

# 2010-15 DEFAULT PRICE-QUALITY PATH FOR ELECTRICITY DISTRIBUTION

---

DRAFT DECISIONS PAPER

July 2011



COMMERCE COMMISSION

Regulation Branch

Commerce Commission

Wellington

NEW ZEALAND

19 July 2011

ISBN: 978-1-869451-61-5

# CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>V</b>
<b>CHAPTER 1: INTRODUCTION.....</b>	<b>1</b>
Purpose .....	1
Structure of this Paper .....	2
The Commission’s Ability to Reset the 2010-15 DPP.....	2
Our Draft Decision has been Guided by the Part 4 Purpose .....	9
Submissions.....	12
<b>CHAPTER 2: PROPOSAL TO RESET STARTING PRICES.....</b>	<b>14</b>
Summary .....	14
Draft Decision to Reset Prices in 2012/13 .....	14
Analysis of Results.....	18
Our Assessment of Current and Projected Profitability .....	20
Consistency of Draft Decisions with the Part 4 Purpose.....	29
<b>CHAPTER 3: PROJECTED EXPENDITURE AND REVENUES .....</b>	<b>30</b>
Summary .....	30
Projected Real Revenue Growth .....	30
Projected Expenditure .....	32
Initial Conditions and Information Requests .....	38
<b>CHAPTER 4: ALTERNATIVE RATES OF CHANGE .....</b>	<b>41</b>
Summary .....	41
Draft Decision .....	41
Consideration of Price Shocks to Consumers .....	41
Consideration of Financial Hardship to Suppliers .....	43
<b>CHAPTER 5: OTHER AMENDMENTS TO THE 2010-15 DPP.....</b>	<b>44</b>
Summary .....	44
Other Amendments .....	44
<b>APPENDIX A: REGULATORY CONSIDERATIONS FOR A DPP.....</b>	<b>49</b>
Part 4 Purpose (s 52A) .....	49

Statutory Provisions for Resetting a DPP (s 53P) .....	50
Other Considerations for Resetting a DPP .....	50
<b>APPENDIX B: SPECIFICATION FOR STARTING PRICE MODEL .....</b>	<b>52</b>
High Level Specification.....	52
<b>APPENDIX C: PROJECTED COSTS AND REVENUES .....</b>	<b>55</b>
Data Used to Project Costs and Revenues .....	55
Approach Used to Project Real Revenue Growth for Each EDB .....	56
Approach to Project Opex Growth.....	66
Approach to Project Capex Growth .....	73
<b>APPENDIX D: AMENDMENTS TO DISCLOSED INFORMATION.....</b>	<b>75</b>
<b>APPENDIX E: OPTIONS FOR IMPLEMENTING RESET STARTING PRICES .....</b>	<b>77</b>
Proposal for Implementing Reset Starting Prices .....	77
Alternative Options .....	79
Assumptions for Deriving Proposed Formula.....	80

## GLOSSARY OF TERMS, ABBREVIATIONS, AND DEFINITIONS

Term / Abbreviation	Definition
2010-15 DPP	The default price-quality path that applies to EDBs from 1 April 2010 to 31 March 2015
2010-15 DPP determination	The <i>Commerce Act (Electricity Distribution Default Price-Quality Path) Determination 2010</i> , which is the s 52P determination that gives effect to the 2010-15 DPP. A consolidated version of the determination that includes all amendments to 7 April 2011 can be found at <a href="http://www.comcom.govt.nz/2010-2015-default-price-quality-path/">http://www.comcom.govt.nz/2010-2015-default-price-quality-path/</a>
Act, the	Commerce Act 1986
Alpine Energy	Alpine Energy Limited
AMP	Asset management plan
Assessment Period	12 month period beginning 1 April each year over which annual compliance with the 2010-15 DPP is demonstrated
Aurora	Aurora Energy Limited
Capex	Capital expenditure
Centralines	Centralines Limited
CGPI	Capital Goods Price Index
Claw-back	As defined in s 52D of the Act
Commission	Commerce Commission
Cost of capital IM	Input methodology on the cost of capital for DPPs, Part 4 of the IM Determination
CPI	Consumer Price Index
CPI-X	A price or revenue path where a supplier's annual prices or revenues are restricted from increasing by more than CPI less an X factor
CPP	Customised price-quality path
DPP	Default price-quality path
Eastland	Eastland Network Limited
EDBs	In this paper EDBs refers to electricity distribution businesses that are subject to default/customised price-quality regulation. Note that electricity distribution businesses that meet the consumer-owned criteria under s 54D of the Act are exempt from this form of regulation
Electricity Ashburton	Electricity Ashburton Limited
Electricity Invercargill	Electricity Invercargill Limited

<b>Term / Abbreviation</b>	<b>Definition</b>
ENA	Electricity Networks Association
GDP	Gross domestic product
GPBs	Gas pipeline businesses subject to default/customised price-quality regulation under Part 4 of the Commerce Act 1986
GST	Goods and services tax
Horizon Energy	Horizon Energy Distribution Limited
IM determination	<i>Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2010</i> , 23 December 2010, which is available at <a href="http://www.comcom.govt.nz/input-methodologies-for-electricity-distribution-services">http://www.comcom.govt.nz/input-methodologies-for-electricity-distribution-services</a>
IM Reasons Paper	<i>Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper</i> , 23 December 2010, which is available at <a href="http://www.comcom.govt.nz/input-methodologies-for-electricity-distribution-services">http://www.comcom.govt.nz/input-methodologies-for-electricity-distribution-services</a>
IMs	In this paper IMs means the input methodologies applying to electricity distribution services as set out in the IM determination. Input methodologies are the rules, requirements, and processes applying to the goods or services regulated under Part 4 of the Act. A summary of the IMs was published in the <i>New Zealand Gazette</i> on 20 January 2011
LCI	Labour Cost Index
Nelson Electricity	Nelson Electricity Limited
Network Tasman	Network Tasman Limited
NPV	Net present value
Opex	Operating expenditure
Orion	Orion New Zealand Limited
OtagoNet	OtagoNet Joint Venture
Part 4 Purpose	Purpose of Part 4, as set out in s 52A of the Act
PFP	Partial factor productivity
Powerco	Powerco Limited
PPI	Producers Price Index
Price	In this paper 'price' should be read to include price and/or revenue, consistent with s 53M(1)(a) and s 52C of the Act
PwC	PricewaterhouseCoopers
RAB	Regulatory Asset Base

Term / Abbreviation	Definition
Refinements Discussion Paper	<i>2010-2015 Electricity Distribution Default Price-Quality Path Refinements – Discussion and Draft Decisions Paper</i> , 13 August 2010, which is available at <a href="http://www.comcom.govt.nz/2010-2015-default-price-quality-path/">http://www.comcom.govt.nz/2010-2015-default-price-quality-path/</a>
Regulatory period	The period over which a DPP applies. For the 2010-15 DPP this is the period 1 April 2010 to 31 March 2015
RIV	Regulatory Investment Value
ROI	Return on Investment
s 53ZD Notices	Information notices sent to EDBs on 16 March 2011 and 15 June 2011 under s 53ZD of the Act
SAIDI	System Average Interruption Duration Index, which is a measure of the average time for which supply is interrupted. A SAIDI reliability limit forms part of the quality standards that apply under the 2010-15 DPP
SAIFI	System Average Interruption Frequency Index, which is a measure of how often consumers are affected by interruptions. A SAIFI reliability limit forms part of the quality standards that apply under the 2010-15 DPP
Specification of price IM	Input methodology on the specification of price contained in Part 3 of the IM Determination
Starting price adjustment	Is the difference between the maximum price that an EDB is permitted to charge at the start of the new regulatory period and the price that applied at the end of the preceding regulatory period
Starting prices	In this paper ‘starting prices’ refers to the prices set by the Commission in accordance with s 53P(3)(b) of the Act, unless stated otherwise
Statistics New Zealand	Statistics New Zealand is New Zealand's national statistical office. It administers the Statistics Act 1975, and is the country's major source of official statistics
The Lines Company	The Lines Company Limited
Thresholds Regime	The now repealed Part 4A targeted control regime applying to electricity distribution businesses prior to 1 April 2009, and for which the thresholds on 31 March 2009 are deemed to be s 52P determinations for the period 1 April 2009 to 31 March 2010 for EDBs
Top Energy	Top Energy Limited
Unison	Unison Networks Limited
Update Paper	<i>2010-15 Default Price-Quality Path – Starting Price Adjustments and Other Amendments – Update Paper</i> , 11 April 2011, which is available at <a href="http://www.comcom.govt.nz/2010-2015-default-price-quality-path/">http://www.comcom.govt.nz/2010-2015-default-price-quality-path/</a>
Vector	Vector Limited

Term / Abbreviation	Definition
WACC	Weighted Average Cost of Capital. The WACC applying to the 2010-15 DPP is the 75th percentile estimate of vanilla WACC of 8.77% as published in Commerce Commission, <i>Determination of the Cost of Capital for Services Regulated under Part 4 of the Commerce Act 1986, Pursuant to Decisions 709, 710, 711, 712 and 713, Decision number 718</i> , 3 March 2011, which is available at <a href="http://www.comcom.govt.nz/cost-of-capital/">http://www.comcom.govt.nz/cost-of-capital/</a>
Wellington Electricity	Wellington Electricity Lines Limited
X factor	The efficiency/productivity factor 'X' under a CPI-X price or revenue path

## EXECUTIVE SUMMARY

- X.1 This paper sets out and explains the Commerce Commission's draft decision to reset the default price-quality path (DPP) that applies to electricity distribution businesses (EDBs) for the 2010 to 2015 regulatory period. If we implement this draft decision, the new price levels will take effect from 1 April 2012.
- X.2 This step in the consultation process provides EDBs, their consumers and other stakeholders with an opportunity to provide feedback on our proposals. Submissions on our draft decision must be received by the Commission no later than 11 am Wednesday, 24 August 2011, and the deadline for cross-submissions is 11 am Monday, 5 September 2011.

### **Our Rationale for Resetting the 2010-15 DPP**

- X.3 The Commission is allowed to reset the 2010-15 DPP if the application of the 'input methodologies' (IMs) determined for EDBs in December 2010 would have resulted in a materially different path for EDBs being set to that set on 30 November 2009. We have until 20 October 2011 to exercise this power.
- X.4 The 'materially different' test is met. Among other reasons, IMs exclude GST effects from the definition of the Consumer Price Index (CPI), whereas the existing path allows prices to move in line with the full change in the CPI. The recent rise in GST therefore means that, under the existing path, allowable prices will be approximately 2% higher in each year than they would have been if IMs had applied. We have to remove this GST effect because EDBs can claim direct GST costs back, and consumers should not pay for costs that suppliers do not in fact incur.
- X.5 Our projections also suggest that leaving the 2010-15 DPP unchanged would allow some EDBs to earn significant excessive profits, while other EDBs would be unable to earn a normal return. This would not be consistent with promoting the Part 4 Purpose of the Commerce Act 1986 (the Act).

### ***How our draft decision promotes the Part 4 Purpose***

- X.6 Our draft decision is to reset prices for 2012/13 on the basis of the current and projected profitability of each supplier. This is consistent with promoting outcomes consistent with those produced in workably competitive markets and will promote the long-term benefit of consumers.
- X.7 Consistent with the requirements of the Act, we consider that resetting each EDB's price path would:
- increase the likelihood that EDBs will have appropriate incentives to invest (i.e. s 52A(1)(a))
  - reduce the likelihood that any individual EDB will be able to extract excessive profits (i.e. s 52A(1)(d)).
- X.8 In reaching our draft decision, we also recognise that the particular circumstances of individual EDBs may be such that an alternative price-quality path would better meet their needs (as envisaged by s 53K).

***The scope of our draft decision***

- X.9 If implemented, our draft decision to reset the 2010-15 DPP would involve:
- resetting maximum allowable prices in 2012/13 such that each EDB is projected to earn a normal return between 2012/13 and 2014/15
  - resetting the maximum allowable rate of change in prices applying to *all* EDBs to reflect the new definition of the CPI specified under IMs
  - resetting the maximum allowable rate of change in prices applying to *specific* EDBs where this is desirable to minimise potential price shocks to consumers
  - making other amendments to the 2010-15 DPP determination to ensure it is consistent with IMs.
- X.10 Our draft decision does not affect quality standards or the industry-wide X factor (which is 0% per annum). In addition, due to the effects of the Canterbury earthquakes, we do not propose to reset prices for Orion New Zealand Limited (Orion) which operates in that area. We are working with Orion to develop an appropriate regulatory approach for them for the current regulatory period.

**Draft Decision to Reset the Price Path**

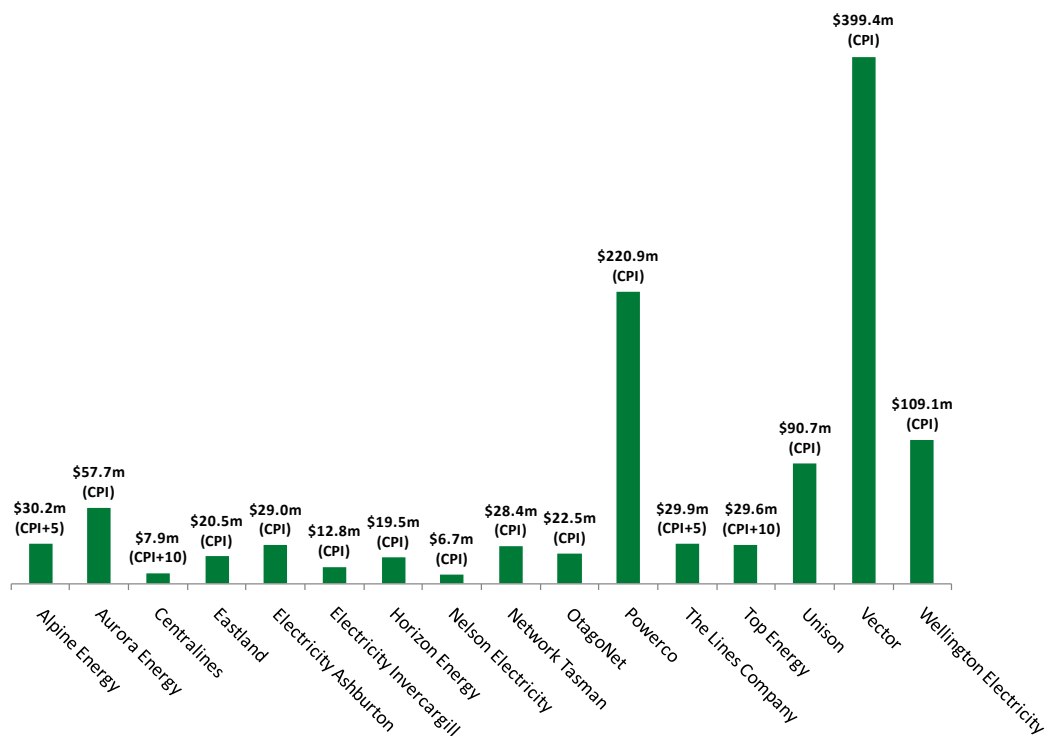
- X.11 Our draft decision specifies the maximum net revenue that each EDB would be permitted to earn from the supply of regulated electricity lines services in 2012/13. If the draft decision is implemented, each EDB will need to calculate the maximum prices that it can charge in 2012/13 from the amount of revenue that we allow.<sup>1</sup>
- X.12 The figure below shows the maximum amount of revenue that each EDB would be permitted to recover in 2012/13, if we implemented our draft decision, as well as the rate of change in prices that each EDB would be permitted over the final two years of the regulatory period.<sup>2</sup>

---

<sup>1</sup> Our draft determination therefore specifies maximum allowable revenue (net of pass-through costs), as well as the formula that each EDB must use to determine the maximum prices that it is allowed to charge in 2012/13.

<sup>2</sup> Allowable revenue is expressed in terms of Net Line Charge Revenue *less* Transmission Charges *less* Avoided Transmission Charges.

**Figure X.1 Maximum allowable revenue in 2012/13 and annual percentage rate of change (%) 2013/14-2014/15**



Source: Commission calculations.

- X.13 These are the amounts of net revenue that each EDB requires in 2012/13 in order to be projected to earn a normal return over the remaining three years of the regulatory period. The amounts specified for 2012/13 range from \$6.7m for Nelson Electricity to \$399.4m for Vector.
- X.14 In Chapter 4 we discuss the reasons why we consider it appropriate to set rates of change for certain EDBs different to the industry default of CPI-0%. In summary, we consider that the alternative rates of change are desirable because they will minimise potential price shocks to consumers in 2012/13, while being equivalent in net present value (NPV) terms to a price path that applies the industry-wide X factor.
- X.15 Our draft decision only affects the weighted average of prices charged by EDBs and does not specify the prices charged to any particular consumer (or group of consumers). The new prices charged to individual consumers will be determined by the pricing methodologies that the EDB applies when it determines prices and retail pricing (where the EDB does not directly bill its customers).

## **Our Approach for Resetting the Price Path**

- X.16 While the model we used to assess profitability is conceptually very similar to the model proposed in the Update Paper, we have refined our approach in a number of respects. In each case the effect has been to improve the accuracy of the modelling. We explain in this paper:
- how, by modelling the effect of EDBs receiving revenues throughout the year (instead of at year-end), we now calculate present values more accurately than before (paragraph 2.29)
  - how, by adapting our projections to individual EDBs and using independent reputable forecasts, we have minimised the likelihood that suppliers will earn excessive profits or earn returns that are inadequate to incentivise investment (paragraphs 2.39-2.42)
  - how, by applying a reasonableness check, we can demonstrate that our projections of operating expenditure will share with consumers the benefits of past efficiency gains but are otherwise not materially lower than EDBs have required in the past (paragraphs 3.25-3.26)
  - how, by relying on each supplier's own forecasts, we help to ensure that our projections of capital expenditure are not materially below the level of expenditure that EDBs are expected to require in future (paragraphs 3.29-3.32)
  - why, as a result of the recent fall in the risk-free rate and debt premium, we consider that the real rate of return that we have allowed each EDB is already significantly above the rate of return currently required to incentivise investment (paragraphs 2.43-2.48).
- X.17 In reaching our draft decision, we have not applied a margin on the WACC. This is because EDBs have the option of proposing an alternative path. We therefore consider that it would be unwarranted, when setting a DPP, to place significant weight on the costs to consumers of setting it too low but ignore the costs to consumers of setting it too high (paragraphs 2.32-2.38). In addition, we do not consider it would be cost-effective for consumers or fair to some suppliers to apply a margin or band (paragraphs 2.49-2.52).
- X.18 We also explain in Chapter 2 why we have decided not to apply the provision for claw-back. Where the analysis indicates that an EDB has been earning above the rate of return which we have determined as allowable, we have not proposed lowering prices in future. Likewise, an EDB that has not been able to recover its costs between 2010/11 and 2012/13 will not be able to recover these costs in the remaining three years of the 2010-15 DPP. However, any EDB for which this is the case has the option of applying for an alternative path to better meet its particular circumstances (paragraphs 2.53-2.59).

## **Other Amendments to the 2010-15 DPP**

- X.19 A number of amendments are proposed to the 2010-15 DPP to make it consistent with the IMs for EDBs determined in December 2010. The changes include an amendment to the definition of CPI which affects the annual rate of change at which an EDB's maximum allowed prices can increase. Other changes are also proposed to implement particular processes or requirements provided for in the IMs relevant to DPPs.

## CHAPTER 1: INTRODUCTION

### Purpose

- 1.1 This paper sets out draft decisions that are necessary following the publication of the Commission's IMs for EDBs in December 2010. The paper includes:
- draft decisions for resetting starting prices for EDBs for the 2010-15 DPP
  - the approach used by the Commission in reaching its draft decisions for resetting starting prices, including the economic and legal reasons for adopting this approach
  - draft decisions on other amendments to the 2010-15 DPP determination, including an amendment to the definition of CPI which affects the annual rate at which an EDB's maximum allowed prices can increase.
- 1.2 Published alongside this paper is:
- our model,<sup>3</sup> cost and revenue projection data and calculations,<sup>4</sup> and supplier information used to inform draft decisions for resetting starting prices<sup>5</sup>
  - a consolidated 2010-15 DPP determination that is marked-up to show how draft decisions would be implemented.
- 1.3 We invite submissions from interested parties on this paper and accompanying material. These submissions will inform our decisions on matters set out in this paper. Deadlines for making submissions are included in Table 1.1 below.

**Table 1.1 Project Timeframes**

Key Step	Deadline
Consultation on the Draft Determination & Draft Decisions Paper <ul style="list-style-type: none"> <li>▪ Submissions due</li> <li>▪ Cross-submissions due</li> </ul>	24 August 2011 5 September 2011
Publish Determination, summary of Determination & Decisions Paper	By 20 October 2011 <sup>6</sup>

- 1.4 A discussion paper that sets out our views on setting starting prices for the first DPP applying to gas pipeline businesses will be published shortly.

<sup>3</sup> *2010-15 Default Price-Quality Path: 2012/13 Price Reset Model – Draft Decisions*, July 2011, which is available at <http://www.comcom.govt.nz/2010-2015-default-price-quality-path/>.

<sup>4</sup> *2010-15 Default Price-Quality Path: Cost and Revenue Growth Projections for 2012/13 Price Reset – Draft Decisions*, July 2011, which is available at <http://www.comcom.govt.nz/2010-2015-default-price-quality-path/>.

<sup>5</sup> A copy of the s 53ZD information requests that was sent to EDBs and responses to these s53ZD information requests have been published alongside this paper. These are available at <http://www.comcom.govt.nz/2010-2015-default-price-quality-path/>.

<sup>6</sup> We are required to have determined any reset by this date and to publish any summary of the Determination as soon as practicable after that; refer Commerce Act 1986, ss 52P, 53P and 54K. Statutory references in this paper refer to the Commerce Act 1986, unless otherwise stated.

## Structure of this Paper

1.5 The structure of this paper is as follows:

- *Chapter 2: Proposal to Reset Starting Prices* sets out proposed reset starting prices for each EDB, our proposed approach for assessing each EDB's current and projected profitability, and analysis that supports our draft decisions for resetting starting prices
- *Chapter 3: Projected Costs & Revenues* sets out how we have derived the cost and revenue projections used in our proposed approach
- *Chapter 4: Alternative Rates of Change* sets out our draft decision to set alternative rates of change to minimise price shocks to consumers and our views on setting alternative rates of change to minimise financial hardship for an EDB
- *Chapter 5: Other Amendments to the 2010-15 DPP* sets out proposed changes to the 2010-15 DPP determination other than those directly related to resetting starting prices, including amending the definition of CPI which affects the annual rate at which an EDB's maximum permitted prices can increase.

