint	Centralines		Scanpower	
Nelson			Net. Waitaki	
			Waipa	

Source: NZIER analysis of Commerce Commission EDB information disclosure

EDB reliance on volume of energy supplied charges for 'all customers' varies widely and does not appear to be correlated with EDB size or location. Over 80 percent of EDB revenue is earned by EDB that earn less than 60 percent of their revenue through volume of energy supplied charging.

The next table shows the proportion of EDB lines revenue from volume of energy supplied charges for 'residential customers' (average consumption per ICP of 1,000 to 15,000 kWh per year). In 2015, 61 percent of EDB revenue was earned from residential customers.

Table 2 EDB reliance on energy volume line fees – 'residential'

Proportion of EDB lines revenue earned from $per kWh charges

Less than 50%	50% to 60%	60% to &0 %	70% to 90%	More than 90%
2% of all EDB	**14% of all EDB 9**	**30% of all EDB 9**	**39% of all EDB 9**	**15% of all EDB 9**
The Lines Co	Horizon **Energy**	Nelson	Invercargill	Northpower
	Orion NZ Ltd	Marlborough	Buller	Tasman
		Centralines	Vector	EA Networks
		Powerco	Wellington	MainPower
		OtagoNet	Eastland	Electra
		The Power Co	Counties Power	Waitaki
		Unison	Aurora Energy	Scanpower
		Alpine Energy	Westpower	Top Energy
			Waipa	WEL Network

Source: NZIER analysis of Commerce Commission EDB information disclosure for 2015

Reliance of EDB on volume of energy supplied charges is higher for residential consumers than for all consumers. Only 45 percent of EDB revenue from residential customers is earned by EDB that earn less than 60 percent of their revenue through volume of energy supplied charging.

3.3. Conclusion

The wide variation in the proportion of EDB revenue collected from volume of energy supplied tariff and the apparent lack of correlation with EDB size or location suggests the reliance on volume of energy supplied and the related exposure to quantity forecasting risk under the WAPC seems to represent a business choice by EDB rather than a natural tariff structure for EDB.

4. AER decisions

4.1. Form of control decision

The AER has been quoted both by the Commerce Commission and the Wellington Energy as supporting the replacement of a WAPC with a revenue cap. The AER commented in their decision on the framework for EDB tariffs in the state of Victoria that[9]:

> *We consider that a revenue cap best meets the factors set out under clause 6.2.5(c) of the rules. We consider that a revenue cap will result in benefits to consumers through a higher likelihood of revenue recovery at efficient cost, better incentives for demand side management, less reliance on energy forecasts and is consistent with a move towards more efficient prices. Furthermore, we consider that the potential detriments of a revenue cap – within period pricing instability and weak pricing incentives are able to be mitigated.*

A detailed analysis of the AER decision and the characteristics of the EDB in the state of Victoria is beyond the scope of this paper. However other aspects of regulation of EDB in the same paper suggest that the AER does not regard the form of control (WAPC or revenue cap) on its own as sufficient to produce efficient EDB network investment. The decision also includes reference to continuation of several incentive schemes[10]:

- service target performance incentive
- efficiency benefit sharing incentive
- a capital expenditure sharing scheme to provide an incentive to EDB whose capital expenditure becomes more efficient and penalise EDB whose capital spending becomes less efficient
- demand management incentive scheme specifically aimed at encouraging EDB to lower or shift peak demand rather than build capacity to meet these peaks which is likely to be under-utilised.

The continuation of these incentive programmes in the AER decision to move from a WAPC to a revenue cap suggests that the AER did not expect this move to be sufficient to encourage the efficient network access pricing and investment that WAPC was expected to deliver in theory but did not deliver in practice.

4.2. Tariff structure review proposal

In December 2015 the AER[11] proposed changes to the tariff structure:

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9 'Final Framework and approach for the Victorian Electricity Distributors - Regulatory control period commencing 1 January 2016'24 October 2014, AER, p16,

10 Ibid p18 to p19

11 'Issues paper Tariff Structure Statement proposals Victorian electricity distribution network service providers' December 2015, AER, p1

to produce prices that vary to better reflect the costs of providing electricity and thereby allow consumers to make informed consumption choices and manage their expenditure.