## The Commission's Ability to Reset the 2010-15 DPP

1.6 Electricity distribution businesses, as suppliers of regulated electricity lines services, are subject to default/customised price-quality regulation.<sup>7</sup> In November 2009, we were required to issue a s 52P determination that sets out the requirements of the price-quality path that applies to each EDB between 2010 and 2015 (i.e. the '2010-15 DPP').<sup>8</sup>

1.7 This section explains:

- how we determined, in November 2009, the prices that were to apply at the start of the 2010-15 DPP (paragraphs 1.8-1.10)
- how we determined, in November 2009, the other main parts of the 2010-15 DPP (paragraphs 1.11-1.13)
- why we can reset the 2010-15 DPP under s 54K(3) (paragraphs 1.14-1.16) because we would have determined a materially different path had the IMs applied in November 2009 (paragraphs 1.18-1.32)
- why we consider it is appropriate to reset the 2010-15 DPP in light of the Part 4 Purpose (paragraphs 1.33-1.35)
- how we propose to limit the scope of the reset of the 2010-15 DPP (paragraphs 1.36-1.38).

---

<sup>7</sup> Commerce Act 1986, s 54G. Some EDBs are, however, exempt from this form of regulation on the basis of meeting certain consumer-ownership criteria as set in s 54D.

<sup>8</sup> We were required to reset the first DPP for the first regulatory period (i.e. 1 April 2010 to 31 March 2015) before 1 April 2010.<sup>8</sup> Refer also: Commerce Act 1986, ss 52P, 53O and 53P.

***How we determined starting prices for the 2010-15 DPP***

- 1.8 The maximum prices that are allowed at the start of the regulatory period for a DPP (i.e. the ‘starting prices’) are one of the key requirements to be set out in a s 52P determination.
- 1.9 A number of requirements or constraints apply in respect of the process that the Commission must follow when determining the maximum starting prices applying to each EDB. In particular, the starting prices for each supplier must be either:
- the prices that applied at the end of the previous regulatory period (i.e. s 53P(3)(a)); or
  - prices based on an assessment of the current and projected profitability of that supplier (i.e. s 53P(3)(b)).<sup>9</sup>
- 1.10 Starting prices for the 2010-15 DPP were initially determined in November 2009 under s 53P(3)(a) as those ‘prices that applied at the end of the previous regulatory period’. These starting prices took effect from 1 April 2010.

***How we determined the other main parts of the 2010-15 DPP***

- 1.11 The other key parts of a s 52P determination for a DPP are the restriction on the annual rate at which EDBs’ maximum allowed prices can increase and the minimum service quality standards that must be met.
- 1.12 The allowable rate of change is expressed in the form of ‘CPI-X’. This means that prices are restricted from increasing each year by more than the CPI less a certain number of percentage points (termed an ‘X factor’). In November 2009, we set the X factor of 0% for all suppliers based on the long-run productivity improvement rate achieved by EDBs in New Zealand relative to suppliers in the wider economy. At that time, we did not consider that alternative rates of change should apply to any individual EDB.
- 1.13 In November 2009, we set quality standards on the basis that there should be no material deterioration in reliability performance.<sup>10</sup> These quality standards are important because, once we have determined maximum allowable prices, EDBs have an incentive to increase their profitability by reducing their costs over the regulatory period. The minimum service quality requirements ensure that costs are not reduced by cutting the level of service quality that consumers receive. The quality standards are therefore important for promoting s 52A(1)(b).

---

<sup>9</sup> Note that under s 53P the Commission is required to reset starting prices, not specify the size of starting price adjustments. A ‘starting price adjustment’ occurs when the maximum price that a supplier is allowed to charge at the start of the new regulatory period differs from the price that applied at the end of the preceding regulatory period.

<sup>10</sup> In light of this, the Commission has specified quality standards using reliability limits based on the historical averages of SAIDI and SAIFI reliability data for the period 2005-2009.

### ***Why we can reset the 2010-15 DPP***

1.14 Section 54K(3) sets out circumstances in which the 2010-15 DPP can be reset.<sup>11</sup> It provides that:

If an input methodology is published after 1 April 2010 and if, had that methodology applied at the time the default price-quality paths were reset as required by subsection (1), it would have resulted in a materially different path being set, then the Commission may reset the default price-quality paths in accordance with section 53P and may apply claw-back, despite section 53ZB(1).<sup>12</sup>

1.15 Our stated preference in November 2009 was to determine starting prices for the 2010-15 DPP under s 53P(3)(b) – i.e. based on the current and projected profitability of each supplier. However, we recognised that the IMs (which were not to be determined until after 1 April 2010) would be material to assessing an EDB's current and projected profitability under s 53P(3)(b).<sup>13</sup>

1.16 We therefore decided in November 2009 to determine the starting prices for the 2010-15 DPP under s 53P(3)(a), in anticipation of the potential need to reset the 2010-15 DPP in 2011 under s 54K(3) once the IMs had been determined. At that time we consulted on the proposal to reset starting prices using s 53P(3)(b) following the publication of the IMs. We received a number of submissions that supported that proposal.<sup>14</sup>

---

<sup>11</sup> The IMs applying to EDBs are set out in the *Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2010*. This can be found at <http://www.comcom.govt.nz/input-methodologies-for-electricity-distribution-services>.

<sup>12</sup> Commerce Act 1986, s 54K(3).

<sup>13</sup> As recorded in various Commission documents including *Reset of Default Price-Quality Path for Electricity Distribution Businesses Discussion Paper*, 19 June 2009; *Initial Reset of Default Price-Quality Path for Electricity Distribution Businesses Draft Decisions Paper*, 8 September 2009; and *Initial Reset of Default Price-Quality Path for Electricity Distribution Businesses Decisions Paper*, 30 November 2009.

<sup>14</sup> This proposal was set out in Commerce Commission, *Initial Reset of the Default Price-Quality Path for Electricity Distribution Businesses Decisions Paper*, 30 November 2009, paragraphs 4.48 to 4.52. Almost all submitters supported the approach taken by the Commission. See for example: ENA, *Submission on the Process & Issues Paper on the DPP Reset*, 15 April 2009, paragraphs 6 and 13; PwC, *Submission on Default/Customised Price-Quality Regulation Reset of Default Price-Quality Path for Electricity Distribution Businesses, Process and Issues Paper*, 15 April 2009, paragraph 17; Vector, *Submission on Reset of Default Price-quality Path for Electricity Distribution Businesses, Process and Issues Paper*, 15 April 2009, paragraph 21; ENA, *Submission on the Reset of the DPP for Electricity Distribution Business*, 17 July 2009, paragraph 45; Vector, *Submission to Commerce Commission on Electricity Default Price-Quality Path Discussion Paper*, 17 July 2009, paragraphs 3(a) and 74; ENA, *Submission on the Reset of the DPP for Electricity Distribution Businesses Draft Decisions Paper*, 12 October 2009, paragraph 25; PwC, *Submission on the Initial Reset of the Default Price-Quality Path for Electricity Distribution Businesses Draft Decisions Paper*, 12 October 2009, paragraph 19; and Vector, *Submission on the Initial Reset of the Default Price-Quality Path for Electricity Distribution Businesses: Draft Decisions Paper*, 9 October 2009, paragraph 30.

1.17 We now have until 20 October 2011 to exercise our powers under s 54K(3) if we consider that the 2010-15 DPP should be reset.<sup>15</sup>

***Why a materially different path would have been set if input methodologies had applied***

1.18 Our view is that a materially different path would have been set if IMs had applied at the time we determined the 2010-15 DPP.

1.19 As indicated in the Update Paper, we considered that the specification of price IM of itself would have resulted in our determining a materially different path.<sup>16</sup> We set out below why this is the case. We also explain the effect that IMs would have had on our choice between s 53P(3)(a) and (b).

Effect of the specification of price input methodology on the definition of CPI

1.20 The specification of price IM sets out the way in which a price path must be defined for EDBs. This IM applies to DPPs and CPPs. The IM provides that:

- prices are those posted in nominal terms and are GST exclusive
- allowable notional revenue is indexed using relevant CPIs and an X factor.

1.21 The reason we consider that prices should be expressed on a GST exclusive basis is that EDBs claim back their direct GST costs. This is reflected in the fact that EDBs set their prices on a GST exclusive basis.

1.22 The current definition of CPI in the 2010-15 DPP determination does not exclude the impact of changes in GST. As a result, the CPI will increase whenever GST increases (similarly, the CPI will decrease whenever GST decreases), and consumers will pay different prices even though the GST change has no impact on an EDB's costs.

1.23 Had the specification of price IM applied at the time we determined the 2010-15 DPP, we would have determined a materially different path. This is because the specification of price IM would exclude the impact of the Government's decision on 1 October 2010 to increase GST from 12.5% to 15%. Removing the GST component of the change in CPI will mean that EDBs' allowed prices are around 2% lower from 2012/13 onward.<sup>17</sup> This amount, even in a single year, is material.<sup>18</sup> Resetting the 2010-15 DPP will therefore help to ensure that consumers do not pay for costs that suppliers did not in fact incur.

---

<sup>15</sup> Section 54K(4) provides that the Commission may exercise its powers under s 54K(3) within nine months of the publication of IMs. A summary of the IMs was published in the *New Zealand Gazette* in accordance with s 52W on 20 January 2011.

<sup>16</sup> Commerce Commission, *2010-15 Default Price-Quality Path, Starting Price Adjustments and Other Amendments, Update Paper*, April 2011, paragraph 1.13.

<sup>17</sup> Because the price path assessment formula uses CPI values that are lagged by two years, the change in GST will not affect allowable prices until 2012. Refer to: *Commerce Act (Electricity Distribution Default Price-Quality Path) Determination 2010*, including all amendments to 7 April 2011, clause 8.4.

<sup>18</sup> We gave consideration to what is 'material' as part of the IM process when setting the materiality threshold for when a CPP may be reconsidered as a result of a catastrophic event. We considered that a change of 1% aggregated allowable notional revenue was material. Refer to: Commerce Commission, *Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2010*, 22 December 2010, clause 5.6.1.

### Assessing current and future profitability using input methodologies

- 1.24 In addition to the impact of the specification of price IM, our view is that, relative to the 2010-15 DPP, a materially different path would have been determined if IMs had applied at the time the 2010-15 DPP was determined, because the availability of IMs would have impacted on the choice between s 53P(3)(a) and (b).
- 1.25 Now that the relevant IMs have been determined, the Commission has the appropriate information to set the 2010-15 DPP on the basis of the current and projected profitability of an EDB under s 53P(3)(b). This is the approach we propose to use to reset the 2010-15 DPP under s 54K(3).
- 1.26 For the purposes of assessing the need to reset the 2010-15 DPP for a starting price reset, the current and projected profitability of an EDB depends on the extent to which the revenues under the DPP will cover its costs. The way that each EDB's costs are calculated for the assessment is constrained, either implicitly or explicitly, by the IMs that have been determined.<sup>19</sup>
- Firstly, suppliers require compensation for their past investments. The amount of compensation that they require is reflected in the information available immediately prior to the start of the regulatory period, which is determined explicitly by the IMs for information disclosure regulation. For example, the value of the regulatory asset base (RAB) at the start of the regulatory period is determined by the asset valuation IM for information disclosure regulation.<sup>20</sup>
  - Secondly, suppliers require compensation for future efficient capex and opex, and tax costs. Suppliers, however, do not recover all of these costs in the year in which they are incurred. Therefore it is necessary to calculate the effect of this expenditure on the level of regulatory depreciation and tax costs. The way these regulatory costs are specified in the IMs relating to information disclosure regulation implicitly constrains our assessment of current and projected profitability of each supplier under a DPP.
  - Thirdly, the return required by debt and equity holders must be calculated (i.e. the cost of capital). This is the risk-adjusted level of profit that a supplier in a workably competitive market would expect to earn. The way in which an

---

<sup>19</sup> We have released our model for consultation alongside this paper, *2010-15 Default Price-Quality Path: 2012/13 Price Reset Model – Draft Decisions*, July 2011. The model specifies the IMs that we have used for calculating supplier costs and projected profitability for 2012-15 (see spreadsheet tab “Specification” for the relevant IM determination clause references). We have applied IMs for both information disclosure and CPPs, as appropriate to the calculation. IMs for asset valuation, tax and cost allocation essentially apply the same methodology for both information disclosure and CPPs. However, when calculating a multi-year forecast, the approach set out in the IM for CPPs will be more relevant than the approach for information disclosure, which is designed to calculate a one-year historical value.

<sup>20</sup> Information disclosure requirements for EDBs are not yet consistent with IMs. (The Commission is currently in the process of consulting on its proposed approach to information disclosure under Part 4 of the Act.) Therefore for timing reasons, we issued notices under s 53ZD (s 53ZD Notices) requesting this information. In future this information will be readily available through information disclosure. The s 53ZD Notice issued in March 2011 listed the relevant clause references from the IM determination that were being applied. Refer to: Commerce Commission, *Notice to Supply Information to the Commerce Commission Section 53ZD to Commerce Act 1986*, 16 March 2011, which is available at <http://www.comcom.govt.nz/2010-2015-default-price-quality-path/>.

estimate of the cost of capital must be determined for a DPP is set out explicitly in the IMs for DPPs.<sup>21</sup>

- 1.27 Until the IMs were determined, the current and projected profitability of suppliers would likely have been assessed by defining a supplier's costs in a different way. For example, a supplier's profitability is usually assessed after taking into account tax costs. Prior to IMs being determined, under the previous Part 4A regulatory regime, EDBs were required to disclose information about tax costs on a tax payable basis; now, the IMs require that a modified deferred tax approach must be used.
- 1.28 As set out in the IM Reasons Paper, the treatment of taxation is likely to have a bearing on the revenue an EDB can expect to earn, and therefore is applicable to default/customised price-quality regulation. We therefore stated that the treatment of taxation was likely to be relevant to any decision regarding an appropriate starting price set under s 53P(3)(b).<sup>22</sup> We consider that applying the treatment of taxation IM, in combination with applying other IMs, would have resulted in us determining a materially different path than that currently specified in the 2010-15 DPP determination.
- 1.29 At the time we released the Update Paper, information disclosed consistent with IMs was yet to be supplied by EDBs. However, we had already issued information notices under s 53ZD of the Act (s 53ZD Notices).<sup>23</sup> All EDBs have now provided us with the information needed to take into account the impact of the IMs on our assessment of current and projected profitability. It is clear from the information that EDBs have provided that IMs have a material impact on the level of costs used to assess profitability.
- 1.30 Some submitters have argued that material differences only eventuate between the 2010-15 DPP and the path we would have set had IMs applied because we have adopted a particular approach to resetting starting prices.<sup>24</sup> However, as Unison Networks Limited (Unison) highlights in its submission, using the results of applying the IMs produces a material difference irrespective of the approach used for resetting starting prices.<sup>25</sup> The IM for estimating the WACC, for example, was not known at the time of setting the 2010-15 DPP and the level of WACC clearly has a material

---

<sup>21</sup> The IMs for information disclosure regulation only specify a way of determining a cost of capital relating to profitability in a single year, whereas a DPP spans a number of years.

<sup>22</sup> Commerce Commission, *Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper*, 22 December 2010, paragraph 5.1.10.

<sup>23</sup> The deadline for responding to these s 53ZD Notices was 27 May 2011.

<sup>24</sup> For example, Powerco, *2010-15 Default Price-Quality Path Starting Price Adjustments and Other Amendments Update Paper*, 16 May 2011 p. 6; and Vector, *Submission to Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustment and Other Amendments Update Paper*, 16 May 2011, p. 12.

<sup>25</sup> Unison state that "While there will be differences resulting from the framework itself (e.g., the band versus the point estimate framework) it is also clear that the application of IMs is determining material differences from the initial price path, not just the framework. For example, if the WACC is varied in the Commission's indicative model, then there is a difference in the starting price adjustment that would be calculated." Unison, *Submission on 2010 – 2015 Starting Price Adjustments Update Paper: Cross Submission*, 1 June 2011, p. 7.

effect on starting prices no matter how they are calculated. The Commission agrees with this view.

#### Supplier information for 2009/10 consistent with input methodologies

- 1.31 The current and future profitability of each EDB can only be assessed with adequate information about the EDB's costs at the start of the regulatory period. For future resets, this information will be available to the Commission through information disclosure.
- 1.32 Since IMs were only determined in December 2010, new information disclosure requirements that reflect the IMs are not yet in place and EDBs have not disclosed information consistent with those IMs. As a consequence, we issued s 53ZD Notices to EDBs to obtain relevant financial information consistent with the IMs.<sup>26</sup> EDBs have now applied the relevant IMs in providing the information we requested from them in the s 53ZD Notices and we have used the information in reaching our draft decisions.

#### ***Why we consider that it is appropriate to reset the 2010-15 DPP***

- 1.33 In light of the discussion set out above, we consider there are sufficient grounds to reset the 2010-15 DPP. However, our power under s 54K(3) is discretionary. We have therefore considered whether or not the 2010-15 DPP *should* be reset.
- 1.34 Leaving the price paths applying to each EDB unchanged would likely result in some EDBs earning significant excessive profits, whereas other EDBs would be likely to earn significantly less than the WACC. As discussed further below, EDBs in the latter group have the option of making a CPP proposal (paragraphs 1.46-1.59), which means that their consumers may eventually face higher prices *and* incur some of the costs of a CPP proposal. At the same time, the remaining consumers will also face higher prices than they would if prices were reset.
- 1.35 There would therefore be clear benefits associated with resetting the 2010-15 DPP. We explain in paragraphs 1.40-1.45 the specific reasons why we consider that our draft decision promotes the Part 4 Purpose. At this point in our process, we consider it appropriate to further the Part 4 Purpose by exercising our discretion to reset the 2010-15 DPP.

#### ***How we have limited the scope of the 2010-15 DPP reset***

- 1.36 If implemented, our draft decision involves resetting the 2010-15 DPP as follows:
- resetting maximum allowable prices in 2012/13 such that each EDB is projected to earn a normal return between 2012/13 and 2014/15
  - resetting the maximum allowable rate of change in prices applying to all EDBs to reflect the new definition of the CPI specified under IMs

---

<sup>26</sup> EDBs were asked to provide relevant financial information consistent with the IMs relating to cost allocation, asset valuation, treatment of taxation, and cost of capital. Copies of the s 53ZD Notices and responses from EDBs are available at <http://www.comcom.govt.nz/2010-2015-default-price-quality-path/>.

- resetting the maximum allowable rate of change in prices applying to specific EDBs where this is desirable to minimise potential price shocks to consumers
- making other amendments to the 2010-15 DPP determination to ensure it is consistent with IMs.

1.37 Our draft decision is limited to these matters only. It will not affect quality standards or the industry-wide X factor.

#### Proposal for Orion New Zealand Limited

1.38 Due to the effects of the Canterbury earthquakes, we have not calculated prices for Orion New Zealand Limited (Orion) based on their current and projected profitability. We are working with Orion to develop an appropriate regulatory approach for them for the current regulatory period.

### **Our Draft Decision has been Guided by the Part 4 Purpose**

1.39 The previous section provided the reasons why we consider that the 2010-15 DPP could and should be amended. This section explains in detail how our draft decision promotes the Part 4 Purpose.

#### *How our draft decision promotes the Part 4 Purpose*

- 1.40 Our draft decision is to reset prices for 2012/13 on the basis of the current and projected profitability of each EDB. This is consistent with promoting outcomes produced in workably competitive markets and will promote the long-term benefit of consumers.
- 1.41 In particular, we consider that resetting each EDB's price path would:
- increase the likelihood that EDBs will have appropriate incentives to invest (s 52A(1)(a)), whilst recognising that in some instances the investment needs of an individual EDB may be better provided for under a CPP
  - reduce the likelihood that any individual EDB will be able to extract excessive profits (s 52A(1)(d)).
- 1.42 In reaching our draft decision, we also recognise that the particular circumstances of individual EDBs may be such that a CPP would better meet their needs (as envisaged by s 53K).
- 1.43 Resetting the 2010-15 DPP as proposed will also ensure that EDBs have incentives to improve efficiency and provide services at a quality that reflects consumer demands (consistent with s 52A(1)(b)). As discussed in paragraph 1.13 above, this incentive effect arises because we have determined maximum allowable prices for the next three years, which means that each EDB can boost its profitability by reducing its costs over this period. These incentives should not compromise the quality of service that consumers receive because we have specified minimum standards for reliability performance.
- 1.44 The benefits of these efficiency gains will be shared with consumers once the 2010-15 DPP comes to an end (consistent with s 52A(1)(c)). This is because, to the extent that EDBs have achieved efficiencies between 2010 and 2015, these efficiency gains will be reflected in the costs that we are likely to refer to when we reset prices for the next regulatory period. It is appropriate that EDBs are able to retain the benefits of the efficiency gains they achieve until this time, because this is what provides them with the incentive to achieve those efficiency gains in the first place.

***Other relevant statutory considerations***

1.45 Appendix A sets out further discussion relevant to the DPP, including:

- the interpretation of the Part 4 Purpose (s 52A)
- statutory provisions relevant to resetting a DPP (s 53P)
- other considerations for resetting a DPP, including:
  - energy efficiency (s 54Q)
  - the impact of certain decisions made under the Electricity Act 1992 (s 54V).

***Individual suppliers have the option to seek an alternative price-quality path***

1.46 Though we are proposing to reset the 2010-15 DPP, individual EDBs will still have the opportunity to have an alternative price-quality path that better meets their particular circumstances. This is consistent with the purpose of default/customised price-quality regulation, as set out in s 53K, which is to provide:

a relatively low-cost way of setting price-quality paths for suppliers of regulated goods or services, while allowing the opportunity for individual regulated suppliers to have alternative price-quality paths that better meet their particular circumstances.

1.47 We are required to reset the 2010-15 DPP in accordance with s 53P. Section 53P allows us to set starting prices on the basis of the current and projected profitability of each supplier.<sup>27</sup> However, it also imposes limits on the extent to which we can take into account supplier-specific circumstances.

1.48 We note that the low-cost intent specified in s 53K, and the specific constraints imposed by s 53P, are consistent with promoting the Part 4 Purpose. In a country with a relatively large number of EDBs considering the population, it is unlikely to be in consumers' long-term interests to attempt to fully eliminate all excess returns. Rather, default/customised price-quality regulation limits the extent to which EDBs are able to extract excessive profits (s 52A(1)(d)), while also ensuring that they have incentives to innovate, invest (s 52A(1)(a)) and improve their efficiency (s 52A(1)(b)). It also ensures that EDBs share the benefit of those efficiency gains with consumers over time (s 52A(1)(c)).

1.49 An EDB can seek an alternative price-quality path by way of a CPP at any time after a DPP is set. A CPP is therefore an alternative option for an EDB that wishes to have the Commission consider its particular circumstances and tailor a path to those circumstances. This is in contrast to a DPP, which is determined in a way that does not fully reflect the supplier's particular circumstances given both the limits under s 53P and the less intensive information requirements compared to those that ordinarily apply to a CPP.

---

<sup>27</sup> Commerce Act 1986, s 53P(3)(b). The alternative to this is to set the price as that which applied at the end of the preceding regulatory period.

***Why it is important that we are able to set alternative paths for individual suppliers***

- 1.50 If our draft decision is implemented, the maximum prices each EDB will be able to charge will be based on their current and projected profitability. However, we recognise the importance of being able to set alternative paths that better meet the particular circumstances of individual suppliers.
- 1.51 It is reasonable to assume that EDBs that remain on the DPP believe it is broadly consistent with them having the ability to earn at least a normal return over the regulatory period. These EDBs may even expect to earn more than a normal return, because DPPs do not fully reflect each EDB's particular circumstances and customers do not have the right to seek a CPP if they think prices are too high.
- 1.52 We are able to set alternative paths if the particular circumstances of some EDBs mean that they do not expect to earn a normal return under the DPP.<sup>28</sup> The ability for EDBs to seek a CPP is important as it can provide a 'safety net' in the event that an EDB considers that the applicable DPP is not sufficient to provide for a normal return based on the EDB's future expenditure requirements.
- 1.53 A 'safety net' can be provided by a CPP in the following circumstances:
- the Commission sets DPPs for suppliers consistent with the legislative constraints
  - the DPP may be unsuitable for a supplier due to a number of business-specific factors, such as a step change in investment
  - the supplier seeks a CPP that better meets their particular circumstances—this price-quality path will be based on the forward-looking information the supplier provides as part of its CPP application. Among other things, the IMs for CPPs specify the information that a supplier must provide in its application, the criteria the Commission will use to assess a proposal, and the way that allowable revenue must be determined.<sup>29</sup>
- 1.54 Because we can set an alternative customised path for individual suppliers, no EDB subject to default/customised price-quality regulation should expect to earn significantly less than a normal rate of return. The CPP process allows suppliers to seek approval from the Commission for expenditure before an investment is made.

***The process for setting an alternative path is cost-effective***

- 1.55 The perceived costs and risks associated with the CPP process was a central theme in the submissions on the Update Paper. In particular, submitters considered that the approach for resetting starting prices should provide an allowance for these costs and risks to reduce the probability that the Commission sets a 'sub-optimal DPP' that necessitates suppliers to seeking CPPs to earn a normal return. This matter is addressed in Chapter 2.

---

<sup>28</sup> The Commission stated in its IM Reasons Paper that if an EDB expects to receive a lower than normal return over the current regulatory period due to supplier specific circumstances that it can apply for a CPP (refer paragraph 2.78).

<sup>29</sup> An IM may also be varied with the Commission's agreement. Commerce Act 1986, 53V(2)(c).

- 1.56 We are mindful of the need to implement cost-effective regulation, while also promoting the Part 4 Purpose. We are, and have been, very conscious of the potential costs involved with a CPP. For that reason we developed IMs for CPPs which sought to implement a cost-effective approach to preparing, verifying and evaluating CPP proposals.<sup>30</sup>
- 1.57 We also determined under the IMs which costs associated with making a CPP proposal can be recovered by EDBs from consumers.<sup>31</sup> As set out in the IM Reasons Paper, we consider that the main incremental cost associated with making a proposal for a well-governed and well-managed EDB is likely to be the cost associated with auditing and verifying the proposal. This is because an EDB would be expected to already have prepared for its Board most, if not all, of the information necessary to prepare a CPP proposal.<sup>32</sup>
- 1.58 During the IM consultation process, submitters considered that the additional costs associated with strengthening institutional processes and preparing a CPP proposal should be fully recoverable. However, we considered that determining these incremental costs would be highly subjective and difficult to verify.
- 1.59 It would be possible to reduce the probability that an EDB would need to apply for a CPP by adding a margin to the WACC, but this would require consumers to pay more for lines services. This trade off is considered in more detail in Chapter 2.

## Submissions

- 1.60 We invite submissions on this paper. These submissions should be received by the Commission no later than 11 am Wednesday, 24 August 2011. We also invite cross-submissions on matters raised in submissions to this paper. The purpose of cross-submissions is to ensure that we are aware of points of agreement or disagreement on matters raised by other submitters. We therefore request that parties focus cross-submissions in that way. Cross-submissions should be received by the Commission no later than 11 am Monday, 5 September 2011. All submissions should be supported by documentation and evidence, where relevant.
- 1.61 To foster an informed and transparent process, we intend to publish all submissions and cross-submissions on our website. We therefore request that submitters provide electronic copies of their submissions and in an accessible form (i.e. the electronic copies are ‘unlocked’ and text can be easily transferred). If the submission contains

---

<sup>30</sup> For further discussion on the particular measures we have taken to do this, refer to Commerce Commission, *Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper*, 22 December 2010, paragraph 9.2.5.

<sup>31</sup> These costs include:

- the CPP application fee
- the fee payable to the Commission for the purpose of covering the Commission’s assessment costs
- all of the external costs associated with audit and verification requirements that are included in the IMs for CPP requirements, including those associated with reports from an independent engineer.

<sup>32</sup> Commerce Commission, *Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper*, 22 December 2010, pp. 630-631.

confidential information or if the submitter wishes that the published version be 'locked', an additional document labelled "public version" should be provided. Submissions should be sent to:

[regulation.branch@comcom.govt.nz](mailto:regulation.branch@comcom.govt.nz);

or

Matthew Lewer  
Regulation Branch  
Commerce Commission  
P.O. Box 2351  
Wellington

### *Confidentiality*

- 1.62 We discourage requests for non-disclosure of submissions, in whole or in part, as it is desirable to test all information in a fully public way. We are unlikely to agree to any requests that submissions in their entirety remain confidential. However, we recognise that there will be cases where interested parties making submissions may wish to provide confidential information to the Commission.
- 1.63 If it is necessary to include such material in a submission the information should be clearly marked and preferably included in an appendix to the submission. Interested parties should provide the Commission with both confidential and public versions of their submissions. The responsibility for ensuring that confidential information is not included in a public version of a submission rests entirely with the party making the submission.
- 1.64 Parties can request that the Commission makes orders under s 100 in respect of information that should not be made public. Any request for a s 100 order must be made when the relevant information is supplied to the Commission and must identify the reasons why the relevant information should not be made public. We can provide further information on s 100 orders if requested by parties. A key benefit of such orders is to enable confidential information to be shared with specified parties on a restricted basis for the purpose of making submissions. Any s 100 order will apply for a limited time only as specified in the order. Once an order expires, the Commission will follow its usual process in response to any request for information under the Official Information Act 1982.

## CHAPTER 2: PROPOSAL TO RESET STARTING PRICES

### Summary

- 2.1 As noted in Chapter 1, we have based our draft decision to reset prices in 2012/13 on the current and projected profitability of each EDB. This chapter provides an overview of:
- our draft decisions (paragraphs 2.4-2.14)
  - our analysis of the effect of our draft decisions across the industry (paragraphs 2.21-2.25)
  - the approach we have used to assess the current and projected profitability of each EDB (paragraphs 2.26-2.59), including the treatment of uncertainty and claw-back
  - a summary of the reasons why we consider that our draft decisions are consistent with the Part 4 Purpose (paragraphs 2.60-2.61).
- 2.2 Further detail on our approach can be found in later chapters.
- 2.3 We have also released alongside this paper our model that supports our draft decisions.<sup>33</sup> A high-level specification of this model is set out in Appendix B.

### Draft Decision to Reset Prices in 2012/13

- 2.4 This section provides an overview of our draft decision, which specifies the net revenue that each EDB would be allowed to earn from the supply of regulated electricity lines services in 2012/13.
- 2.5 This section also explains why we have not specified maximum allowable prices directly, and explains how suppliers will be able to calculate these prices for themselves. Finally, it provides an indication of the size of net revenue adjustments in 2012/13 that are implied by our draft decisions.

### *Maximum allowable revenue in 2012/13*

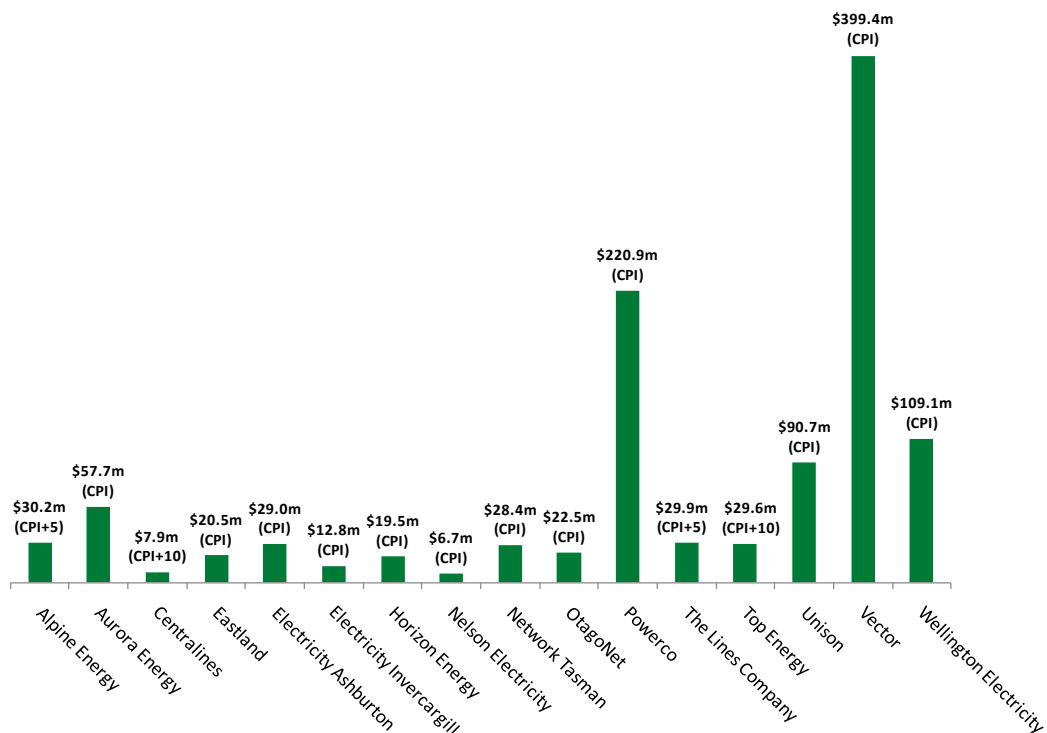
- 2.6 The figure below shows the amount of revenue that each EDB would be allowed to recover in 2012/13, if we implemented our draft decision, as well as the rate of change in prices that would be allowed between 2012/13 and 2014/15.<sup>34</sup>

---

<sup>33</sup> *2010-15 Default Price-Quality Path: 2012/13 Price Reset Model – Draft Decisions*, July 2011, which is available at <http://www.comcom.govt.nz/2010-2015-default-price-quality-path/>.

<sup>34</sup> Allowable revenue is expressed in terms of Net Line Charge Revenue *less* Transmission Charges *less* Avoided Transmission Charges.

**Figure 2.1 Maximum allowable revenue in 2012/13 and annual percentage rate of change (%) 2013/14-2014/15**



Source: Commission calculations.

- 2.7 These are the amounts that each EDB requires in 2012/13 in order to be projected to earn a normal return over the remaining three years of the regulatory period. The amounts allowed in 2012/13 range from \$6.7m for Nelson Electricity to \$399.4m for Vector.<sup>35</sup>
- 2.8 We discuss the reasons why we have not applied the same CPI-0% rate of change to all EDBs in Chapter 4. In summary, while the alternative price paths are equivalent in NPV terms, we consider that alternative rates of change are desirable because they will minimise the potential for price shocks to consumers in 2012/13.

### ***Maximum allowable prices in 2012/13***

- 2.9 If the draft decision is implemented, each EDB will need to calculate the maximum prices that it is allowed to charge in 2012/13 from the amount of revenue that we allow.
- 2.10 We cannot determine maximum allowable prices directly because each EDB is also allowed to recover the value of transmission and avoided transmission charges. These amounts must be estimated by each EDB when they post new prices. However, these amounts are not known to us now and they will not be known to us in October when we will make our decision on the reset either. Our draft determination therefore

<sup>35</sup> As noted in paragraph 1.38, the Commission has not applied the approach to Orion.

- specifies maximum allowable revenue net of these costs, as well as the formula that each EDB must use to determine the maximum prices that it is allowed to charge.<sup>36</sup>
- 2.11 The maximum allowable prices that each EDB will be allowed to charge will depend not just on the maximum revenue they are allowed to recover, but also on the quantity term used to assess compliance. Consistent with the current 2010-15 DPP, our draft determination specifies that we will assess compliance using a quantity term that is lagged by two years. The reason we have used lagged quantities is to ensure that EDBs know the quantities we will use to assess compliance before they post new prices. This treatment helps to prevent inadvertent breaches of the price path.<sup>37</sup>
- 2.12 However, the use of a quantity term that is lagged by two years will potentially cause EDBs difficulty in calculating maximum allowable prices. In the absence of this lag, EDBs would be able to derive their allowed prices by dividing allowable revenue in 2012/13 by the quantities expected in that year. Doing so, however, would mean that the prices they post would not be consistent with the (lagged) quantities we use to assess compliance. Where quantities are growing, this would result in EDBs posting prices that are lower than required.
- 2.13 To address this issue, we have estimated the growth in quantities that will occur between the quantities observed in 2009/10 and the quantities expected in 2012/13. This will allow EDBs to deflate allowable revenue in 2012/13 and appropriately calculate allowable prices for that year. We have estimated these growth rates on the basis of the real revenue growth projections for each EDB for 2011/12 and 2012/13, which are explained in Chapter 3.<sup>38</sup> To the extent that EDBs are able to grow volumes faster than these projections, they will earn higher profits (and vice-versa). We consider this approach to be consistent with the Part 4 Purpose
- 2.14 Further detail on the proposed compliance formula is set out in Appendix E.

***Indicative size of price adjustments implied in 2012/13 by draft decisions***

- 2.15 We have modelled the likely size of adjustments to net revenue in 2012/13 that are implied by our draft decisions. The effect on line charges overall will be more muted, because line charges will also reflect the effect of EDB's seeking to recover pass-through costs (such as transmission charges). The effect on average line charges for each EDB will therefore be broadly two-thirds of the effect on net revenue shown below.

---

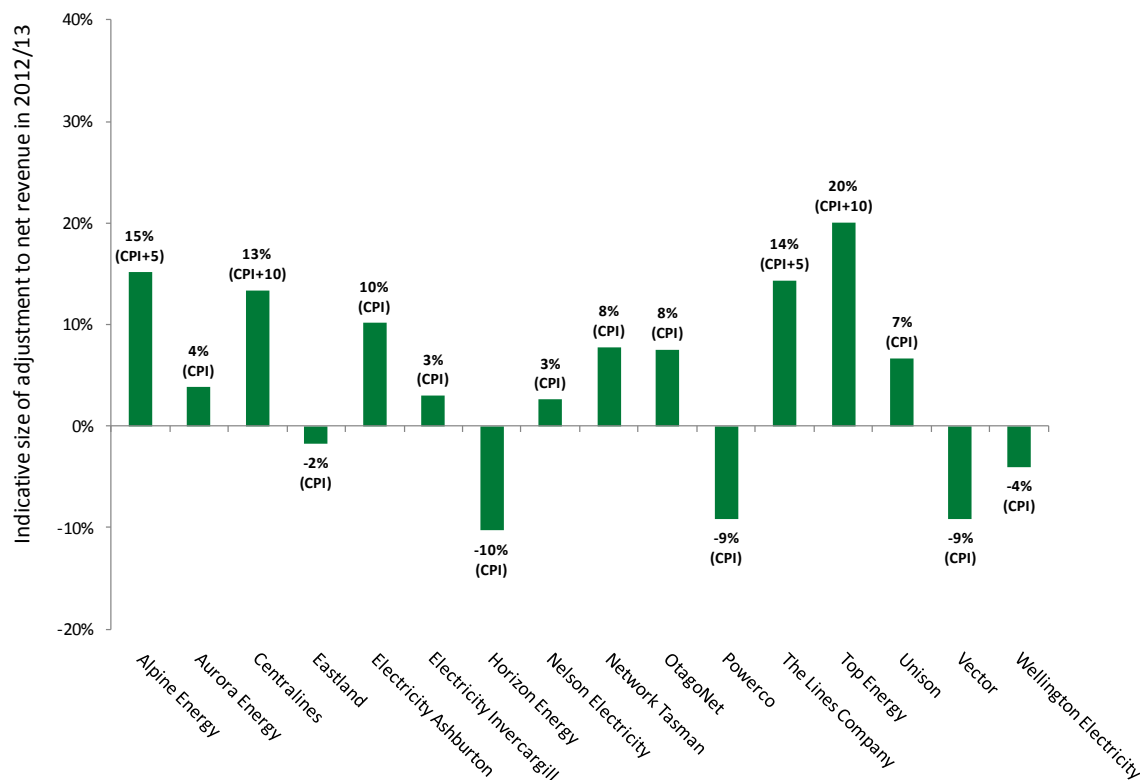
<sup>36</sup> The prices that each EDB would be allowed to charge are constrained by a weighted average price cap. This means that the cap constrains the weighted average of prices, rather than the price charged to any individual consumer (or group of consumers). It also means that EDBs have an incentive to grow their businesses, because higher volumes would translate into higher profits.

<sup>37</sup> For further discussion, refer to Commerce Commission, *Initial Reset of the Default Price-Quality Path for Electricity Distribution Businesses Decisions Paper*, 30 November 2009, pp. 25-26. The price path assessment formula is set out in clause 8.4 of the 2010-15 DPP determination.

<sup>38</sup> A number of submitters requested that we clarify the way in which our modelling is influenced by the initial revenue conditions. We note that we do not rely on 2009/10 revenue data to calculate 2009/10 ROI. 2009/10 revenue data therefore does not affect our modelling.

2.16 The chart below provides an indication of the likely size of the effect that our draft decisions would have on prices in 2012/13. The results that are shown include the effect of applying alternative rates of change to certain EDBs. After taking into account these alternative rates of change, the implied adjustments range from -10% for Horizon Energy to +20% for Top Energy.<sup>39</sup>

**Figure 2.2 Indicative adjustment to maximum allowable net revenue in 2012/13 and annual percentage rate of change (%) 2013/14-2014/15**



Source: Commission calculations.

- 2.17 We stress that these adjustments are indicative only and are unlikely to represent the actual changes to individual charges or to retail prices.
- 2.18 One reason that these adjustments are approximations only is that we have assumed that each EDB always prices in line with maximum allowable prices but this may not be the case. For example, unlike price decreases, price increases would not be mandatory so may not be implemented. In practice, the exact magnitude of the adjustment will depend on the prices that EDBs choose to set, relative to their existing prices, given the constraint imposed by the price path compliance formula.
- 2.19 Our draft decision, if implemented, would also only affect the weighted average of prices charged by EDBs, not the prices charged to any particular consumer (or group of consumers). The new prices charged to individual consumers will be determined by

<sup>39</sup> The results shown compare net revenue before and after adjustment on a pre-discount basis.

the pricing methodologies that each EDB applies when it determines prices and retail pricing (where the EDB does not directly bill its customers).

- 2.20 Finally, the overall effect on retail prices is approximately one third of the effect on distribution charges.<sup>40</sup> This means that, if the draft decision is implemented, the potential maximum average increase in retail prices will be around 7% in 2012/13, while the largest reduction will be around 3%. The effect on retail prices across the country as a whole would be broadly neutral in 2012/13 if all EDBs fully priced up to their respective caps.

## Analysis of Results

- 2.21 This section presents an analysis of our draft decisions. In particular, this section demonstrates:
- that prices will increase for the comparatively small EDBs but will fall or remain broadly similar for the relatively big EDBs. Unison is the only large EDB for which a price increase is indicated (paragraphs 2.22-2.25)
  - how, if we did not reset the 2010-15 DPP, there would be significant disparities between the current and projected profitability of EDBs (paragraphs 2.24-2.25).

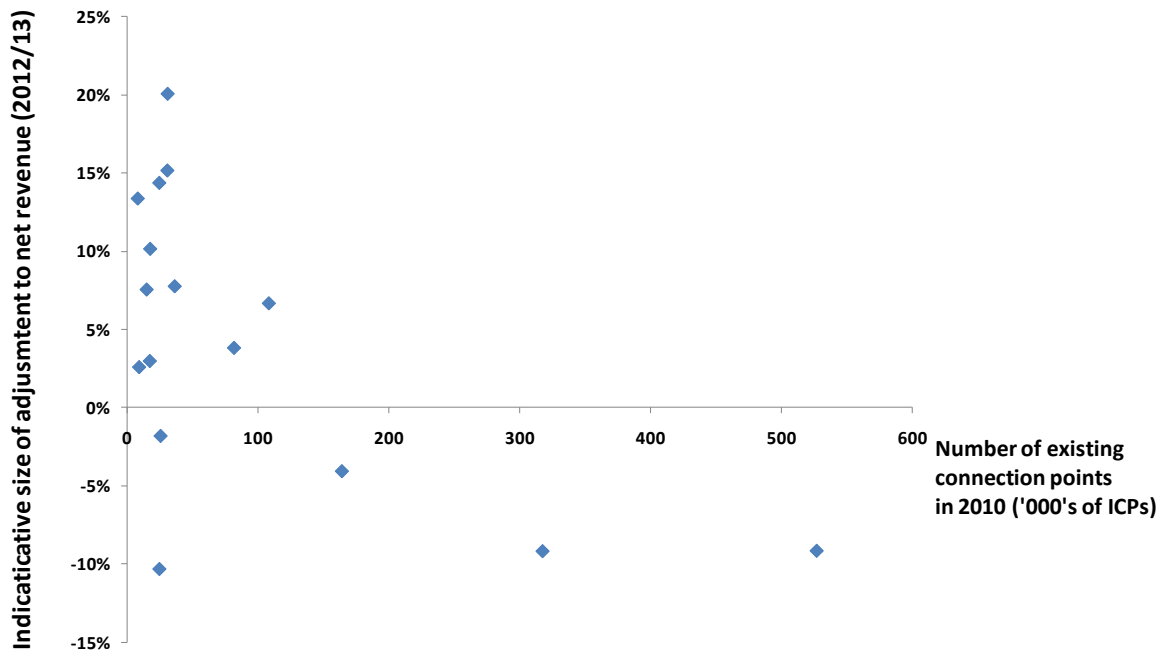
### *Neutral effect on industry as a whole because of rebalancing between markets*

- 2.22 The reason why there would only be a very limited effect on line charges across the industry as a whole is shown in the chart below. This chart plots the size of the illustrative net revenue adjustment for each EDB against the number of connection points for that EDB.

---

<sup>40</sup> Based on information from the Electricity Commission and Statistics New Zealand, we estimate that a 10% increase in line charges would increase a household's average expenditure by up to 0.15%. The Electricity Commission estimated that in 2006 network charges (which include transmission and distribution charges) made up approximately 40% of residential customer bills (Electricity Commission, *Market Design Review – Options Paper*, 8 July 2008, paragraph 56). For the year ended 2010, Statistics New Zealand's Household Economic Survey showed that on average 3.7% of household expenditure was on electricity (Statistics New Zealand, *Household Economic Survey: Year ended 30 June 2010 – Tables*, 25 November 2010, Table 1).