The AER and Victorian EDB propose changing the three part tariffs for residential and small business customers by introducing a maximum demand charge[12]. The proposed maximum demand tariff will be based on the highest 30 minutes of a customer's use in a given month. The demand charge will vary for different months and will only be charged at certain times to reflect when the network is under the most load. The information paper did not provide detail on the proportion of the existing tariff would be recast as a demand charge. However a chart[13] illustrating the proposed changes suggests the demand charge will comprise at least one third of the existing tariff.

The objective of these changes is to empower consumers by[14]:

- provide better signals-that reflect what it costs to use electricity at different times
- transitioning to greater cost reflectivity
- managing future expectations-by providing guidance for retailers, customers and suppliers of services such as local generation, batteries and demand management by setting out the distributor's future tariff approaches.

The AER plans to publish a final determination on the Victorian EDB tariff proposal on 29 July 2016 with the new tariffs taking effect from 1 January 2017. The implementation of the new tariffs has been complicated by the[15]:

> *…notification from the Victorian Minister for Energy & Resources of her intention to require Victorian distributors to implement changes to distribution network pricing arrangements through an opt-in approach.*

However the AER still seems to intend to make a final determination on the proposed tariff structure by July 2016.

4.3. Conclusion

The AER decision to replace a the WAPC with a revenue cap does not seem to be the main regulatory instrument used by the AER to secure what it regards as an efficient tariff structure for network services. Instead the AER has decided to intervene directly to increase to prominence and visibility of cost reflective demand charges in the tariff structure for residential and small business customers.

12 Ibid p13

13 Ibid p4/

14 Ibid p7 (paraphrased).

15 'Draft Decision Powercor Tariff Structure Statement, February 2016', AER, p4.

Appendix A Tariff structure

A.1 Introduction

The following tables show the composition of EDB lines revenue by type of lines charge and customer base for the year ended 2015. The purpose of the tables is to support comments made in the submission about the variation in size and tariff structure across both EDB and tariff plans within EDB.

For the year ended 31 March 2015:

- EDB received $2,446 m of lines revenue of which:
  - $1,477 m was from energy supplied charges
  - $487 m from fixed time charges
  - $485 m from demand, capacity and other charges
- residential plans (average annual usage per ICP above 1,000 and up to 15,000 kWh) account for 73 percent of the EDB energy supplied charges but only 45% of EDB fixed charges
- Industrial plans (average annual usage per ICP above 100,000 kWh) account for 10 percent of the EDB energy supplied charges but 45 percent of the fixed charges
- the five EDB with the highest revenue from residential and industrial plans (Vector, Powerco, Orion, Wellington Electricity and Unison) earn between:
  - 54 and 78 percent of their residential plan revenue from energy supplied charges
  - 0 and 34 percent of their industrial plan revenue from energy supplied charges

Table 3 EDB lines revenue for 'residential customers'

Revenue ($m) from tariffs with average annual usage per ICP above 1,000 and up to 15,000 kWh

EDB	Energy	Fixed					Total
	kWh	Time	Demand kW	Capacity KVA	Capacity KVArh	Other	
Vector	243.4	88.4	0.0	0.0	0.0	0.0	331.8
Powerco	178.4	33.5	65.3	0.0	0.0	0.0	277.3
Orion	106.4	0.0	90.5	0.0	0.0	0.0	197.0
Wellington	86.5	24.9	0.0	0.0	0.0	0.0	111.4
Unison	56.0	27.8	0.0	0.0	0.0	0.0	83.8
Aurora	45.9	4.2	3.1	2.1	0.0	0.0	55.4
Northpower	45.8	4.8	0.0	0.0	0.0	0.0	50.6
WEL	47.8	12.0	0.0	0.0	0.0	-12.4	47.3
Counties	28.5	7.0	0.0	0.0	0.0	0.0	35.5
Top Energy	30.9	0.6	0.0	0.0	0.0	0.0	31.5
Electra	28.4	2.2	0.0	0.0	0.0	0.0	30.6
MainPower	24.8	2.2	0.0	0.0	0.0	0.0	27.0
Eastland	20.6	5.3	0.0	0.0	0.0	0.0	25.9
Lines Coy	0.0	2.6	17.5	4.8	0.0	0.2	25.2
Power Coy	15.3	8.4	0.0	0.0	0.0	0.0	23.7
Tasman	19.0	1.9	0.0	0.0	0.0	0.0	20.9
Horizon	10.3	8.2	0.0	0.0	0.0	0.0	18.5
Alpine	12.1	5.9	0.0	0.0	0.0	0.0	17.9
Marlborough	9.5	5.9	0.0	0.0	0.0	0.0	15.4
OtagoNet	8.8	4.9	0.0	0.0	0.0	0.0	13.7
Invercargill	8.4	3.5	0.0	0.0	0.0	0.0	11.8
Waipa	10.0	1.1	0.0	0.0	0.0	0.0	11.1
Westpower	8.3	1.1	0.0	0.0	0.0	0.0	9.4
EA	8.5	0.8	0.0	0.0	0.0	0.0	9.3
Nelson	4.5	0.0	0.0	2.9	0.0	0.0	7.4
Centralines	4.6	2.6	0.0	0.0	0.0	0.0	7.2
Scanpower	6.0	0.3	0.0	0.0	0.0	0.0	6.2
Waitaki	5.6	0.3	0.0	0.0	0.0	0.0	5.8
Buller	2.4	0.9	0.0	0.0	0.0	0.0	3.3