**Figure 2.3** Indicative size of adjustment to net revenue in 2012/13 vs. number of existing connection points (ICPs)



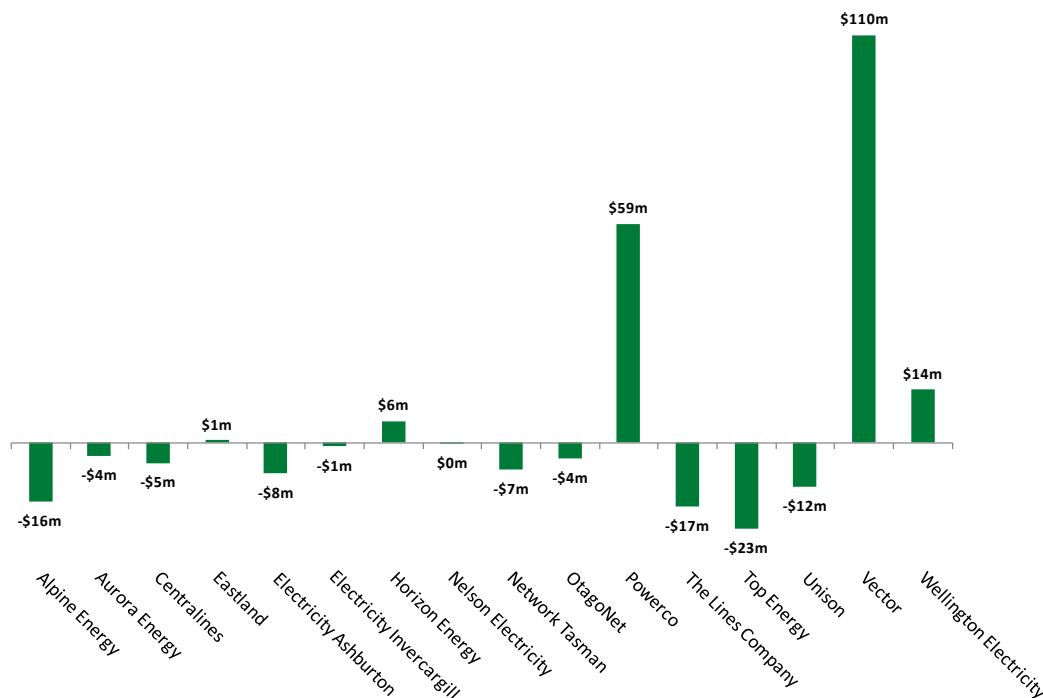
Source: Commission calculations.

2.23 This chart shows that the largest decreases in prices would generally apply to the EDBs with the greatest number of connections, whereas EDBs with only a small number of connections will generally have the greatest scope to increase their prices.

***Our draft decision addresses significant disparities in current and projected profitability***

2.24 If we did not reset the 2010-15 DPP, there would be significant disparities between the profitability of EDBs over the regulatory period. This is shown in the chart below, which shows the present value of revenue that each EDB would be projected to earn relative to the amount required to earn a normal return over the full five years of the regulatory period.

**Figure 2.4** Difference in present value of revenue required to earn a normal return over 2010-15 and revenue projected over 2010-15 with no adjustment to revenues in 2012/13



Source Commission calculations. Present value calculated as at 1 April 2010.

2.25 As noted in Chapter 1 (paragraphs 1.40-1.44), the Part 4 Purpose will be better promoted by resetting the 2010-15 DPP to address these disparities. In particular, it will reduce the likelihood that the EDBs that are projected to under-recover will require a CPP, and it will limit the ability of the other EDBs to earn excessive profits.

## Our Assessment of Current and Projected Profitability

2.26 This section explains the main ways in which we have refined the approach to calculating the allowed revenue set out in the Update Paper. It then outlines:

- why, because EDBs have the option of proposing an alternative path, it would be wrong to place significant weight on the costs to consumers of setting the DPP too low but ignore the costs to consumers of setting it too high (paragraphs 2.32-2.38)
- how, by adapting our projections to individual EDBs and using independent reputable forecasts, we have minimised the likelihood that suppliers will earn excessive profits or earn returns that are inadequate to incentivise investment (paragraphs 2.39-2.42)
- how, by applying a reasonableness check, we can demonstrate that our projections of operating expenditure will share with consumers the benefits of past efficiency gains but are otherwise not materially lower than EDBs have required in the past (paragraphs 3.25-3.26)

- why, as a result of the recent fall in the risk free rate and debt premium, we consider that the rate of return that we have allowed each EDB is already significantly above the rate of return currently required to incentivise investment (paragraphs 2.43-2.48)
- why, for reasons of cost-effectiveness for consumers and fairness to suppliers, we do not consider that it would be appropriate to include an additional margin or band around the WACC (paragraphs 2.49-2.52)
- why, because we may already be allowing EDBs to earn more than a normal return, we will only consider whether an EDB should be able to claw-back further revenue from consumers if it requests a CPP (paragraphs 2.53-2.59)
- why, overall, we consider that our approach is consistent with promoting the Part 4 Purpose (paragraphs 2.60-2.61).

### *The three-year approach is retained and refined*

- 2.27 As noted above, we determined the revenue that each EDB would require in 2012/13 so that it could earn a normal return over the remaining three years of the regulatory period.<sup>41</sup> This three-year approach has been used instead of a full five-year approach because two years of the regulatory period have already elapsed. As discussed further in paragraphs 2.53-2.59, the use of a three-year approach instead of a five-year approach means that no claw-back will be applied for any EDB.
- 2.28 While the financial model we used to assess profitability is conceptually very similar to the model proposed in the Update Paper, we have refined the model in two key respects:<sup>42</sup>
- by more accurately calculating present values by modelling revenue as being received throughout the year
  - by adapting our cost and revenue projections, as far as practicable, to each EDB.
- 2.29 We have changed the calculation of present values for revenues because revenues are received throughout the year, not at the year-end (which is the basis on which present values were calculated in the Update Paper). This has been modelled by assuming that the timing of revenues is equivalent to the revenues being received in the middle of the year. Operating expenditure has also been modelled as occurring at mid-year. This should reduce much of the modelling bias towards EDBs. However, this assumption ignores the fact that—due to seasonal factors—revenues are likely to be higher in the first half of the year than in the second half of the year. This provides a slight timing benefit in favour of EDBs. To offset this effect, and to improve the accuracy of our modelling overall, we have modelled tax costs as falling at the year-end (rather than throughout the year as would be likely in practice).

---

<sup>41</sup> Put another way, projected allowed revenues have been equated with projected costs (including the cost of capital) over the remaining three years of the regulatory period. For a description of the financial model used to assess profitability, refer to Commerce Commission, *2010-15 Default Price-Quality Path, Starting Price Adjustments and Other Amendments, Update Paper*, 11 April 2011, paragraphs 4.4 to 4.14.

<sup>42</sup> A high level model specification can be found in Appendix B, and a detailed specification has been provided in the model itself.

- 2.30 The way that we have formulated our projections of expenditure and real revenue growth is described in detail in Chapter 3. Previously, the assumptions underpinning the projections served illustrative purposes only and were applied industry-wide. Now, in light of submissions, we have modelled projections for each EDB. As discussed below, we consider that this treatment will have reduced the scope for errors in our projections.
- 2.31 First, we explain the source of potential errors in our projections, how we have attempted to minimise those potential errors, and the reasons why we consider this treatment to be consistent with the Part 4 Purpose.

***Errors in projections create costs for consumers***

- 2.32 There are four projections that factor into the modelling of the current and projected profitability of each EDB. For each EDB, these are:<sup>43</sup>
- capital expenditure between 2012 and 2015
  - operating expenditure between 2012 and 2015
  - real revenue growth between 2012 and 2015
  - the growth in the RAB value as a result of CPI indexation between 2010 and 2015.
- 2.33 As a general rule, the projections that we will rely upon are unlikely to perfectly reflect each EDB's particular circumstances. These circumstances could be better met in the event that an EDB provides forecasts as part of a CPP proposal. However, these forecasts are not available to us when resetting the DPP and in addition we are restricted from using comparative benchmarking on efficiency to verify whether or not the forecasts are reasonable. The projections we use to reset the DPP therefore cannot fully reflect the particular circumstances of each business.<sup>44</sup>
- 2.34 It is therefore inevitable that each EDB's particular circumstances could be better met by price paths that are based on different projections to those that are used when setting the DPP (as envisaged by s 53K). In some cases, EDBs will be over-compensated for the costs that they expect to incur. In others, the DPP will not be generous enough and the supplier can consider proposing an alternative path to the Commission.
- 2.35 In both cases, consumers are likely to face higher prices than are otherwise required to offset the efficient costs of supply (paragraph 1.34). When the DPP is less generous than the supplier requires, the additional costs to consumers would be the incremental costs of a CPP application (including our costs in assessing the proposal).<sup>45</sup> By

---

<sup>43</sup> One other parameter used in the modelling is the industry-wide WACC that is used to calculate the rate of return that is required by debt and equity holders. This rate must be determined in accordance with the cost of capital IM for DPPs. This methodology requires that the WACC is based on the 75th percentile instead of the mid-point in recognition of the uncertainty associated with estimating the true WACC for the industry.

<sup>44</sup> Detailed reviews of each EDB's forecasts would also appear contrary to the relatively low-cost intent specified in s 53K.

<sup>45</sup> As discussed in paragraphs 1.57 to 1.58.

contrast, when the DPP is more generous than a supplier requires, the additional cost to consumers is the difference between the EDB's efficient costs and the projections we have relied upon.

- 2.36 In our view, it would not be appropriate to place significantly greater weight on the costs associated with setting the DPP too low relative to the costs associated with setting the DPP too high. This contrasts with some submissions, which have argued that the risks of regulatory error in relation to the DPP are asymmetric.
- 2.37 Those submitters have argued that EDBs' incentives to invest may be damaged if the DPP is set too low, and that this would have more severe consequences than if returns were set too high.<sup>46</sup> We disagree with this view. While the risk of error is usually asymmetric in a regulatory context, default/customised price-quality regulation has unique features that mitigate this risk. In particular:
- EDBs have the option of applying for an alternative price-quality path if the DPP is set too low
  - the IMs allow EDBs to pass on the costs involved with verification and audit of proposals (paragraphs 1.57-1.58) so the costs to an EDB of applying for a CPP are limited.
- 2.38 We draw attention to the fact that, under default/customised price-quality regulation, consumers do not have the option of proposing an alternative price path to the Commission if the DPP is too generous to suppliers. So if we were to set the DPP too high, on average, then suppliers will not be limited in their ability to extract excessive profits. This would not be consistent with s 52A(1)(d).

***Potential errors have been minimised by adapting projections to each EDB***

- 2.39 We have sought to minimise the potential size of the projection errors—in both directions—by adapting the projections, as far as practicable, to the particular circumstances of each EDB.
- 2.40 As discussed in greater detail in Chapter 3, this tailoring has been achieved by relying on the most robust available forecasts from independent reputable organisations. These forecasts provide an unbiased estimate of demand, costs and inflation, and have been utilised in the following way.
- For capital expenditure, the projections rely on the EDB's own forecasts of growth relative to 2009/10 levels (as disclosed in their asset management plan (AMP)).
  - For operating expenditure, the projections are based on the independent forecasts of revenue growth inflated by an input price index relative to 2009/10 levels.
  - For real revenue growth, revenue is split into three components in line with each EDB's tariff structure. Independent regional forecasts of demand, throughput and population growth are used for each EDB to estimate revenue growth between 2012 and 2015.

---

<sup>46</sup> Refer, for example, Vector, *Submission to Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustment and Other Amendments Update Paper*, 16 May 2011, p. 17.

- For CPI, we have relied upon the forecasts that are required to provide EDBs with the same return, after adjusting for the effects of inflation, that they would have been allowed if IMs had applied in November 2009.
- 2.41 The supplier-specific projections in particular will greatly reduce the variation in expected returns compared with the use of industry-wide forecasts. The potential for errors cannot, however, be dismissed completely. This is inevitable because of the constraints imposed under s 53P when resetting a DPP.
- 2.42 We note the concerns expressed by EDBs over the possibility that the 2009/10 data that we have relied upon to project their costs may be unusually high or low relative to past trends. However, for opex, we consider that the 2009/10 information will best reflect the extent of efficiency gains achieved up to this date. We have updated these figures in line with projected changes in revenue growth to ensure that the amounts we have allowed are sustainable. For capex, we have relied on the EDB's own forecasts, which were disclosed in AMPs and are reproduced in Chapter 3.

***The risk of setting the DPP too low is limited***

- 2.43 The risk of setting the DPP too low for any individual EDB is limited at present because we have provided all EDBs with a rate of return for the next three years that is significantly higher than investors currently require for that period. This is because we have reset starting prices on the basis of the 8.77% nominal return that investors required, on a forward looking basis, in November 2009 for the 2010-15 period, not the rate of return that investors require now.<sup>47</sup> This fall has been caused by changes in the risk-free rate and the debt premium.
- 2.44 Importantly, the change in the required nominal return is not due to a change in inflation expectations. Because inflation expectations have not changed significantly since November 2009, the rate of return that we are allowing after adjusting for inflation is also 1 percentage point higher than suppliers require. Table 2.2 below shows that inflation expectations that correspond to a WACC of 8.77% for 2010-15 are very similar to the inflation expectations that correspond to a WACC of 7.70% for 2012-17.<sup>48</sup>

---

<sup>47</sup> The required rate of return between June 2012 and July 2017 is 7.70%. Refer: Commerce Commission, *Determination of the Cost of Capital for Information Disclosure Year 2012 for Transpower New Zealand Limited, Suppliers of Gas Pipeline Services, and Suppliers of Specified Airport Services (June year-end) Under Part 4 of the Commerce Act 1986, Pursuant to Decisions 709, 711, 712 and 713, Decision number 727*, 8 July 2011. A WACC estimated for 2012-15 would be lower still. This is primarily because the risk free rate for 2012-15 is around 0.6 percentage points lower than it is for 2012-17.

<sup>48</sup> These are the forecasts that would determine the return EDBs could expect to earn after we adjust for inflation.

**Table 2.2 Inflation expectations: 2010-15 vs. 2012-17**

	April 2010 to March 2015	June 2012 to June 2017
Trend annual growth in forecast CPI (as defined in IMs)	2.43%	2.35%
LN annual growth in forecast CPI (as defined in IMs)	2.40%	2.32%

Source: Commission's calculations based on Statistics NZ data.

- 2.45 There are therefore two consequences of applying a WACC of 8.77%.
- First, EDBs will be afforded a greater allowance to cover their financing costs than their debt and equity holders actually require. This makes it very unlikely that EDBs will currently be on an inadequate DPP.
  - Secondly, using a WACC of 8.77% substantially reduces the likelihood that any individual EDB will need to seek a CPP. This is because the 2010-15 DPP will reflect the return that investors required at the outset of the 2010-15 DPP period, whereas a CPP would provide EDBs with the (lower) return that investors require now.
- 2.46 Some EDBs are of the view that the possibility of a lower WACC applying under a CPP represents an “unmanageable” risk.<sup>49</sup> We do not consider this to be correct in analytical terms. Rather than representing an unmanageable risk to suppliers, the CPP should be viewed as a valuable option. If the risk-free rate—or the WACC more generally—falls from the date at which the DPP is determined, then consumers will be paying more to suppliers than is required to finance investment. By contrast, if the cost of financing investment rises during the period, then suppliers have the option of applying for a CPP.<sup>50</sup> For the final three years of the regulatory period, the first of the two situations is likely to prevail.
- 2.47 We therefore consider that it would be inappropriate to include an additional margin when resetting the DPP.<sup>51</sup> According to the calculations provided by some submitters, allowing EDBs to earn 0.84 percentage points of return more than they require would mean that we could be confident that 95% of the time no EDBs would earn less than the WACC in any given year. The implicit margin currently allowed as a result of

<sup>49</sup> Refer, for example, Unison, *Submission on 2010 – 2015 Starting Price Adjustments Update Paper*, 16 May 2011, p. 11; and Vector, *Submission to Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustment and Other Amendments Update Paper*, 16 May 2011, paragraph 102.

<sup>50</sup> In addition, when we estimate the WACC for a CPP, we must provide suppliers with the rate of return that is required at that time. We guard against the risk of under-estimating the WACC by using the WACC at the 75th percentile instead of taking the mid-point. The difference between the two percentiles is around 0.72 percentage points.

<sup>51</sup> Refer, for example, Vector, *Submission to Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustment and Other Amendments Update Paper*, 16 May 2011, paragraph 38(b); and Powerco, *2010-15 Default Price-Quality Path Starting Price Adjustments and Other Amendments Update Paper*, 16 May 2011, paragraph 39.3.

applying the WACC set in November 2009 is even greater than 0.84 percentage points.<sup>52</sup>

- 2.48 The effect of providing an additional margin would simply be to increase the prices facing consumers, with no offsetting benefit. This would not appear to be consistent with limiting suppliers in their ability to extract excessive profits, which we are required to do under s 52A(1)(d).

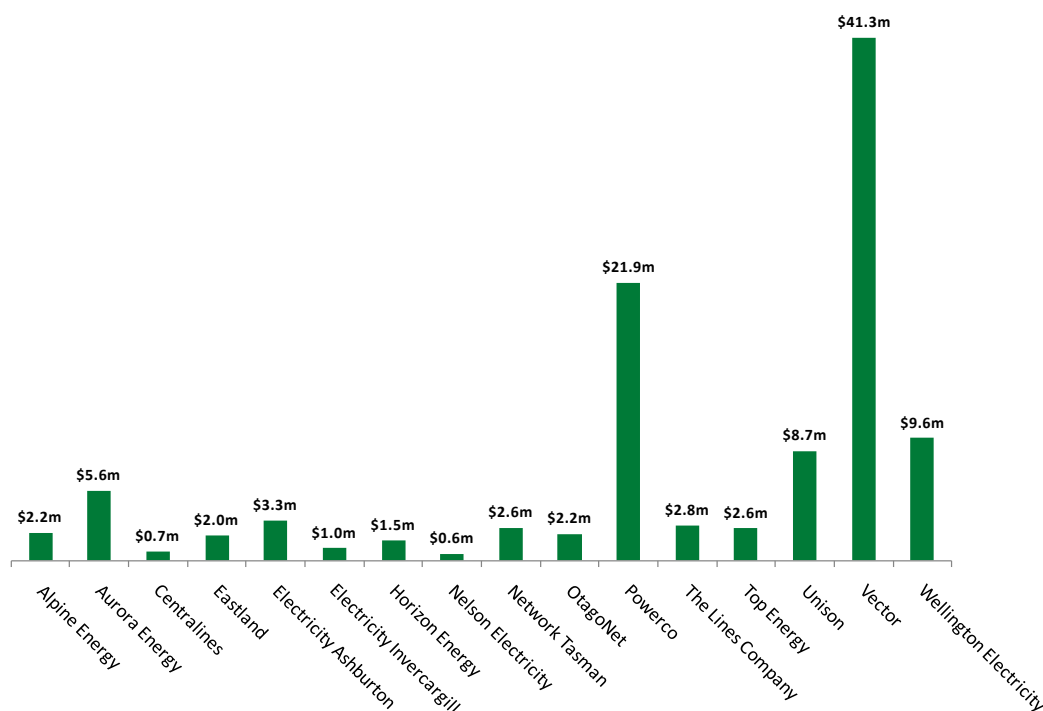
***A margin or band fails to recognise differences between suppliers***

- 2.49 More generally, a margin or band on the WACC would appear to be a poor way to address any uncertainty in projections. This is because:
- it would not be consistent with promoting the long-term benefit of consumers because it would not be a cost-effective way of preserving incentives for investment while limiting excessive profits
  - a band around the WACC would treat EDBs differently without any evidence about the extent to which estimation risks vary between EDBs.
- 2.50 A margin would not be cost-effective for consumers for two reasons. First, as shown in the graph below, the cost of avoiding a CPP by including an additional margin on the WACC is high compared with the benefit of avoiding a CPP. In particular, applying an additional 0.84 percentage point margin on the WACC would result in significantly higher revenue for all EDBs. In some cases the impact is as high as \$41.3m, which would clearly dwarf the potential cost of a CPP application (and therefore the expected benefits of reducing the probability that an EDB has to apply for a CPP).

---

<sup>52</sup> We have also substantially reduced the potential scope for variation between different EDBs by adapting, as far as a practicable, the projections to individual EDBs. We also note that the estimates of variance provided by submitters refer to the variation in *annual* returns. In other words, this measure would indicate the margin that would be required to ensure a given probability that returns do not fall below normal in a particular year. However, we do not consider that this is the relevant probability. A more relevant probability is the likelihood that expected returns will be below normal over the three years of the regulatory period. The variance in costs over a future three-year period relative to previous three-year periods would be expected to be far lower than the variance for individual years.

**Figure 2.5** Estimated impact on the present value of revenues between 2012/13 and 2014/15 of applying a WACC margin of 0.84 percentage points



Source: Commission calculations. Present value calculated as at 1 April 2012.

- 2.51 Secondly, applying a margin on the WACC will generally result in proportionately higher revenue for larger EDBs, even though the cost of a CPP is unlikely to be strongly related to the size of the business. This result would also appear to be perverse because the costs and returns of smaller EDBs are presumably more variable and therefore subject to greater (not lesser) uncertainty than the returns of larger EDBs.
- 2.52 We have also rejected the approaches that would move some EDBs to the top of a band around the WACC, and others to be moved to the bottom of the band around the WACC. As noted by Unison, such an approach would only be justified if the estimation risks are different for different businesses. Unison commented that this would not be “reasonable” for the purposes of resetting the 2010-15 DPP.<sup>53</sup> In the absence of information about those estimation risks, we agree with this view.

### ***Claw-back***

- 2.53 In resetting the 2010-15 DPP, we do not propose to apply claw-back for any EDB. Prices in 2012/13 have instead been based on the premise that each EDB should be projected to earn a normal return over the remaining three years of the regulatory

<sup>53</sup> Unison, *Submission on 2010 – 2015 Starting Price Adjustments Update Paper: Cross Submission*, 1 June 2011, pp. 4-5.

- period. As discussed further below, however, we consider that it would be more appropriate to allow EDBs to claw-back in the event that they propose a CPP.
- 2.54 The issue of whether or not to apply claw-back had to be confronted in reaching these draft decisions because, under s 54K(3), the Commission may apply claw-back when resetting the 2010-15 DPP. Under s 52D, claw-back is defined as:
- (a) requiring a supplier to lower its prices on a temporary basis in order to compensate consumers for some or all of any over-recovery that occurred under the prices previously charged by the supplier; or
  - (b) allowing a supplier to recover some or all of any shortfall in its revenues that occurred under the prices previously charged by the supplier.
- 2.55 We note that the modelling suggests that some EDBs have been achieving returns well in excess of normal returns since the beginning of the regulatory period. While the scale of the estimated excess returns in a number of cases makes it unlikely that the estimated level of returns would be the result of efficiency gains or of cost factors not captured by the modelling, we cannot rule out these possibilities. We therefore do not consider that claw-back should be applied in these cases as it could, given this is a reset within period, result in outcomes which may not be in the long-term interests of consumers.
- 2.56 All but one submitter was supportive of a three-year approach with no claw-back. A number of arguments were advanced by these submitters in favour of the three-year approach.<sup>54</sup> Aurora noted that the application of claw-back was not mandatory under the Act, and that there are no established criteria either in the legislation or by the Commission.<sup>55</sup>
- 2.57 Unison was the submitter to object to the use of a three-year modelling approach, rather than a five-year approach involving claw-back for under- or over-recovery in the first two years.<sup>56</sup> We acknowledge that there is merit to the arguments advanced by Unison, and that our modelling does suggest that some suppliers have previously under-recovered their costs. However, because it is too costly to verify every supplier's costs under a DPP, it may in fact be inappropriate for these EDBs to be able to claw-back revenue from consumers. In some cases, it could simply exacerbate the extent of over-recovery in future. Ultimately, it is not a question with an easy answer.
- 2.58 We note, however, that this within regulatory period reset is unusual. Any issues that this causes for a particular supplier could potentially be accommodated under a CPP.

---

<sup>54</sup> Refer, for example: Aurora, *Submission to the Commerce Commission on its Update Paper on 2010-15 Default Price Quality Path Starting Price Adjustment and Other Amendments*, 16 May 2011, p. 12; Network Tasman, *Submission to the Commerce Commission on 2010-15 Default Price Quality Path Starting Price Adjustments and Other Amendments - Update Paper April 2011*, 16 May 2011, paragraph. 8; PwC, *Submission to the Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustment and Other Amendments Update Paper*, 16 May 2011, p. 8; and Vector, *Submission to Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustment and Other Amendments Update Paper*, 16 May 2011, p. 45.

<sup>55</sup> Aurora, *Submission to the Commerce Commission on its Update Paper on 2010-15 Default Price Quality Path Starting Price Adjustment and Other Amendments*, 16 May 2011, p. 12.

<sup>56</sup> Unison, *Submission on 2010 – 2015 Starting Price Adjustments Update Paper*, 16 May 2011, paragraph 66.

That is, if an EDB is in a position where under-recovery is indicated, it could consider applying for a CPP with claw-back applied (this may require it to seek a variation of the IMs which apply to a CPP pursuant to s 53V(2)(c)). In calculating claw-back in such a situation, our current view is that it would be most appropriate to use the costs actually incurred by the supplier.

- 2.59 The use of the EDBs actual costs between 2010 and 2012 to calculate the claw-back amount will penalise EDBs to the extent that they achieved efficiency gains between 2010 and 2012. However, if the amounts to be clawed back are significant enough for an EDB to propose a CPP, then the removal of efficiency gains is a second order concern. Equally, while consumers would be penalised if claw-back was assessed on the basis of inefficient costs, they may be penalised by a greater amount over the long-term if claw-back was not applied. In both cases, the bigger concern would be the potential impact that not applying claw-back would have on the EDB's incentives to invest in future (i.e. s 52A(1)(a)).

### **Consistency of Draft Decisions with the Part 4 Purpose**

- 2.60 We therefore consider that our approach will result in DPPs that:
- increase the likelihood that EDBs will have appropriate incentives to invest (i.e. s 52A(1)(a))
  - will reduce the likelihood that any individual EDB will be able to extract excessive profits (i.e. s 52A(1)(d)).
- 2.61 As previously noted in Chapter 1 (paragraphs 1.43-1.44), we also consider that our draft decision to reset the 2010-15 DPP would be consistent with promoting s 52A(1)(b) and (c).

## CHAPTER 3: PROJECTED EXPENDITURE AND REVENUES

### Summary

- 3.1 This chapter sets out the revenue and cost information used in the starting price modelling and explains the reasons for using this information. More detailed explanations for the use of specific projections for real revenue, opex and capex growth rates and their construction are presented in Appendix C. We have also released the data and our calculations used to determine the projections for our model.<sup>57</sup>
- 3.2 After considering arguments presented in submissions on the Update Paper the Commission is now of the view that some of the key projections should be supplier-specific. Where practicable, forecasts used in our analysis are obtained from reputable, independent forecasters.

### Projected Real Revenue Growth

- 3.3 The projected real revenue growth figures used in the starting price modelling are supplier-specific.
- 3.4 Revenue growth estimates should reflect growth in the items suppliers charge for. These typically comprise variable charges on throughput, fixed charges per connection, variable charges on actual demand and, in some cases, fixed charges on reserved capacity. Growth in total revenue is a weighted average of the sum of the growth in prices plus the growth in quantities for each of these items, where the weights are determined by the revenue share of each item.
- 3.5 Since prices are set to track the CPI by the price path in this case, the relevant variables we need information on to estimate real revenue growth are the relevant output quantities. While past throughput and connection quantities are reported, there is no readily accessible information on the past quantities associated with demand and reservation charges. In the forecasting exercise we have looked at reasonable proxies (or drivers) for relevant output quantities where there are reputable, independent forecasts available for those proxies.

### *Approach to projecting real revenue growth*

- 3.6 Real revenue growth of EDBs is driven by a number of factors, including changes in industry composition within an EDB's distribution area, population growth and changes in energy consumption patterns.<sup>58</sup> Some of these factors may have a similar effect across businesses. However, historical growth in total output (the measure of output used in the Update Paper) varies significantly between EDBs.

---

<sup>57</sup> 2010-15 Default Price-Quality Path: Cost and Revenue Growth Projections for 2012/13 Price Reset – Draft Decisions, July 2011, which is available at <http://www.comcom.govt.nz/2010-2015-default-price-quality-path/>.

<sup>58</sup> PwC, for example highlighted this point in its submission., PwC, *Submission to the Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustments and Other Amendment(2)*, 23 May 2011, pp. 3-6.

- 3.7 We have assessed different options for projecting real revenue growth (including options suggested in submissions) and considered how supplier-specific information can be taken into account in a cost-effective way.
- 3.8 As noted above, electricity distribution revenue is recovered through a combination of variable charges, fixed charges, and capacity or demand based charges. Conceptually, each class of tariff is subject to a different driver. While there is no readily available information on growth drivers in each EDB's specific distribution area, there is regional information on historical and forecast revenue drivers which we have matched to EDBs. Our analysis shows that there is variation between regions in the historical and forecast revenue drivers, as shown in Appendix C. Choosing region specific revenue drivers is likely to improve the accuracy of our real revenue projections. Distribution areas for EDBs are matched to regions using the proportions of the EDB's independent connection points (ICPs) in relevant regions.
- 3.9 The supplier-specific projected real revenue growth estimates use the following drivers for forecasting each revenue component:
- growth in revenue from **variable charges** is forecast using the Electricity Authority's regional throughput projections
  - growth in revenue from **fixed charges** is forecast using Statistics New Zealand's regional population growth projections<sup>59</sup>
  - growth in revenue from **demand or capacity based charges** is forecast using NZIER's regional real GDP projections.
- 3.10 Suppliers are free to structure their tariffs subject to the constraint that they must stay under their price path. We asked EDBs to provide the share in total regulated revenue they derive from each tariff type in 2010 and 2011.<sup>60</sup>
- 3.11 The analysis of revenue shares shows that the composition of revenue varies significantly across suppliers. Appendix C shows the range for the fixed charge component is between 0% and 82%, whilst the range for capacity charges is between 4% and 51%. Each tariff component has a different driver (see below), and as shown in Appendix C, the growth rates vary between drivers. The use of supplier-specific revenue weights is also likely to improve the accuracy of our projections. Although EDBs have flexibility to change their tariff structure we have assumed constant revenue shares equal to those in 2011. This is further discussed in Appendix C.

### ***Projected revenue growth***

- 3.12 Table 3.1 below sets out the annual real revenue growth rates for each EDB. Average annual growth rate in real revenue varies between suppliers. The weighted average projected real revenue growth for the industry overall is 1.7% and ranges from 0.5%

---

<sup>59</sup> Although separate drivers of domestic and industrial/commercial fixed charges are available, information disclosures do not provide information on relevant weights, which may change over time, for each supplier. We will consider whether such data should be made available in a more systematic way to inform future resets.

<sup>60</sup> Commerce Commission, *Notice to Supply Information to the Commerce Commission Section 53ZD to Commerce Act 1986*, 15 June 2011.

for Aurora Energy to 2.9% for Vector. Our starting price modelling uses each EDB's year-on-year growth rates.

**Table 3.1 Projected annual real revenue growth**

<b>EDB</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>Average</b>
Alpine Energy	1.98%	1.95%	1.98%	1.94%	1.91%	1.95%
Aurora Energy	1.40%	0.31%	0.45%	0.27%	0.10%	0.50%
Centralines	1.07%	0.97%	1.15%	0.99%	0.87%	1.01%
Eastland	1.44%	1.28%	1.55%	1.32%	1.15%	1.35%
Electricity Ashburton	2.99%	2.88%	2.99%	2.83%	2.68%	2.87%
Electricity Invercargill	2.36%	0.99%	1.17%	0.94%	0.73%	1.24%
Horizon Energy	1.76%	1.64%	1.93%	1.79%	1.72%	1.77%
Nelson Electricity	2.21%	2.09%	2.17%	1.97%	1.78%	2.04%
Network Tasman	2.68%	2.46%	2.62%	2.25%	1.88%	2.38%
OtagoNet	1.45%	0.31%	0.45%	0.26%	0.09%	0.51%
Powerco	1.50%	1.36%	1.56%	1.39%	1.28%	1.42%
The Lines Company	1.19%	1.19%	1.19%	1.19%	1.19%	1.19%
Top Energy	2.79%	2.59%	2.84%	2.55%	2.33%	2.62%
Unison	1.30%	1.20%	1.40%	1.26%	1.17%	1.26%
Vector	2.90%	2.77%	3.06%	2.90%	2.85%	2.90%
Wellington Electricity	2.08%	1.95%	2.21%	2.02%	1.91%	2.04%

Source: Commission calculations using information from revenue weights provided by EDBs, New Zealand Statistics regional population projections, NZIER regional GDP projections, EA regional throughput projections and ICP numbers to allocate geographic regions to each EDB.

Note: The five year average growth rate is shown for illustrative purposes.

3.13 More information on the reasons for using specific drivers for each real revenue type and the approach to matching data sources with EDB distribution areas can be found in Appendix C.

## Projected Expenditure

3.14 This section sets out:

- the approach and information used to develop projected growth rates for opex and capex

- information on initial conditions
- the reasonableness of the opex projections.

### ***Approach to projecting opex growth***

3.15 To develop supplier-specific projections of opex growth we have used a ‘rate of change’ in opex formula used in the Gas Authorisation<sup>61</sup> and in a number of overseas regulatory regimes. The ‘rate of change’ formula aims to index opex for the starting year of the regulatory period forward through the remainder of the regulatory period taking account of the following three principal drivers of opex:

- input prices
- opex partial productivity growth
- output growth.

3.16 The formula we have used to project opex growth is as follows:

$$\Delta \text{ Opex} = \Delta \text{ Opex Price} - \Delta \text{ Opex Partial Productivity} + \Delta \text{ Output Quantity}$$

(where the symbol  $\Delta$  is used here to represent the proportional change in a variable).<sup>62</sup>

3.17 The following summarises the assumptions made for each of the components of the rate of change formula. Appendix C describes the formula and approach in more detail.

### **Change in opex price**

3.18 We developed an opex price index forecast consisting of a weighted average of an independent labour cost index (for all industries) forecast and an independent producer price index (for all industries) forecast reflecting the labour and non-labour components of opex, respectively.

3.19 To form an overall opex price growth forecast we also require weights for the labour and non-labour components of the opex price. The weights we favour are 60% for labour and 40% for the non-labour component of opex. Sensitivity analysis on these weights is presented in Appendix C.

---

<sup>61</sup> Commerce Commission, *Authorisation for the Control of Supply of Natural Gas Distribution Services by Powerco Ltd and Vector Ltd: Decisions Paper*, 30 October 2008. The drivers of opex, in particular partial productivity growth and relevant indexes, are discussed in Chapter 8, in particular paragraphs 830 to 840. The rate of change opex formula was applied in determining the opex allowance, and is discussed in Appendix I, paragraphs I.63 to I.69.

<sup>62</sup> This approach was used by the Victorian Essential Services Commission to roll forward opex from a nominated base year value. Essential Services Commission, *Gas Access Arrangement Review 2008-2012, Final Decision – Public Version*, 7 March 2008, p. 224. For further information on the derivation of the formula and why it uses adding up of growth rates, refer to Meyrick and Associates, *Victorian Gas Distribution Business Opex Rate of Change, Prepared for Envestra, Multinet and SP AusNet*, prepared by Denis Lawrence, 26 March 2007, pp. 1-3.

- 3.20 The results in Appendix C show that combining the projections for labour and non-labour opex costs, the overall opex price is projected to increase by 2.44% in 2011, 2.44% in 2012, 2.88% in 2013, 4.54% in 2014 and 1.80% in 2015.

#### Change in opex partial productivity

- 3.21 Using an industry rather than a supplier-specific productivity growth rate in the opex rate of change formula is consistent with the basic tenets of incentive regulation. Individual suppliers have less scope to influence the industry average productivity growth rate which can be considered exogenous to the individual supplier. The forecast productivity growth rate should be based on expected future achievable productivity performance as far as possible. While historical productivity growth rates are likely to be a useful indicator of achievable future productivity growth, forward-looking information should also be taken into account.
- 3.22 We have used an annual opex partial productivity growth rate of 0% in applying the rate of change formula. The basis for this is discussed further in Appendix C. In summary, the evidence is somewhat mixed and, as a consequence, we consider it prudent to assume that there will be no change.

#### Change in output quantity

- 3.23 For output growth our model uses real revenue projections for the period 2011 to 2015 for each EDB. The projected average output growth for the industry is 1.7%.
- 3.24 Using the projections for the three primary parameters that feed into the full rate of change formula for the period 2011 to 2015, opex is forecast to increase by 4.5% for the EDBs on average. Given the different real revenue growth rates, the projected nominal opex growth rates for each EDB are shown in Table 3.2.

**Table 3.2 Forecast nominal annual opex growth**

<b>EDB</b>	<b>2010/11</b>	<b>2011/12</b>	<b>2012/13</b>	<b>2013/14</b>	<b>2014/15</b>	<b>Average</b>
Alpine Energy	4.42%	4.39%	4.86%	6.48%	3.70%	4.77%
Aurora Energy	3.84%	2.74%	3.33%	4.81%	1.90%	3.32%
Centralines	3.51%	3.40%	4.03%	5.53%	2.67%	3.83%
Eastland	3.88%	3.72%	4.43%	5.86%	2.94%	4.17%
Electricity Ashburton	5.43%	5.32%	5.87%	7.37%	4.48%	5.69%
Electricity Invercargill	4.80%	3.43%	4.04%	5.48%	2.53%	4.06%
Horizon Energy	4.20%	4.08%	4.81%	6.33%	3.51%	4.58%
Nelson Electricity	4.65%	4.53%	5.05%	6.51%	3.57%	4.86%
Network Tasman	5.12%	4.90%	5.50%	6.79%	3.68%	5.20%
OtagoNet	3.89%	2.74%	3.33%	4.80%	1.88%	3.33%
Powerco	3.94%	3.79%	4.44%	5.93%	3.07%	4.23%
The Lines Company	3.63%	3.63%	4.07%	5.73%	2.99%	4.01%
Top Energy	5.23%	5.03%	5.71%	7.09%	4.13%	5.44%
Unison	3.74%	3.63%	4.28%	5.80%	2.96%	4.08%
Vector	5.34%	5.20%	5.93%	7.44%	4.65%	5.71%
Wellington Electricity	4.52%	4.39%	5.09%	6.56%	3.70%	4.85%

Source: Commission calculations using information from the projected real revenue growth, a projected opex price index for labour and non-labour costs based on a NZIER forecast and an industry partial productivity growth.

Note: The five year average growth rate is shown for illustrative purposes.

### Reasonableness check

3.25 To ensure that our projected opex growth rates for 2012 to 2015 are reasonable, we conducted a reasonableness check. This check involved comparing:

- the average opex projected figures, deflated by the labour cost index (LCI) and producers price index (PPI), for the period 2012/13 to 2014/15
- the average historical opex data for the period 2008 to 2010, also in constant prices, scaled to reflect the effect of applying IMs to 2010 data. The total operational expenditure data for each EDB is based on information disclosure data (ID data).

3.26 The results of his check are contained in Appendix C. The analysis shows that the amount of opex we have allowed each EDB between 2012/13 and 2014/15 will share with consumers the benefits of efficiency gains that EDBs have achieved between

2008 and 2010. Over and above this, the amounts are neither materially above nor materially below the amounts required in the past. Therefore, we do not consider that the allowances are unreasonable for any EDB.

### Insurance costs

- 3.27 Our draft decision makes no explicit allowance for any increased insurance costs that EDBs might face as a result of the Canterbury earthquakes, although the PPI forecasts that we have used will provide EDBs with some compensation for changes in their insurance premiums.<sup>63</sup> A key reason why we have not included an additional allowance, over and above changes in the PPI, is that under the DPP we have a presumption against separating out specific items in a supplier's costs because this will require assembling and verifying detailed information—a process more appropriate to a CPP. We recognise that this will lead to over-recovery of certain costs and under-recovery of others. Overall, we expect that these effects will broadly balance out.
- 3.28 However, we recognise that the effect of this change could potentially be large, and is likely to affect the industry as a whole. One option would be to allow for the increase in insurance premiums by adding a uniform percentage (based on an estimate of the typical increase) to our estimate of opex. Given however that this cost increase may impact on some EDBs more than others, an alternative option would be to allow certain EDBs an additional amount of revenue, provided the amount required was certified by Directors by a specified date. We welcome submissions on this matter.

### ***Approach to projecting capex growth***

- 3.29 For capex, the Commission considers that the growth in forecast system capex from suppliers' AMPs is a suitable source to use in proxy for developing a capex growth assumption.<sup>64</sup>
- 3.30 We have used real historical capex figures and actual forecasts from individual 2010 AMPs for the capex growth projections. Variances between 2010 and 2011 AMP capex forecasts and growth rates were tested and forecasts for growth rates were nominalised using the capital goods price index (CGPI).
- 3.31 The AMP forecasts have not been subject to independent verification. While historical capex disclosed under information disclosure differs significantly from industry forecasts, on balance and given that the impact of different capex growth assumptions on starting prices is relatively limited, we consider an assumption based on AMP projections to be appropriate. Although we have some concerns about the quality of the AMP data, suppliers did not know that the data would be used for setting starting prices when providing the data and so there was no explicit incentive to inflate forecasts when preparing their AMPs. There is a wide variance in the capex needs of EDBs so the use of an industry average would not be appropriate.

---

<sup>63</sup> In a letter to the Commission, Wellington Electricity requested that the matter of insurance premium increases be considered as part of the process for resetting the 2010-15 DPP. Wellington Electricity, *Insurance Renewal Cost Escalation – Impact of 2010-2015 Default Price Quality Path Starting Price Adjustment (Confidential)*, letter to Dr Mark Berry, Chair, Commerce Commission of 6 July 2011.

<sup>64</sup> We have used 'capex' in this discussion to refer to the 'value of commissioned assets'. The model recognises the value of assets when commissioned, rather recognising capital expenditure as it occurs.

3.32 To allow for the non-linear shape of AMP capex projections, our starting price modelling uses individual year growth projections for each EDB and each year between 2011 and 2015 rather than an average annual growth rate projection for each EDB based on the end point relative to the starting point. The following table sets out the annual projected capex growth rates for each EDB.

**Table 3.3 Projected annual capex growth**

EDB	2010/11	2011/12	2012/13	2013/14	2014/15	Average
Alpine Energy	104.22%	-7.24%	34.19%	-31.42%	-33.46%	13.26%
Aurora Energy	11.33%	10.23%	-11.84%	18.07%	-3.28%	4.90%
Centralines	19.03%	-43.34%	24.72%	-13.78%	7.18%	-1.24%
Eastland	13.66%	8.43%	1.04%	1.63%	2.77%	5.51%
Electricity Ashburton	-2.87%	29.42%	-39.13%	16.18%	13.29%	3.38%
Electricity Invercargill	61.04%	-11.25%	-1.13%	-10.01%	0.90%	7.91%
Horizon Energy	81.81%	3.53%	-5.84%	-20.75%	6.04%	12.96%
Nelson Electricity	331.28%	3.58%	-71.01%	-18.94%	11.83%	51.35%
Network Tasman	117.24%	-11.79%	-16.20%	-12.05%	14.60%	18.36%
OtagoNet	64.37%	1.07%	5.62%	0.15%	-0.89%	14.07%
Powerco	4.24%	3.83%	3.98%	1.59%	1.87%	3.10%
The Lines Company	18.78%	-4.49%	6.68%	7.72%	-6.31%	4.48%
Top Energy	90.74%	14.02%	-3.43%	-0.59%	5.27%	21.20%
Unison	21.99%	21.52%	-7.45%	6.50%	-34.91%	1.53%
Vector	20.10%	10.00%	7.92%	6.70%	-3.68%	8.21%
Wellington Electricity	16.87%	15.32%	12.38%	2.42%	5.94%	10.59%

Source: Commission calculations using information from projected CGPI based on a NZIER forecast and 2010 AMPs.

Note: The five year average growth rate is shown for illustrative purposes.

### ***CPI***

3.33 The CPI enters our modelling in two places. On an annual basis, the CPI is used to update:

- the price path, so it affects our projections of the maximum amount of revenue that EDBs are permitted to earn. This measure of the CPI is lagged by 18 months.
- the value of the RAB, so it affects the amount of revenue that EDBs would require during the regulatory period in order to earn a normal return over time.

- 3.34 The CPI assumptions that we use are important because they determine the return that suppliers can expect. As a general rule, we do not consider that EDBs should be exposed to general inflation risk because they are not well placed to manage that risk. During the period, we therefore update the price path and the RAB value for actual inflation.
- 3.35 At the start of the period, however, we must rely in both instances on forecasts of inflation that are consistent with the WACC that we have used. This ensures that the rate of return we allow before inflation is consistent with the rate of return we allow after inflation.
- 3.36 We have therefore used the CPI forecasts that are consistent with the WACC that estimated for the 2010-15 regulatory period. This is the approach favoured by a number of submitters.<sup>65</sup> We note that, because inflation expectations have not changed significantly since November 2009, but falls in the risk-free rate and debt premium have reduced the estimated WACC, the rate of return we are allowing after inflation is favourable to suppliers (paragraph 2.43-2.48 above). This rate is consistent with the return that EDBs would have expected to earn (both before and after inflation) if we had been able to determine the path using IMs in November 2009.

### Initial Conditions and Information Requests

- 3.37 The initial conditions that we use as the basis for our projections reflect each EDB's costs in 2009/10. To obtain this information, we issued s 53ZD Notices to EDBs to obtain financial information for 2009/10 consistent with the IMs.