Source: Source: NZIER analysis of Commerce Commission EDB information disclosure for 2015

Table 4 EDB lines revenue for 'commercial customers'

Revenue ($m) from tariffs with average annual usage per ICP above 15,000 and up to 100,000 kWh

EDB	Energy	Fixed					Total
	kWh	Time	Demand kW	Capacity KVA	Capacity KVArh	Other	
Vector	86.3	22.9	0.0	0.0	0.0	0.0	109.2
Wellington	21.9	7.2	0.0	0.0	0.0	0.0	29.1
Unison	19.4	7.8	0.2	0.0	0.0	0.0	27.4
MainPower	20.0	1.3	0.0	0.0	0.0	0.0	21.3
Power Coy	12.3	8.4	0.0	0.0	0.0	0.0	20.7
WEL	21.5	3.7	0.0	0.0	0.0	-4.8	20.5
Aurora	0.0	0.1	10.0	6.3	0.0	0.0	16.5
OtagoNet	7.0	5.9	0.0	0.0	0.0	0.0	12.9
Marlborough	5.1	4.8	0.0	0.0	0.0	0.0	9.9
Tasman	7.5	0.0	0.0	2.3	0.0	0.1	9.9
EA	8.6	0.3	0.0	0.0	0.0	0.0	8.9
Waipa	8.0	0.6	0.0	0.0	0.0	0.0	8.6
Westpower	4.7	0.0	1.0	0.0	0.0	0.0	5.7
Invercargill	2.8	1.8	0.0	0.0	0.0	0.0	4.6
Lines Coy	0.0	0.6	2.9	0.9	0.0	0.0	4.5
Horizon	2.2	1.8	0.0	0.3	0.0	0.0	4.3
Alpine	1.7	1.3	0.0	0.0	0.0	0.0	3.0
Electra	2.8	0.2	0.0	0.0	0.0	0.0	3.0
Centralines	2.2	0.5	0.0	0.0	0.0	0.0	2.7
Eastland	1.8	0.9	0.0	0.0	0.0	0.0	2.7
Waitaki	2.6	0.1	0.0	0.0	0.0	0.0	2.6
Buller	1.5	0.4	0.0	0.0	0.0	0.0	2.0
Counties	0.6	0.1	0.0	0.0	0.0	0.0	0.7
Nelson	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Northpower	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Orion	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Powerco	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scanpower	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Top Energy	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Source: NZIER analysis of Commerce Commission EDB information disclosure for 2015

Table 5 EDB lines revenue for 'industrial customers'