#### *Initial conditions*

- 3.38 Initial conditions matter because they not only give an indication of an EDB's current profitability but they also affect our projections of each supplier's costs over the regulatory period. For example, the level of depreciation as a proportion of the RAB value gives an indication of the average age of the asset base, which can be used to determine the amount of depreciation that can be expected during the regulatory period.
- 3.39 We have used 2009/10 data because it is the most recent information available for all EDBs that pre-dates the start of the regulatory period.<sup>66</sup> This is important because, in

---

<sup>65</sup> For example: ENA, *Submission on DPP Starting Price Adjustments and Other DPP Amendments*, 16 May 2011, p. 18; Unison, *Submission on 2010 – 2015 Starting Price Adjustments Update Paper*, 16 May 2011, p. 24; Vector, *Submission to Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustment and Other Amendments Update Paper*, 16 May 2011, p. 35.

<sup>66</sup> In response to the consultation on the Commission's draft s 53ZD Notices, some EDBs supported the use of 2009/10 data only, while others suggested the use of 2011/12 data would be more appropriate. However, not all EDBs agreed that 2011/12 data could be made available within necessary timeframes so that any reset can be completed by 20 October 2011. For example, Vector commented that providing audited information for more than one year would be onerous by the end of May 2011: Vector, *Submission to Commerce Commission on Draft Information Request and Process Update*, 28 February 2011, p. 2. However other submitters, such as Wellington Electricity, commented that 2010/11 information would be available and should be considered by the Commission: Wellington Electricity, *Consultation Paper on Draft Information Request and Process Update*, 28 February 2011, p. 3. Given the potential difficulty in

resetting the 2010-15 DPP, using actual expenditure may inadvertently disadvantage suppliers that have achieved efficiency gains or disadvantage consumers of those suppliers that have not been able to control expenditure. Neither outcome would be consistent with promoting the Part 4 Purpose.

- 3.40 Some submitters have commented that the initial conditions may provide a misleading ‘snapshot’ of each EDB’s expenditure requirements. However, as discussed in Chapter 2, we do not consider that it would be appropriate to address this issue by applying a margin around the WACC (as proposed by submitters). We have projected the initial conditions forward and then tested the reasonableness of these projections against historical expenditure levels. The CPP process is available where an EDB’s circumstances have changed markedly compared to the position indicated by the data for 2009/10.
- 3.41 We also note that submitters have highlighted that there was a cold winter in 2009/10 and that this has affected the financial information for that year. To the extent that the cold winter led to EDBs incurring higher expenditure in 2009/10 than they would have had in other years, this would suggest that we will have over-estimated the amount of expenditure that EDBs will actually require. However, to the extent that a cold winter affected revenues in 2009/10, this should not have any impact on our modelling. This is because our revenue growth projections start from 2011 onwards.
- 3.42 In applying our reasonableness checks, we adjusted historical data by the same proportion that suppliers adjusted the 2009/10 data by when they applied IMs.

### ***Information Requests***

- 3.43 We issued s 53ZD Notices because IMs were only determined in December 2010, so new information disclosure requirements that reflect the IMs are not yet in place. Therefore, EDBs had not yet disclosed information consistent with those IMs. For future resets, IM compliant information is expected to be available to the Commission through information disclosure regulation processes.
- 3.44 The s 53ZD Notices required EDBs to disclose information relating to regulatory income and expenses, the RAB value and regulatory tax for the 2009/10 base year consistent with the determined IMs.
- 3.45 The responses to the s 53ZD are available on our website.<sup>67</sup> Some responses were not fully compliant with the s 53ZD Notices. In using the information to inform the reset process, we have amended some disclosures to ensure consistency with the IM determination and with other EDBs. Appendix D outlines where information provided in response to the s 53ZD Notices has been amended.
- 3.46 The asset valuation IM provides that the RAB value for an EDB for any particular year be determined with reference to a roll forward from that EDB’s 2009 disclosed asset values under the previous information disclosure regime. It also allows EDB’s to

---

obtaining 2010/11 data from all EDBs, we decided to seek 2009/10 data. In addition, any efficiency gains made by EDBs in 2010/11 may be ‘stripped out’ if we used 2010/11 data for our analysis.

<sup>67</sup> The responses to the s 53ZD Notices are available at <http://www.comcom.govt.nz/2010-2015-default-price-quality-path/>.

undertake a ‘one-off’ asset adjustment process to amend the value of the 2009 disclosed assets to include load control relay assets, correct asset register errors, re-apply existing valuation multipliers, re-apply modified multipliers and re-apply optimisation or economic value tests.<sup>68</sup>

- 3.47 As part of complying with the s 53ZD Notices, those EDBs that elected to undertake an asset adjustment process were required to provide a report from an independent engineer. The Commission engaged Nel Consulting Limited (NCL) to review and provide advice on the engineering reports submitted to support the asset adjustments. The initial review of the reports identified instances of non-compliance with the disclosure requirements prescribed for the engineering reports. Subsequent to the review of additional information requested from EDBs as a result, NCL concluded that all EDBs complied with the requirements.<sup>69</sup>

---

<sup>68</sup> The asset adjustments modify the way the valuation approaches were applied when the most recent ODV valuations were prepared, and also allow known information deficiencies to be corrected. The process is outlined in clause 2.2.1 of the IM determination.

<sup>69</sup> Nel Consulting Limited, *The Review of the Impendent Engineers’ Reports on the Asset Adjustment Process of Electricity Distribution Businesses*, 15 July 2011, pp. 6-7.

## CHAPTER 4: ALTERNATIVE RATES OF CHANGE

### Summary

- 4.1 This chapter sets out our draft decision to set alternative rates of change for some EDBs to minimise price shocks to consumers. This chapter also sets out the reasons why we have not set alternative rates of change for EDBs that are likely to face downward adjustments to their prices.

### Draft Decision

- 4.2 The Commission may set an alternative rate of change (or X factor) for a particular supplier as an alternative, in whole or in part, to resetting starting prices if this is necessary or desirable to minimise any undue financial hardship to the supplier or to minimise price shock to consumers.<sup>70</sup> Any alternative rates of change may include step changes.
- 4.3 The Commission's draft decision is to limit potentially sharp increases in net revenue and instead set an alternative X factor for Alpine Energy, Centralines, The Lines Company, and Top Energy, as specified in Table 4.1. We consider that limiting sharp increases in net revenue and setting alternative rates of change should help to minimise potential price shocks to consumers. We are interested in the views of these EDBs regarding the trade-offs involved in the respective NPV equivalent combination of allowable revenue and alternative rate of change.

**Table 4.1 Allowable revenue and indicative net revenue adjustment with an alternative X factor**

EDB	Allowable revenue (AR) for 2012/13 (\$m)	Indicative adjustment to net revenue (%)	X factor to apply from 1 April 2013 (%)
Alpine Energy	30.2	15%	-5.0%
Centralines	7.9	13%	-10.0%
The Lines Company	29.9	14%	-5.0%
Top Energy	29.6	20%	-10.0%

Source: Commission calculations.

- 4.4 In respect of setting alternative rates of change to minimise any undue financial hardship to an EDB, we consider that EDBs need to demonstrate whether any proposed price reductions in 2012/13 would cause them financial hardship.

### Consideration of Price Shocks to Consumers

- 4.5 We consider that an increase in net revenue greater than 10% in the year of reset could be considered to cause a price shock to consumers. It is important to note that individual consumers may experience price increases greater than the permitted

<sup>70</sup> Commerce Act 1986, s 53P(8).

increase for an EDB's total net revenue for the year of the reset, as prices are reset at an aggregate level and EDBs can choose to adjust individual tariffs (e.g. for different consumer classes) at different rates subject to the overall constraint.

- 4.6 As set out in Table 4.2, four EDBs fall into the category of having upward adjustments to net revenue greater than 10% (i.e. their allowed revenue is more than 10% higher than their current projected revenue).

**Table 4.2 Allowable revenue and indicative adjustment with industry-wide X factor (X=0%)**

EDB	Allowable revenue (AR) for 2012/13 (\$m)	Indicative adjustment to net revenue (%)
Alpine Energy	30.2	21%
Centralines	7.9	25%
The Lines Company	29.9	20%
Top Energy	29.6	32%

- 4.7 We have considered whether it is necessary or desirable to minimise potential price shock to consumers as a result of the reset of prices in 2012/13. We consider it is desirable to smooth large adjustments over the remaining three years of the regulatory period. For each of the four EDBs identified, we propose to make partial upward adjustments from 1 April 2012 and set an alternative X factor applying from 1 April 2013.<sup>71</sup>
- 4.8 We propose to set an alternative rate of change of CPI plus 10 percentage points for each EDB, except where this would be greater than the adjustment in 2012/13. For these exceptions we consider it appropriate to set an alternative rate of change of CPI plus 5 percentage points. Table 4.1 sets out the permitted increases in net revenue and alternative X factors that we have arrived at for the four EDBs applying this approach.
- 4.9 Consistent with our views set out in the Update Paper, our default position is not to apply step changes as part of an alternative rate of change. However, we will consider doing so if there is evidence that step changes would:
- be useful in minimising undue financial hardship to the supplier or price shock to consumers; and/or
  - better reflect the supplier's or its consumers' needs or interests.
- 4.10 We note that some (or all) of the four EDBs may not want to take advantage of the price increases that are allowed under their DPP, particularly given that these EDBs are either controlled by consumer trusts or council-owned. An EDB may, however, legitimately increase its prices up to its maximum allowable revenue at any time during the regulatory period and remain compliant with the DPP. Where an EDB does

<sup>71</sup> We have considered a number of NPV equivalent combinations of allowed revenue and corresponding X factors for each of the EDBs listed in Table 4.1. We ruled out any combinations where the size of the adjustment to net revenue is less than the X factor, as we consider that it would be inappropriate to have an initial allowed increase which is less than subsequent annual allowed increases.

not initially take advantage of any permitted price increases, but chooses to increase its prices later in the regulatory period, there is a potential to have higher price shocks than if an alternative rate of change was not set. We would expect that in such instances EDBs would limit price increases to minimise any price shocks.

## Consideration of Financial Hardship to Suppliers

- 4.11 Consistent with our views expressed in the Update Paper, we will consider alternative rates of change to minimise undue financial hardship to a supplier only when the supplier has provided evidence that:
- the proposed net revenue adjustment will, or is likely to, limit the supplier's ability to finance its reasonable investment needs and meet its debt repayments as they fall due<sup>72</sup>
  - it is not reasonable<sup>73</sup> (and/or possible) for the supplier to address its limited ability to finance its reasonable investment needs and meet its debt repayments as they fall due by altering their behaviour.
- 4.12 No EDB has specifically commented on whether downward price adjustments would cause, or likely cause, it financial hardship. However, PwC submitted that a 10% downward adjustment to prices in 2012/13 should be the threshold before the Commission considers setting an alternative rate of change to minimise undue financial hardship to an EDB.<sup>74</sup> No proposed adjustments meet this greater than 10% threshold after taking into account the effect of pass-through costs on overall price adjustments.
- 4.13 Any EDB that considers its proposed downward price adjustment will cause them undue financial hardship, and requests the Commission to set an alternative rate of change, must provide evidence of that financial hardship in its submission on this paper.
- 4.14 Vector submitted that it considers that hardship should be demonstrated on a business group basis where multiple businesses are operated by an EDB. However, we consider that the decision about minimising undue financial hardship only concerns the ability of the supplier to be able to operate and finance the services regulated under the DPP. Therefore, where the regulated service is provided by a company that provides multiple regulated and unregulated services, evidence provided of undue financial hardship (including forecasts of key indicators) must be for the services regulated under the DPP only, rather than the entire company.<sup>75</sup>

---

<sup>72</sup> The CPP expenditure objective provides guidance on what is meant by 'reasonable investment needs', *Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2010*, 23 December 2010, clause 1.1.4.

<sup>73</sup> It may not be reasonable for a supplier to address its financial hardship by altering its behaviour if a change in behaviour would, on balance, have a negative impact on the efficient running of the business.

<sup>74</sup> PwC, *Submission to the Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustments and Other Amendment*, 16 May 2011, p. 9.

<sup>75</sup> See the Update Paper (p. 50) for types of forecasts of key indicators that an EDB may wish to include as evidence.

## CHAPTER 5: OTHER AMENDMENTS TO THE 2010-15 DPP

### Summary

- 5.1 This chapter sets out our draft decisions on proposed amendments to the 2010-15 DPP determination other than those related to resetting prices in 2012/13. The amendments are necessary to make the 2010-15 DPP determination consistent with the IMs, which were determined after the 2010-15 DPP was initially set.<sup>76</sup> The amendments include:
- changes to definitions
  - specifying which IMs apply to the 2010-15 DPP now that these have been determined
  - specifying the annual timeframes for submitting CPP proposals
  - specifying an approval process that permits EDBs to treat avoided transmission charges and new investment contracts as recoverable costs
  - incorporating the IM which specifies the circumstances under which the 2010-15 DPP may be reconsidered
  - specifying what happens when an EDB is involved in an amalgamation
  - changes to the price path compliance assessment formula.
- 5.2 This chapter should be read in conjunction with the draft of a consolidated version of the 2010-15 DPP determination released alongside this paper, which has the proposed amendments marked for clarity.<sup>77</sup>

### Other Amendments

#### *Process for amending a determination*

- 5.3 The Commission may amend a s 52P determinations in a material way following consultation under s 52Q. The Commission is also permitted to reset the 2010-15 DPP under s 54K(3) to take account of IMs where certain conditions are met. We consider that the conditions in s 54K(3) are satisfied for the reasons set out in Chapter 1.

---

<sup>76</sup> Section 52S requires all relevant IMs must be applied by the Commission when determining how regulation applies under Part 4 and by EDBs in respect of a relevant s 52P determination.

<sup>77</sup> The Commission will release both a consolidated final determination and a separate amendment determination as part of the final decisions stage for resetting the 2010-15 DPP.

**Definitional changes**

5.4 We propose the following definitions be amended/added as follows to reflect the IMs determined for EDBs in December 2010:

**Table 5.1 Definitional changes to Clause 4.1 of the 2010-15 DPP determination**

#	Definition	Amendment (with references to the IM determination)	Description
1	Price	Amended to reflect clause 3.1.1(4)	Prices are exclusive of GST.
2	Posted Discount	Amended to reflect 3.1.1(5)(b)	
3	GST	Amended to reflect 1.1.4(2)	
4	Electricity Distribution Service	Amended to reflect 1.1.4(2)	
5	Pass-through Costs	Amended to reflect 3.1.2(2) & (4)	Pass-through costs will include local authority rates and certain levies specified in the IM. Transmission charges will become a recoverable cost.
6	Recoverable Costs	Definition added to reflect 3.1.3(1)(a)-(g)	Recoverable costs to include transmission charges (currently a pass-through cost), avoided transmission charges, new investment contracts, claw-back, and IRIS.
7	Avoided Transmission Charges	Definition removed, refer to definition of Recoverable Costs	
8	Electricity Commission Levy	Definition removed, refer to definition of Pass-through Costs	
9	Commerce Act Levy	Definition removed, refer to definition of Pass-through Costs	
10	Transmission Charges	Definition removed, refer to definition of Recoverable Costs	Remove reference to avoided transmission charges, new investment contracts and system operator charges.
11	Director	Amended to reflect 1.1.4(2)	
12	CPI	Amended to reflect 1.1.4(2)	CPI values used in price path compliance formula prior to the December 2010 quarterly CPI value must be multiplied by 1.02 to take account of an increase in GST from 1 October 2010.

**Other changes**

5.5 We propose the following changes to the 2010-15 DPP determination to implement particular processes or requirements provided for in the IMs relevant to DPPs:

**Table 5.2 Other processes specified in the 2010-15 DPP determination**

#	Process	Reference in consolidated determination	Description
1	Circumstances under which the price path may be reconsidered		Incorporates Subpart 2 of Part 4 of the IM determination, which allows the Commission to reconsider a DPP.
2	Amalgamations	Set out in Clause 11	Provides a process for transactions between non-exempt EDBs where one or more CPPs are involved (see discussion below).
3	CPP application window (refer s 53O(e))	Set out in Clause 8	Suppliers are able to make CPP proposals to the Commission in the last week of January in normal circumstances, within a month outside the January window if less than four applications are made and at any time for catastrophic events (see discussion below).
4	Applicable input methodologies (refer s 52P(3)(c))	Set out in Clause 7	Provides which sections of the <i>Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2010</i> apply to the 2010-15 DPP determination.
5	Approval of recoverable costs	Set out in Clauses 12.1(b)(iii) and (iv), and 12.2	Provides a process for suppliers to recover costs under 3.1.3(1)(a)-(g) of the <i>Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2010</i> . Specific processes have been provided for avoided transmission charges and new investment contracts (see discussion below).
6	Compliance assessment formula	Set out in Clauses 9.4 and 9.6	Provides a term in the compliance assessment formula for the treatment of recoverable costs.

**Approval of certain recoverable costs**

5.6 We propose to require suppliers to provide evidence of recoverable costs relating to 3.1.3(1)(e) of the IM determination as part of their annual compliance statement.<sup>78</sup> This evidence must demonstrate to the Commission's satisfaction:

- *that a transaction between Transpower and the supplier occurred resulting in the avoidance of charges payable to Transpower consistent with either*

<sup>78</sup> Under clause 3.1.3(2) of the IM Determination the Commission is able to specify a process for the approval of the amount of charge relating to a recoverable cost.

3.1.3(1)(b) or 3.1.3(1)(c) of the IM determination. This evidence may be marked as confidential

- *the amount of the charge avoided* as a result of the transaction between the supplier and Transpower.

- 5.7 For charges avoided under clause 3.1.3(1)(b) of the IM determination, the amount of the charge for the first year is to be the amount that currently relates to the assets involved in the transaction. The current amount is to be the amount specified in Transpower's annual pricing schedule for the year immediately prior to the year in which the transaction occurred. For the four remaining years, the amount of the charge may be adjusted annually using a method consistent with the Transmission Pricing Methodology to account for changes in the cost of operating and maintaining the asset. Where a supplier cannot demonstrate sufficiently that the amount of the charge should be adjusted, the Commission will apply the amount of the charge from the preceding assessment period.
- 5.8 For charges avoided under clause 3.1.3(1)(c) of the IM determination, the amount of charge is to be that specified in a contract relating to clause 3.1.3(c).

### ***Transactions involving EDBs***

- 5.9 The draft decision for amalgamations replaces clause 10 'Mergers and acquisitions' of the DPP determination with a new clause 11 'Transactions between EDBs'.
- 5.10 Clause 11.1 provides that where a Non-exempt EDB has completed an amalgamation under Part 13 of the Companies Act 1993 then clause 3.2.1 of the IM determination will apply.
- 5.11 Clause 11.2 provides a process for EDBs completing significant transactions that are not amalgamations whereby in the assessment period in which the transaction occurred, EDBs will report under existing structures on whether each EDB involved in the transaction complied with its price path and quality standards. For assessment periods following the transaction, the reporting requirements will be set by the Commission following an assessment of the effect of the transaction. The EDB must notify the Commission of the transaction within 30 days of its completion, so that the Commission can provide its guidance for future assessment periods in a timely manner.
- 5.12 Clause 11.2 addresses the difficulty in providing guidance for the wide range of different forms potential transactions could take. It is difficult to predict the effect on the price path and quality standards without information specific to the transaction. Given this, the assessment of transactions on a case by case basis is appropriate. To provide as much certainty as possible, it is clarified that Clause 11.2 does not allow for the reset of prices following a transaction. The IM for reconsideration of the price path – specified in clause 6 of the DPP determination – does not include such transactions as a circumstance in which prices can be reconsidered.

### ***Window for making CPP proposals***

- 5.13 The draft decision on the window in which suppliers may make a proposal for a CPP to the Commission is:

In normal circumstances –

- the last week of January in each of 2012 and 2013

- the first week of March in each of 2012 and 2013, if less than four applications are made in the corresponding January window.

In circumstances relating to a catastrophic event –

- at any time, except during the last year of the regulatory period (i.e. 2014/15).

5.14 Although the window for making CPP proposals is not specified in the IM determination, this matter was consulted on as part of the process for determining IMs for electricity distribution services.<sup>79</sup> It must be provided for in the determination of the 2010-15 DPP.<sup>80</sup>

---

<sup>79</sup> Commerce Commission, *Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper*, 22 December 2010, pp. 625-627.

<sup>80</sup> Commerce Act 1986, s 52P(3)(b).

## APPENDIX A: REGULATORY CONSIDERATIONS FOR A DPP

- A1 This appendix sets out further discussion on the regulatory context relevant to the DPP, including:
- the interpretation of the Part 4 Purpose (s 52A)
  - statutory provisions relevant to resetting a DPP (s 53P)
  - other considerations for resetting a DPP, including:
    - energy efficiency (s 54Q)
    - the impact of certain decisions made under the Electricity Act 1992 (s 54V).

### Part 4 Purpose (s 52A)

- A2 Section 52A of the Act states that the purpose of Part 4 is:

to promote the long-term benefit of consumers in markets referred to in section 52 by promoting outcomes that are consistent with outcomes produced in competitive markets such that suppliers of regulated goods or services—

- (a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and
  - (b) have incentives to improve efficiency and provide services at a quality that reflects consumer demands; and
  - (c) share with consumers the benefits of efficiency gains in the supply of the regulated goods or services, including through lower prices; and
  - (d) are limited in their ability to extract excessive profits.
- A3 The central purpose, therefore, is to promote the long-term benefit of consumers in markets where there is little or no competition and little or no likelihood of a substantial increase in competition. ‘Competition’ in the context of Part 4 of the Act means ‘workable or effective competition’ (s 3(1) of the Act).<sup>81</sup>
- A4 This central purpose is to be achieved by promoting outcomes consistent with those produced in workably competitive markets such that the objectives set out in s 52A(1)(a)-(d) of the Act are achieved. These objectives are integral to promoting the long-term benefit of consumers, and reflect the key areas of supplier performance that characterise workable and effective competition.
- A5 Electricity lines services are regulated under Part 4. By definition the legislature has determined that markets in which these services are supplied are not workably competitive. Nevertheless, s 52A(1) requires the Commission to promote outcomes that are consistent with outcomes produced in workably competitive markets. Guidance as to which of the variety of outcomes produced in workably competitive

---

<sup>81</sup> Except where references specifically refer to ‘effective competition’, ‘workable competition’ is used hereafter to refer to both workable and effective competition, and ‘workably competitive markets’ to refer to workably or effectively competitive markets.

markets should be promoted by the Commission is provided by the regulatory objectives in s 52A(1)(a)-(d).

- A6 For further detail on our interpretation of the Part 4 Purpose, see Chapter 2 of the IM Reasons Paper.
- A7 In reaching our draft decisions on resetting starting prices, we have had regard to the Part 4 Purpose. There is a natural tension between some of the objectives set out in s 52A, for instance providing suppliers with incentives to invest and limiting their ability to extract excessive profits. However, we consider that we have obtained an appropriate balance between limiting excessive profits and encouraging investment by our proposed reset of the 2010-15 DPP.

### **Statutory Provisions for Resetting a DPP (s 53P)**

- A8 Section 53P sets out provisions relevant to resetting DPP starting prices, alternative rates of change, and quality standards. The particular subclauses relevant to resetting starting prices are:

- (3) The starting prices must be either—
  - (a) the prices that applied at the end of the preceding regulatory period; or
  - (b) prices, determined by the Commission, that are based on the current and projected profitability of each supplier.
- (4) Starting prices set in accordance with subsection (3)(b) must not seek to recover any excessive profits made during any earlier period.
- ...
- (8) The Commission may set alternative rates of change for a particular supplier—
  - (a) as an alternative, in whole or in part, to the starting prices set under subsection (3)(b) if, in the Commission's opinion, this is necessary or desirable to minimise any undue financial hardship to the supplier or to minimise price shock to consumers;
- ...
- (9) Any alternative rates of change set under subsection (8) may include step changes.
- (10) The Commission may not, for the purposes of this section, use comparative benchmarking on efficiency in order to set starting prices, rates of change, quality standards, or incentives to improve quality of supply.

- A9 In reaching our draft decisions on resetting starting prices, we have met the requirements of s 53P. The main sections of this paper discuss how we have met particular requirements.

### **Other Considerations for Resetting a DPP**

#### ***Energy efficiency (s 54Q)***

- A10 Section 54Q requires that the Commission, when applying regulation under Part 4, must promote incentives, and avoid imposing disincentives, for suppliers of electricity lines services to invest in energy efficiency and demand-side management and to

reduce energy losses. “Energy efficiency” refers to both demand side management and energy loss reduction.

- A11 In reaching the draft decisions on resetting starting prices, we have had regard to s 54Q. We consider that our approach allows for efficient investment and this could include energy efficient investment. We are also satisfied that these draft decisions, at a minimum, will not impose disincentives on suppliers to invest in energy efficiency.

***Decisions made under the Electricity Act 1992 (s 54V)***

- A12 Section 54V sets out provisions relating to the interface with the Electricity Industry Act 2010. It specifies matters which the Commission must take into account. The Commission has considered its obligations under s 54V in reaching the draft decisions on resetting starting prices.

## APPENDIX B: SPECIFICATION FOR STARTING PRICE MODEL

B1 We have published alongside this paper the model that supports our draft decisions.<sup>82</sup> The specification of this model is in two forms. One is contained in this appendix, which gives a higher level specification and the other is contained in the worksheet named 'Spec' in the model workbook. The more detailed specification in the workbook includes references to relevant clauses in the IM determination.

### High Level Specification

#### *How we determined allowable revenues in 2012/13*

- B2 At the most basic level, the model calculates the allowable revenues for 2012/13 by the following steps:
1. Calculate the present value of projected total costs (PTC) for the 3 year period of 2012/13 to 2014/15.
    - The PTC comprise the required return on capital (Regulatory Investment Value (RIV) multiplied by the WACC) *less* RAB revaluations, *plus* operating expenditure (excluding pass through costs and recoverable costs), depreciation, and term credit spread differential allowance and tax.
  2. Calculate the rate at which revenues are expected to grow between 2012/13 and 2014/15.
    - Project forward a 2012/13 Allowable Revenue (AR) normalised to unity using the applicable X factor and CPI and real revenue growth projections.
    - Determine the present value of the annual revenues that results when  $AR_{2012/13}$  is assumed to be unity.
    - Determine the proportion by which AR of unity must be scaled up to produce the amount of revenue that is required to cover PTC between 2012/13 and 2014/15. This is achieved by dividing PTC by the present value of the annual revenues that results when  $AR_{2012/13}$  is assumed to be unity.
  3. Determine the revenues required in 2012/13 to generate a stream of revenue that has a present value between 2012/13 and 2014/15 that is equal to PTC
    - Multiply the assumed 2012/13 revenues (i.e. unity) by this factor to determine the appropriate  $AR_{2012/13}$ .
    - Check the calculation to ensure the present value of the PTC between 2012/13 and 2014/15 is equal to the present value of the price path revenues over this period.

---

<sup>82</sup> 2010-15 Default Price-Quality Path: 2012/13 Price Reset Model – Draft Decisions, July 2011, which is available at <http://www.comcom.govt.nz/2010-2015-default-price-quality-path/>.

***Specific definitional issues***

- B3 In carrying out the calculations described above, we applied the following definitions:
1. **Timing of cash-flows.** Revenues and opex are modelled as occurring at mid-year, while other components of the projected total costs are modelled at end-of-year.
  2. **Definition of revenues.** Revenues, unless otherwise stated, are revenues through prices and are net of pass through costs and recoverable costs.
  3. **Remaining life of assets.** The average remaining life of assets for the purposes of determining depreciation is determined by dividing the opening 2010/11 RAB by the 2010/11 depreciation. The remaining life of assets for the purposes of amortising the initial difference in asset values is the remaining life as disclosed by the EDB.
  4. **Depreciation.** Depreciation for each year is determined as the opening RAB divided by the average remaining life, with this remaining life value being held constant.
  5. **Timing of asset commissioning.** Assets are assumed to be commissioned evenly throughout the year.
    - 50% of commissioned assets are modelled as being commissioned at the start of the year and the other 50% commissioned at the end of the year.
  6. **Estimation of the RIV.** The initial RIV is estimated by adding the initial RAB value, half the value of commissioned assets and the initial deferred tax for the year in question. A similar treatment using opening values rather than initial values applies in subsequent years.
  7. **Tax depreciation rate.** An EDB-specific average tax depreciation rate (diminishing value) is determined as the 2009/10 tax depreciation divided by the opening 2009/10 tax asset value. This rate is applied for the remaining years of the regulatory period.
  8. **Interest.** Interest is determined in the same manner as the Notional Deductible Interest specified in the IMs, namely the  $RIV * leverage * debt\ rate$ .
  9. **Term Credit Spread Differential Allowance (TCSD).** The TCSD for 2009/10 is calculated in accordance with the IMs.
    - The TCSD is proportional to the average of the opening and closing RAB.
    - For each subsequent year, the TCSD is determined pro rata by the average for the subsequent year, relative to the average for 2009/10.
  10. **Tax losses.** Tax losses have been ignored because no tax loss situations are anticipated to occur in the model.
    - In the event of a tax loss being calculated, a #N/A value is assigned to the regulatory tax allowance in lieu of a tax amount.

- This #N/A value would propagate through the model to the results, and thus provide an alert that a tax loss situation had occurred.

### *Checks used in the model*

- B4 The correctness of the model is checked using an IRR calculation. The steps in this cross-check are as follows.
1. **Value of investment at start and end of year.** Determine the amounts that represent the level of investment at the beginning and end of the three year period.
    - The amount of the investment at the start of the period is the 2012/13 RIV.
    - The amount of the investment at the end of the period shall be closing RIV at the end of the 3 year period. This closing RIV may be determined by considering the RIV for the following year (2015/16). This would be the closing 2014/15 RAB plus half the 2015/16 Commissioned Assets less the 2014/15 closing deferred tax. The 2015/16 Commissioned Assets must be ignored however as they fall outside the 3 year period. The closing RIV is therefore the 2014/15 closing RAB plus the closing 2014/15 deferred tax.
  2. **Cash-flows during the period.** Determine the cash-flows occurring during each of the three years between 2012/13 and 2014/15.
    - Subtract from the price path allowable revenue the following amounts: opex throughout the year, value of commissioned assets from mid-year to mid-year (i.e. 50% of this year's, 50% of next year's), tax payable at the end of the year, TCSD.
  3. **Determine IRR.** The IRR of the series of cash-flows and the value of the investment at the start and the end of the period should equal the WACC.

## APPENDIX C: PROJECTED COSTS AND REVENUES

C1 This appendix explains the derivation of the different assumptions used to project supplier-specific revenue, and opex and capex growth used in our modelling.<sup>83</sup>

### Data Used to Project Costs and Revenues

C2 Wherever possible in the analysis we have used projections from reputable, independent forecasters. Table C1 sets out the data sources used for projecting real revenue, opex and capex growth rates. The way in which this information has been used to develop projections for each supplier is explained below.

**Table C1 Data sources used to project costs and revenues**

Description	Time period	Source
Regional population growth	2006-2015	Statistics NZ (sub-national population projections tables, 2006(base)-2031 update) <a href="http://www.stats.govt.nz/tools_and_services/tools/tablebuilder/population-projections-tables.aspx">http://www.stats.govt.nz/tools_and_services/tools/tablebuilder/population-projections-tables.aspx</a>
Regional throughput	2004-2008	Electricity Authority regional forecasts. These historical figures were used to inform the projected figures. For updated historic figures refer to <a href="http://www.ea.govt.nz/industry/modelling/cds/centralised-dataset-web-interface/">http://www.ea.govt.nz/industry/modelling/cds/centralised-dataset-web-interface/</a>
Regional throughput	2009-2015	Electricity Authority regional forecasts (IWIA SPA Paper), 2009 Electricity Demand Forecasts Prepared for Electricity Authority by Brian Kirtlan, 16 December 2009
Regional real GDP growth	2005-2015	NZIER forecast (Quarterly Predictions-June 2011, Table A25 Regional Outlook)
CPI	1994-2014	Reserve Bank of New Zealand (Central Projection Mar 2011 – Mar 2013 Monetary Policy Statement Sept 2009) <a href="http://www.rbnz.govt.nz/monpol/statements/index.html">http://www.rbnz.govt.nz/monpol/statements/index.html</a> <a href="http://www.stats.govt.nz/browse_for_stats/economic_indicators/CPI_inflation/ConsumersPriceIndex_HOTDec10qtr.aspx">http://www.stats.govt.nz/browse_for_stats/economic_indicators/CPI_inflation/ConsumersPriceIndex_HOTDec10qtr.aspx</a>
CGPI	1998-2015	NZIER estimates and forecasts (provided on 08 July 2011)
PPI (all industries)	1994 - 2015	NZIER forecast (Quarterly Predictions-June 2011, Table A7 Prices)
LCI (all industries)	2011 - 2015	NZIER Forecast (Quarterly Predictions-June 2011, Labour Cost Index)
ICPs		Ministry of Economic Development <a href="http://www.med.govt.nz/upload/77145/Quarterly%20Survey%20of%20Domestic%20Electricity%20Prices%20-%202015%20May%202011.pdf">http://www.med.govt.nz/upload/77145/Quarterly%20Survey%20of%20Domestic%20Electricity%20Prices%20-%202015%20May%202011.pdf</a>
Revenue weights		EDBs (responses to s 53ZD Notices issued 15 June 2011)

<sup>83</sup> We released our workbook with all cost and revenue projection data and calculations alongside this paper, refer: *2010-15 Default Price-Quality Path: Cost and Revenue Growth Projections for 2012/13 Price Reset – Draft Decisions*, July 2011.

## Approach Used to Project Real Revenue Growth for Each EDB

- C3 This section of the appendix explains the approach adopted for projecting supplier-specific real revenue growth.
- C4 Revenue growth estimates should reflect growth in the items suppliers charge for. These typically comprise variable charges on throughput, fixed charges per connection, variable charges on actual demand and, in some cases, fixed charges on reserved capacity. Growth in total revenue is a weighted average of the sum of the growth in prices plus the growth in quantities for each of these items, where the weights are determined by the revenue share of each item. Since prices are set to track the CPI by the price path in this case, the relevant variables we need information on to estimate real revenue growth are the relevant output quantities.
- C5 While past throughput and connection quantities are reported, there is no readily accessible information on the past quantities associated with demand and reservation charges. In the forecasting exercise we have looked at reasonable proxies (or drivers) for relevant output quantities where there are reputable, independent forecasts available for those proxies.
- C6 In its submission, PwC considered that real revenue projections should take into account actual charges and actual individual revenue for 2011.<sup>84</sup> PwC submitted that the Commission should use output weights that are consistent with each EDB's revenue weights.
- C7 Unison also suggested modifying the real output measure by changing the weights of each variable or changing the system capacity measure to include only transformer capacity.<sup>85</sup>
- C8 Unison recommended that each input parameter be assessed for regional differences.<sup>86</sup> PwC also suggested the Commission use local or regional information to reduce the likelihood of an EDB applying for a CPP.<sup>87</sup>
- C9 We agree that the real revenue growth used for each EDB should reflect as closely as possible the expected growth in its output quantities and its revenue weights. As noted above, electricity distribution revenue is recovered through a combination of variable charges, fixed charges, and capacity or demand based charges. Conceptually, each type of charge is subject to a different driver. Table C2 below sets out the drivers used for each tariff component.

---

<sup>84</sup> PwC, *Submission to the Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustments and Other Amendment(2)*, 23 May 2011, pp. 3-6.

<sup>85</sup> Unison, *Submission on 2010 – 2015 Starting Price Adjustments Update Paper: Input Assumptions*, 23 May 2011, p.5.

<sup>86</sup> Unison, *Submission on 2010 – 2015 Starting Price Adjustments Update Paper: Input Assumptions*, 23 May 2011, p.6.

<sup>87</sup> PwC, *Submission to the Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustments and Other Amendment(2)*, 23 May 2011, pp. 3-6.

**Table C2 Components of real revenue growth**

Tariff component	Measure
Fixed charges	Regional population growth
Variable charges	Regional throughput growth
Demand/capacity based charges	Regional real GDP growth

C10 The table below summarises the approach adopted in calculating real revenue growth for any given supplier based on three tariff components and supplier-specific revenue shares (note that  $\alpha+\beta+\gamma=1$ ).

**Table C3 Approach to calculating supplier-specific real revenue growth**

Tariff component	Revenue driver	Revenue weight (illustrative)	2011	2012	etc
Fixed	Population growth (a)	$\alpha$	$\alpha \times a_{2011}$	$\alpha \times a_{2012}$	...
Variable	Throughput growth (b)	$\beta$	$\beta \times b_{2011}$	$\beta \times b_{2012}$	...
Capacity/demand	Real GDP growth (c)	$\gamma$	$\gamma \times c_{2011}$	$\gamma \times c_{2012}$	...

C11 Consistent with the low-cost intent of setting DPPs, output driver projections are made on a regional basis rather than a supplier-specific basis. Regional projections for each revenue driver are available from reputable, independent third-party forecasters and are matched with EDB distribution areas using the allocation of EDBs' ICPs across relevant regions (this matching exercise is discussed below). The more resource intensive exercise of forecasting individual EDBs' actual output components would be more appropriately undertaken as part of a CPP process.

C12 The rest of this section first considers the approach to matching regional projections for each driver with EDB distribution areas, followed by the approach to projecting supplier-specific growth rates for each tariff component.

#### *Approach to matching between regional data and EDB distribution regions*

C13 We identified regions based on regions defined by:

- Statistics New Zealand for regional population growth
- NZIER for regional real GDP growth
- the Electricity Authority (EA) for regional demand projection.

C14 The regions defined by Statistics New Zealand were similar to the regions defined by NZIER and the EA. We identified 14 regions which we used to match EDBs' distribution areas.

C15 We then used the number of ICPs within an area to identify relevant regions for each EDB. This ICP data shows total ICP numbers by EDB and by region (as of May

2011).<sup>88</sup> Each EDB is matched to a region according to the Ministry of Economic Development's definitions.

C16 We then allocated regions to the EDBs according to the spread of each EDB's ICPs across regions. In most cases there is a one-to-one correspondence between EDBs and region(s), but Powerco and Unison have a presence in multiple regions. We considered that the distribution of ICPs is a proxy for the distribution of customers. We therefore used ICP-based weightings for Powerco and Unison to take account of their regional spread.

C17 The table below provides a summary of the region(s) allocated to each EDB.

**Table C4 Regional matching by EDB**

<b>EDB</b>	<b>Region</b>
Alpine Energy	Canterbury / South Canterbury
Aurora Energy	Otago / Southland
Centralines	Hawke's Bay region
Eastland	Gisborne region
Electricity Ashburton	Canterbury / South Canterbury
Electricity Invercargill	Otago / Southland
Horizon Energy	Bay of Plenty region
Nelson Electricity	Nelson/ Marlborough region
Network Tasman	Nelson/ Marlborough region
OtagoNet	Otago / Southland
The Lines Company	Waikato region
Top Energy	Northland region (North Isthmus)
Vector	Auckland region
Wellington Electricity	Wellington region

Source: Commission analysis based on the number and location of ICPs as defined by the Ministry of Economic Development

C18 The following table provides a summary of the ICP-based weightings for Powerco and Unison.

---

<sup>88</sup> Source: Ministry of Economic Development  
<http://www.med.govt.nz/upload/77145/Quarterly%20Survey%20of%20Domestic%20Electricity%20Prices%20-%202015%20May%202011.pdf>.

**Table C5 Regional matching by EDB present in multiple regions (weights based on number of ICPs within a region)**

Region	Powerco	Unison
Waikato region	19.9%	42.9%
Bay of Plenty region	26.4%	-
Gisborne region	-	57.1%
Hawke's Bay region	8.9%	-
Taranaki region	27.9%	-
Manawatu-Wanganui region (Central)	16.9%	-
Total	100.0%	100.0%

Source: Commission analysis based on the number and location of ICPs as defined by the Ministry of Economic Development

### ***Fixed charge revenue growth***

- C19 In developing assumptions for the fixed charge component of tariffs, we considered population growth projections for both household growth, and commercial and industrial growth.
- C20 We considered a range of drivers for fixed charges, including those suggested in submissions. A number of submitters held that household numbers have a strong relationship with residential electricity use and recommended using household growth projections as the driver.<sup>89</sup> Powerco also submitted that population growth in a local area would provide a close prediction of growth for residential demand.
- C21 We consider that projections based on household numbers have a strong relationship with residential fixed charges growth. We also consider that household numbers is the best forecast data available on a regional level.
- C22 Regional projections on the number of businesses are likely to be the best driver for commercial and industrial fixed charges. However, no robust forecasts of regional business numbers are available. In their absence, we consider that regional GDP growth projections are an appropriate driver for industrial and commercial demand because they reflect expected economic activity on a regional basis. Wellington Electricity also submitted that population growth is a driver for commercial and industrial customers.<sup>90</sup>

<sup>89</sup> Wellington Electricity, *Submission on the 2010 – 2015 Default Price-Quality Path Starting Price Adjustment and Other Amendments Update Paper – Working Input Assumptions*, 23 May 2011, pp. 3-5; and Powerco, *Assumptions in 2010-15 Default Price Quality Path Starting Price Adjustments and Other Amendments Update Paper*, 23 May 2010, p. 3.

<sup>90</sup> Wellington Electricity, *Submission on the 2010 – 2015 Default Price-Quality Path Starting Price Adjustment and Other Amendments Update Paper – Working Input Assumptions*, 23 May 2011, pp. 3-5.

- C23 However, although separate drivers of domestic and industrial/commercial fixed charges are available, information disclosures do not provide information on relevant weights, which may change over time, for each supplier.<sup>91</sup>
- C24 Given this data limitation, we consider that population growth is an acceptable proxy for the growth in both household numbers (residential fixed charges) and the number of businesses within a particular region (commercial and industrial fixed charges). We have used population growth projected by Statistics New Zealand on a regional basis as the driver of fixed charges.
- C25 Table C6 shows population growth projections for each EDB.

**Table C6 Population projections by EDB (Compounded growth rate, 2011 to 2015)**

<b>EDB</b>	<b>Population Growth</b>
Alpine Energy	0.85%
Aurora Energy	0.35%
Centralines	0.26%
Eastland	0.09%
Electricity Ashburton	0.85%
Electricity Invercargill	0.35%
Horizon Energy	0.89%
Nelson Electricity	0.57%
Network Tasman	0.57%
OtagoNet	0.35%
Powerco	0.49%
The Lines Company	0.77%
Top Energy	0.58%
Unison	0.53%
Vector	1.56%
Wellington Electricity	0.70%

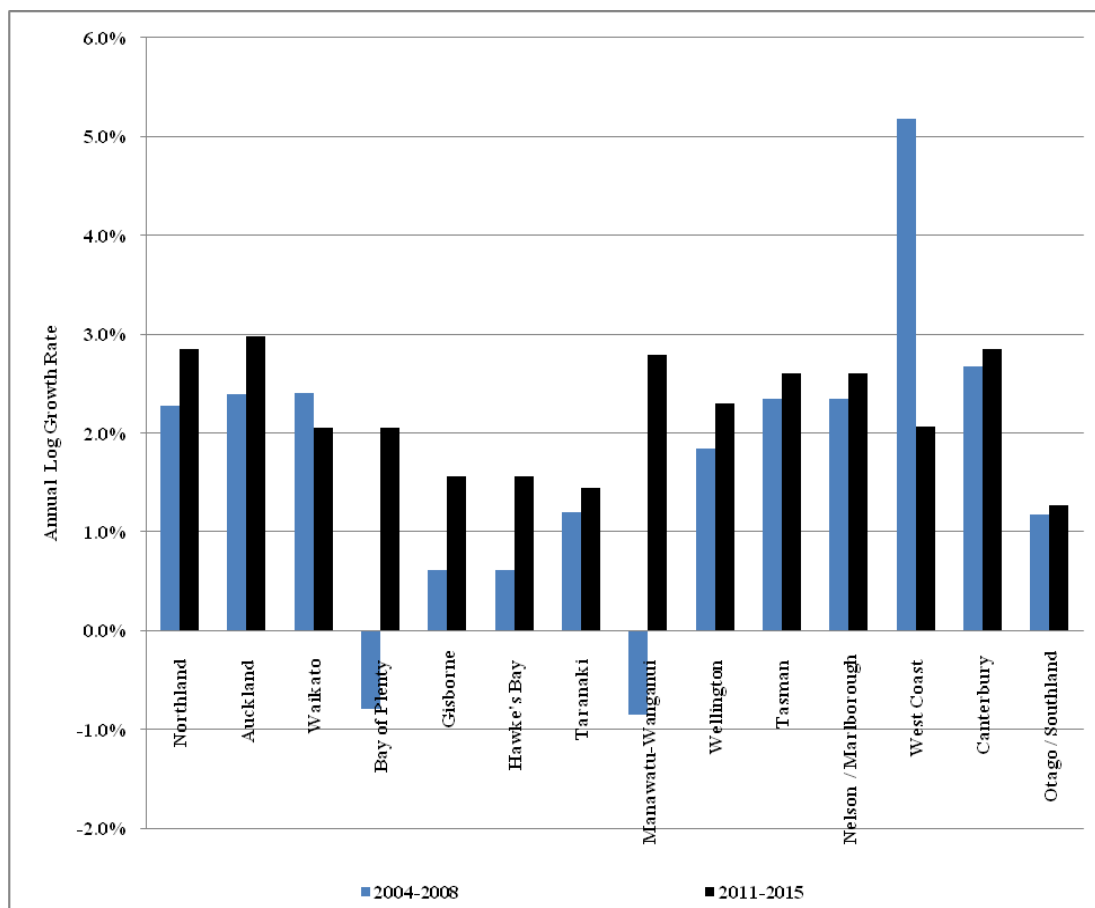
Source: Commission calculations using Statistics New Zealand regional population projections and the relevant regions for each EDB

<sup>91</sup> We will consider whether such data should be made available in a more systematic way to inform future resets.