Revenue ($m) from tariffs with average annual usage per ICP above 100,000 kWh

EDB	Energy	Fixed					Total
	kWh	Time	Demand kW	Capacity KVA	Capacity KVArh	Other	
Vector	63.9	31.3	0.0	83.6	-5.8	0.0	184.7
Powerco	7.8	47.6	0.0	33.4	-1.1	0.0	89.9
Wellington	10.7	10.5	5.5	14.4	-0.3	0.0	41.4
Orion	0.0	2.0	-0.1	35.3	0.0	0.0	37.1
Unison	5.7	13.8	10.0	0.0	-1.1	0.0	30.6
Alpine	11.1	5.3	13.8	0.0	0.0	0.0	30.2
WEL	10.0	2.0	17.2	0.0	-0.9	-1.1	29.1
EA	3.2	0.7	15.3	2.6	0.0	0.0	21.9
Aurora	0.1	1.0	9.8	6.4	0.0	0.0	17.3
Northpower	0.0	1.6	7.3	3.9	0.0	0.0	12.8
Power Coy	3.4	8.8	0.0	0.0	0.0	0.0	12.2
Tasman	2.5	0.0	2.3	3.2	0.0	2.6	10.7
Counties	5.7	0.6	0.0	3.4	-0.4	0.0	10.1
Marlborough	2.0	0.2	0.0	7.0	0.0	0.0	9.2
Horizon	1.4	5.3	1.7	0.5	0.0	0.0	9.0
Waitaki	6.1	2.4	0.0	0.0	0.0	0.0	8.5
OtagoNet	1.3	5.9	0.3	0.6	0.0	0.0	8.1
Lines Coy	0.0	3.0	0.0	4.2	0.0	0.0	7.2
Top Energy	4.1	2.5	0.0	0.0	0.0	0.0	6.6
Westpower	0.0	0.0	2.9	2.2	0.0	0.0	5.2
Eastland	3.7	1.0	0.0	0.0	0.0	0.0	4.7
Electra	4.0	0.2	0.0	0.0	0.0	0.0	4.2
Invercargill	2.0	1.5	0.0	0.0	0.0	0.0	3.5
Waipa	1.3	1.1	0.0	0.9	0.0	0.0	3.3
Nelson	0.6	0.5	0.0	1.7	-0.1	0.0	2.9
Buller	1.6	0.0	0.7	0.0	0.0	0.0	2.3
Centralines	0.3	0.7	1.2	0.0	-0.1	0.0	2.3
Scanpower	0.9	0.0	0.0	0.5	0.0	0.0	1.4
MainPower	0.3	0.0	0.0	0.0	0.0	0.0	0.3

Source: NZIER analysis of Commerce Commission EDB information disclosure for 2015

Table 6 EDB lines revenue for all customers

Revenue ($m) from customer groups in Tables 3 to 5 plus miscellaneous charges

EDB	Energy	Fixed					Total
	kWh	Time	Demand kW	Capacity KVA	Capacity KVArh	Other	
Vector	393.7	142.6	0.0	83.6	-5.8	0.0	625.7
Powerco	186.3	81.1	65.3	33.4	-1.1	0.0	367.2
Orion	106.4	4.1	97.2	35.3	0.9	0.0	242.1
Wellington	119.1	42.6	5.5	14.4	-0.3	0.0	181.9
Unison	81.1	49.3	10.2	0.0	-1.1	0.0	141.7
WEL	79.3	17.8	17.2	0.0	-0.9	-18.3	96.9
Aurora	46.1	5.4	22.9	14.9	0.0	0.0	89.3
Northpower	45.8	6.4	7.3	3.9	0.0	0.0	63.3
Power Coy	30.9	25.8	0.0	0.0	0.0	0.0	56.7
MainPower	49.3	3.6	0.0	0.0	0.0	0.0	52.9
Alpine	24.8	12.5	13.8	0.0	0.0	0.0	51.1
Counties	34.9	7.7	0.0	3.4	-0.4	0.0	46.4
Tasman	29.0	2.0	2.6	5.4	0.0	2.7	41.8
EA	20.3	2.3	15.3	2.6	0.0	0.0	40.5
Top Energy	35.5	3.2	0.0	0.0	0.0	0.0	38.6
Lines Coy	0.0	7.7	20.5	10.0	0.0	0.3	38.5
Electra	35.2	2.6	0.0	0.0	0.0	0.0	37.7
OtagoNet	17.2	17.0	0.3	0.6	0.0	0.0	35.1
Marlborough	16.6	11.0	0.0	7.0	0.0	0.0	34.5
Eastland	26.0	7.3	0.0	0.0	0.0	0.0	33.3
Horizon	13.8	15.5	1.7	0.8	0.0	0.0	31.8
Waipa	19.3	2.7	0.0	0.9	0.0	0.0	23.0
Westpower	13.0	1.1	4.0	2.2	0.0	0.0	20.4
Invercargill	13.2	6.8	0.0	0.0	0.0	0.0	20.0
Waitaki	14.2	2.7	0.0	0.0	0.0	0.0	17.0
Centralines	7.1	3.8	1.2	0.0	-0.1	0.0	12.2
Nelson	5.1	0.6	0.0	4.6	-0.1	0.0	10.5
Scanpower	6.9	1.0	0.0	0.5	0.0	0.0	8.4
Buller	5.5	1.4	0.7	0.0	0.0	0.0	7.6

Source: NZIER analysis of Commerce Commission EDB information disclosure for 2015