### Variable charge revenue growth

C26 Real revenue from variable charges is driven by throughput. The figure below sets out historical and projected annual growth rates based on the EA demand data. This highlights the variation in throughput growth across regions, which supports the case for using regional throughput projections rather than a single national projection for all EDBs.

**Figure C1 Historical and projected regional throughput growth**



Source: Commission analysis based on EA regional throughput data

C27 For the real variable charge revenue driver we use regional throughput growth as projected by the EA.<sup>92</sup> The limitation of this source is that the EA projections include demand for both transmission and distribution businesses. The projections therefore include demand for major users (or direct supply customers) that are directly supplied from the transmission network.

<sup>92</sup> Information was obtained from <http://www.ea.govt.nz/industry/modelling/cds/centralised-dataset-web-interface/>.

- C28 We have therefore compared projections including large direct supply customers with projections for comparable regions with no large users connected. The impact of large direct supply customers on regional demand growth rates does not appear to be sufficiently material to warrant normalisation of the data. This analysis suggests that the EA demand projections are a reasonable proxy for regional throughput growth regardless of whether or not large direct supply customers are present. The details of the analysis are as follows.
- Regional demand growth rates were derived by using regional demand data for the years 2004-2015.<sup>93</sup>
  - Large direct supply customers were identified using the regional demand figures by transmission grid exit point defined by the EA. Transpower supplied the specific names of the major users relating to each grid exit point. These major users were assigned to the EA regions by their location. There were 14 major users with two in Auckland, four in Waikato, one in Hawke’s Bay, two in Bay of Plenty, one in Taranaki, one in Manawatu and three in Otago/Southland.
  - The demand growth rates for each region were compared looking for higher growth rates where large direct supply customers were present. This was not observed, as growth rates for each region did not show a consistent pattern where large direct supply customers were present.
- C29 Table C7 below provides a summary of the projections for each supplier for each year, from 2011 to 2015.

---

<sup>93</sup> Growth rates can be viewed in the “regional demand growth” tab in our workbook with all cost and revenue projection data and calculations.

**Table C7 Throughput projections by EDB (2011 to 2015)**

EDB	2010/11	2011/12	2012/13	2013/14	2014/15	Average
Alpine Energy	3.17%	2.93%	3.19%	2.80%	2.47%	2.91%
Aurora Energy	3.39%	1.32%	1.59%	1.24%	0.93%	1.69%
Centralines	1.69%	1.51%	1.83%	1.55%	1.35%	1.59%
Eastland	1.69%	1.51%	1.83%	1.55%	1.35%	1.59%
Electricity Ashburton	3.17%	2.93%	3.19%	2.80%	2.47%	2.91%
Electricity Invercargill	3.39%	1.32%	1.59%	1.24%	0.93%	1.69%
Horizon Energy	2.04%	1.88%	2.26%	2.07%	1.98%	2.05%
Nelson Electricity	3.08%	2.81%	3.01%	2.53%	2.06%	2.70%
Network Tasman	3.08%	2.81%	3.01%	2.53%	2.06%	2.70%
OtagoNet	3.39%	1.32%	1.59%	1.24%	0.93%	1.69%
Powerco	2.15%	1.89%	2.28%	1.95%	1.74%	2.00%
The Lines Company	2.04%	1.88%	2.26%	2.07%	1.98%	2.05%
Top Energy	3.09%	2.86%	3.14%	2.82%	2.57%	2.90%
Unison	1.84%	1.67%	2.02%	1.77%	1.62%	1.78%
Vector	2.98%	2.81%	3.18%	2.98%	2.92%	2.97%
Wellington Electricity	2.37%	2.20%	2.55%	2.30%	2.14%	2.30%

Source: Commission analysis based on EA regional throughput data

### ***Demand/capacity based charge revenue growth***

- C30 In developing assumptions for real demand/capacity-based charges growth, we have used an independent forecast of real regional GDP growth as the driver.
- C31 We consider that, for the purposes of projecting real revenue growth, using total transformer capacity as submitted by Unison is likely to be the best proxy for the quantity component of demand-based charges.<sup>94</sup> Transformer capacity appears to be a better proxy than system peak demand measures which have been used as proxies in some productivity studies.
- C32 System peak demand measures the peak energy entering the network at bulk supply points and is likely to be a poor proxy for the demand that large customers pay for. This is because diversification of demand within the network means that the total peak energy entering the network at any one time will be less than the sum of maximum demands at the final customer level (which will all occur at different times). Rather,

<sup>94</sup> Unison, *Submission on 2010 – 2015 Starting Price Adjustments Update Paper: Input Assumptions*, 23 May 2011, pp.5-6.

the final distribution level of transformer capacity for each EDB would be likely to provide a better proxy and will not be influenced by climatic and other factors that cause system peak demands to be relatively volatile.

- C33 In their submissions, ENA and PwC noted a number of potential problems with transformer capacity data.<sup>95</sup> The Commission reviewed the historical transformer capacity data and found there was inconsistent treatment of customer owned transformers before 2008. Further, transformer capacity data for some EDBs show step changes prior to 2008 which would make extrapolation of past growth rates problematic.
- C34 We therefore considered the use of regional GDP projections as an alternative driver for the growth in demand-based quantities. GDP closely mirrors the level of economic activity to which demand-based quantities are likely to be closely linked.
- C35 Table C8 shows the real GDP growth rates assumed for each EDB. The projections are based on regional GDP forecasts by NZIER.

**Table C8 GDP projections by EDB (2011 to 2015)**

EDB	Projected GDP Growth
Alpine Energy	3.19%
Aurora Energy	-1.06%
Centralines	0.08%
Eastland	0.08%
Electricity Ashburton	3.19%
Electricity Invercargill	-1.06%
Horizon Energy	0.85%
Nelson Electricity	1.63%
Network Tasman	1.63%
OtagoNet	-1.06%
Powerco	0.96%
The Lines Company	1.28%
Top Energy	1.03%
Unison	0.41%
Vector	3.73%
Wellington Electricity	1.99%

<sup>95</sup> ENA, *Submission on DPP Starting Price Adjustments and Other DPP Amendments(2), Forecasting Assumptions*, 23 May 2011, p. 7; and Powerco, *Assumptions in 2010-15 Default Price Quality Path Starting Price Adjustments and Other Amendments Update Paper*, 23 May 2010, p. 5.

Source: Commission analysis based on NZIER forecasts

### ***Revenue weights***

C36 We asked suppliers to provide revenue weights for each charge type for 2010 and 2011. The analysis of the revenue weights shows that the weights for each charge type vary significantly across EDBs. The following table provides descriptive statistics on this variation for each charge type. Table C9 shows that the range for fixed charges is between 0% and 87%, whilst the range for demand or capacity charges is between 4% and 51%. Table C9 also shows that, on average, 56% of revenue is recovered from fixed charges, 26% is recovered from variable charges and 18% from demand or capacity charges.

**Table C9 Descriptive statistics of revenue shares for all EDBs**

<b>Charge Type</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
Fixed	0%	87%	56%
Variable	0%	82%	26%
Demand/Capacity	4%	51%	18%

Source: Commission calculations using revenue weights for each EDB

C37 The variation of revenue weights between EDBs means that the proportion of revenue growth associated with growth in different quantity measures will correspondingly differ. We therefore consider it is appropriate to use assumptions that are, as far as practicable, adapted to each EDB and that the revenue weights for each EDB should be used in the projections for real revenue growth. We have assumed that the revenue weights are constant over time for each EDB. This assumption is supported by the generally small variation in reported revenue shares between 2010 and 2011. The Commission has decided to use 2011 revenue weights for each EDB to take advantage of the most recent information. Table C10 provides the 2011 revenue weights for each EDB.

**Table C10 2011 revenue weights by EDB**

<b>EDB</b>	<b>Variable Charge</b>	<b>Capacity Charge</b>	<b>Fixed Charge</b>
Alpine Energy	10.37%	37.96%	51.67%
Aurora Energy	52.50%	39.10%	8.40%
Centralines	57.20%	4.42%	38.38%
Eastland	84.07%	12.15%	3.78%
Electricity Ashburton	43.12%	48.37%	8.51%
Electricity Invercargill	66.00%	0.00%	34.00%
Horizon Energy	75.90%	6.60%	17.50%
Nelson Electricity	42.27%	54.20%	3.53%
Network Tasman	77.85%	14.37%	7.78%
OtagoNet	55.00%	41.00%	4.00%
Powerco	52.90%	26.90%	20.20%
The Lines Company	0.00%	83.21%	16.79%
Top Energy	87.47%	3.21%	9.32%
Unison	59.46%	9.42%	31.12%
Vector	77.10%	11.30%	11.60%
Wellington Electricity	74.70%	10.10%	15.20%

Source: Commission calculations using data collected from each EDB

## Approach to Project Opex Growth

C38 A number of submitters argued that information intensive approaches could better forecast opex growth, for example tailoring input prices to businesses.<sup>96</sup> However, tailoring input prices requires detailed business-specific information (for example, the detailed composition of the cost base) and the data required to do these more detailed assessments is not readily available. Such an approach would be more appropriate as part of a CPP rather than the DPP process.

C39 A number of submitters recommended using AMP maintenance forecasts in forecasting opex growth.<sup>97</sup> We do not consider AMP maintenance forecasts to be a

<sup>96</sup> ENA, *Submission on DPP Starting Price Adjustments and Other DPP Amendments(2), Forecasting Assumptions*, 23 May 2011, p. 15; Powerco, *Assumptions in 2010-15 Default Price Quality Path Starting Price Adjustments and Other Amendments Update Paper*, 23 May 2010, p. 7; and Unison, *Submission on 2010 – 2015 Starting Price Adjustments Update Paper: Input Assumptions*, 23 May 2010, p. 7.

<sup>97</sup> Powerco, *Assumptions in 2010-15 Default Price Quality Path Starting Price Adjustments and Other Amendments Update Paper*, 23 May 2010, p. 6; and Vector, *Submission on Starting Price Adjustment Update Paper – industry-wide assumptions*, 23 May 2010, p. 5.

useful forecast of opex as the proportion of maintenance opex within total opex varies greatly.

- C40 A number of submitters questioned why the CPI was previously favoured over the PPI or other input price indices.<sup>98</sup> We agree that price indices other than the CPI should be considered for opex price inflation.
- C41 Given the above, we have used the ‘rate of change’ formula to develop supplier-specific projections of opex growth. The rate of change formula is well grounded in microeconomic theory and can be derived from a conventionally specified cost function.<sup>99</sup> Variants of it are used by a number of regulators internationally.<sup>100</sup>
- C42 The ‘rate of change’ formula aims to index opex for the starting year of the regulatory period forward through the remainder of the regulatory period taking account of the following three principal drivers of opex:
- input prices
  - ongoing productivity gains in the use of opex inputs
  - output growth.
- C43 The box below sets out the rate of change in operating expenditure and explains each component.

**$\Delta$  Opex =  $\Delta$  Opex Price -  $\Delta$  Opex Partial Productivity +  $\Delta$  Output Quantity**

where:<sup>101</sup>

$\Delta$ Opex	is the <i>supplier-specific</i> projected growth in nominal operating expenditure used in the starting price modelling
$\Delta$ Opex Price	is the <i>industry wide</i> projected growth in the opex input price index, a weighted average of input price indices for labour costs and non-labour costs
$\Delta$ Opex Partial Productivity	is the <i>industry wide</i> projected growth in opex partial productivity
$\Delta$ Output Quantity	is the <i>supplier-specific</i> projected output quantity growth

- C44 This rate of change formula predicts the following (all else equal):
- an increase (decrease) in the price of opex leads to an increase (decrease) in opex requirement

<sup>98</sup> *Submission on DPP Starting Price Adjustments and Other DPP Amendments(2), Forecasting Assumptions*, 23 May 2011, p. 16; and Powerco, *Assumptions in 2010-15 Default Price Quality Path Starting Price Adjustments and Other Amendments Update Paper*, 23 May 2010, p. 6.

<sup>99</sup> See, for example, Meyrick and Associates, *Victorian Gas Distribution Business Opex Rate of Change*, Report prepared for Envestra, Multinet and SP AusNet by Denis Lawrence, 26 March 2007.

<sup>100</sup> For an example of the use of this formula in Australia see Essential Services Commission, *Gas Access Arrangements Review 2008-2012*, 7 March 2008. For examples of the use of this formula in North American regulation see Pacific Economics Group, *Predicting Growth in SPI's O&M Expenses*, Report prepared for SPI, October 2004.

<sup>101</sup> The symbol  $\Delta$  is used here to represent ‘the proportional change in a variable’.

- an improvement (reduction) in opex partial productivity reduces (increases) the opex requirement
- an increase (decrease) in output is associated with an increase (decrease) in opex requirements.

C45 The following summarises the assumptions made for each of the components of the rate of change formula.

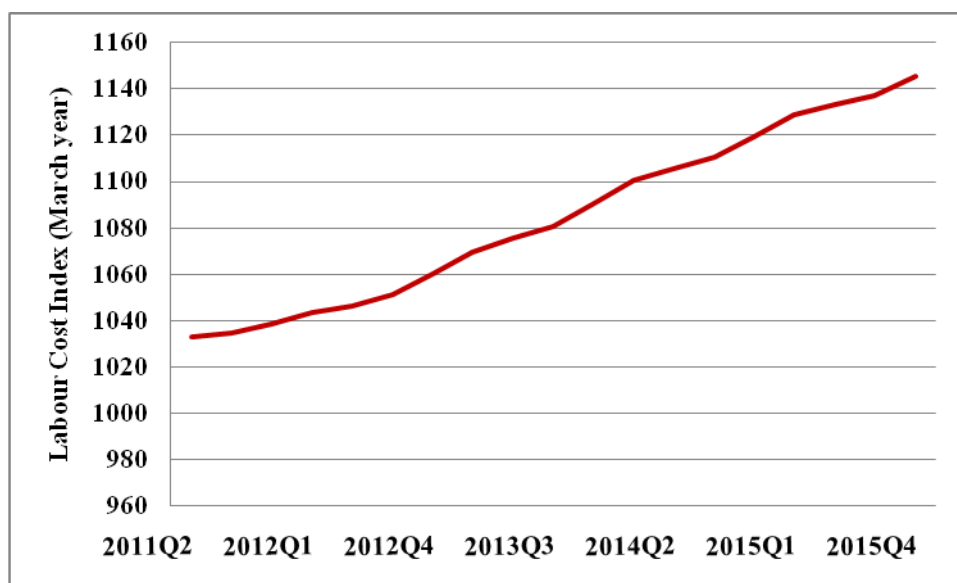
### *Opex input price growth*

C46 We developed an opex price index forecast which comprises a weighted average of an independent labour cost index (for all industries) forecast and an independent producer price index (for all industries) forecast reflecting the labour and non-labour components of opex, respectively. This approach follows practice in recent productivity studies and rate of change applications in Australia where Electricity, Gas and Water sector labour price indexes and a range of relevant PPIs are typically used.<sup>102</sup>

C47 In New Zealand labour price indexes for the Electricity, Gas and Water sector and the economy as a whole have moved in similar fashion in recent years (as noted in the Update Paper).<sup>103</sup> As independent labour price forecasts are more readily available for the economy as a whole, these are used to forecast the price of the labour component of EDB opex.

C48 Figure C2 below shows the projections for LCI for all industries prepared by NZIER.

**Figure C2 Projected Labour Cost Index growth for all industries (2010 to 2015)**



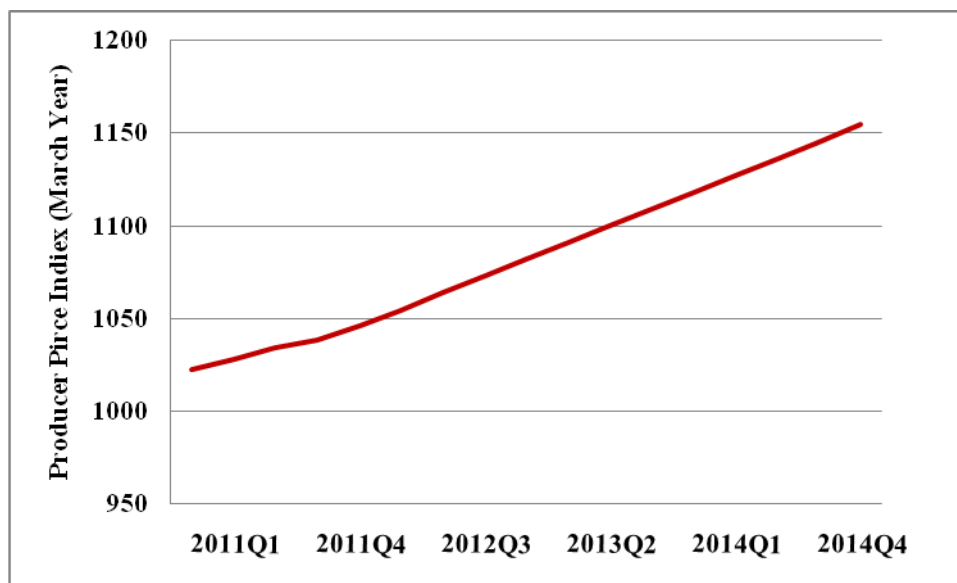
Source: Commission calculations using NZIER Forecasts

<sup>102</sup> See, for example, Meyrick and Associates, *Victorian Gas Distribution Business Opex Rate of Change, Report prepared for Envestra, Multinet and SP AusNet*, Denis Lawrence, 26 March 2007.

<sup>103</sup> Commerce Commission, *2010-15 Default Price-Quality Path – Starting Price Adjustments and Other Amendments – Update Paper*, 11 April 2011.

- C49 Similarly, recent Australian studies have used a range of producer price indexes covering business, computing, secretarial, legal and accounting, and advertising services to capture the non-labour component of opex prices. Again, independent forecasts at this level of detail are not readily available in New Zealand and such disaggregation is not consistent with the low-cost intent of the DPP.
- C50 As a result we use an independent forecast of the overall economy-wide PPI prepared by NZIER to capture the non-labour opex price component. This is presented in Figure C3 below.

**Figure C3 Projected PPI growth for all industries (2010 to 2015)**



Source: Commission calculations using NZIER Forecasts

- C51 To form an overall opex price growth forecast we also require weights for the labour and non-labour components of the opex price. The weights we favour are 60% for labour and 40% for the non-labour component of opex. These are similar to the 62% to 38% split found for the Victorian electricity distribution industry.<sup>104</sup> Subsequent Australian analysis has also found a similar split for gas distribution businesses whose functions are broadly analogous.<sup>105</sup>
- C52 Table C11 below shows that combining the projections for labour and non-labour opex prices using these weights, results in an overall opex price index that is projected to increase by 2.44% in 2011, 2.44% in 2012, 2.88% in 2013, 4.54% in 2014 and 1.80% in 2015. We also tested weightings of 50/50 and 40/60 for sensitivity. Table C11 also shows the results for a sensitivity analysis using weights of 50% and 40% for labour prices and 50% and 60% for non-labour prices, respectively.

<sup>104</sup> Pacific Economics Group, *TFP Research for Victoria's Power Distribution Industry: 2005 Update, Report prepared for Essential Services Commission*, 2006.

<sup>105</sup> Meyrick and Associates, *The Total Factor Productivity Performance of Victoria's Gas Distribution Industry, Report prepared for Envestra, Multinet and SP AusNet*, Denis Lawrence, 2007.

**Table C11 Opex price growth forecasts and LCI/PPI weighting sensitivity test**

Year	LCI / PPI 60/ 40	LCI / PPI 50/50	LCI / PPI 40/ 60
2011	2.44%	2.68%	2.92%
2012	2.44%	2.65%	2.87%
2013	2.88%	2.91%	2.94%
2014	4.54%	4.35%	4.16%
2015	1.80%	2.04%	2.29%

Source: Commission calculations using NZIER Forecasts

### ***Opex partial productivity growth***

- C53 Using an industry rather than a supplier-specific productivity growth rate in the opex rate of change formula is consistent with the basic tenets of incentive regulation. Individual suppliers have less scope to influence the industry average productivity growth rate which can be considered exogenous to the individual supplier. The forecast productivity growth rate should be based on expected future achievable productivity performance as far as possible. While historical productivity growth rates are likely to be a useful indicator of achievable future productivity growth, account should also be taken of forward-looking information.
- C54 Information on historical opex partial factor productivity (PFP) growth rates for New Zealand EDBs presents a mixed picture. The Economic Insights report prepared for the Commission found opex PFP for non-exempt EDBs grew by 2.5% annually from 1996 to 2008 but by -0.5% from 2001 to 2008.<sup>106</sup> The productivity report prepared for the ENA found opex PFP for all EDBs grew by 3.2% annually from 1999 to 2008 but by -0.9% annually from 2001 to 2008.<sup>107</sup>
- C55 Possible reasons for the decline in opex PFP growth in the period up to 2008 include the end of the effective price freeze prior to the introduction of the thresholds regime and the subsequent need to catch up on deferred expenditure. This catch up expenditure may have been encouraged by increased certainty associated with the new regulatory arrangements. The deployment of improved information systems including geographic information systems over this period may have also helped identify priority areas for expenditure to address previously unidentified problems. To the extent these influences explain the decline in opex PFP growth, the decline could be expected to be temporary rather than ongoing.
- C56 In the most recent Australian EDB regulatory determination explicitly using the opex rate of change formula, the Victorian regulator included an opex PFP growth rate of

<sup>106</sup> Economic Insights, *Electricity Distribution Industry Productivity Analysis: 1996–2008, Report prepared for the Commerce Commission*, 1 September 2009.

<sup>107</sup> Pacific Economics Group, *Reset of Default Price Path for Electricity Distribution Businesses: Submission to the Commerce Commission, Report prepared for the Electricity Networks Association*, August 2009.

0.8%.<sup>108</sup> Subsequent research undertaken for the Victorian regulator has indicated an opex PFP growth rate of 1.4% annually for the Victorian EDBs for the period 2001 to 2007.<sup>109</sup>

C57 We consider that an annual opex partial productivity rate of 0% is appropriate for the rate of change formula, on the basis of recent but likely temporary declines in the opex PFP growth rate for EDBs and evidence of ongoing positive opex PFP growth rates for Australian EDBs. This is likely to be a conservative estimate of opex PFP growth achievable by EDBs over the next 5 years.

### ***Output growth***

C58 For output quantity growth we use the real revenue projections for the period 2011 to 2015 for each EDB discussed earlier in this Appendix. The projected average output growth for the industry is 1.7%. Of the individual EDBs, Aurora Energy has the lowest projected average annual real revenue growth at 0.5% while Vector has the highest projected average annual real revenue growth at 2.9%.

### ***Opex reasonableness check***

C59 To ensure that our projected opex allowances for 2012/13 to 2014/15 are reasonable, and that there is no step change caused by our assumptions, we conducted a reasonableness check. This involved comparing:

- the average opex projected figures, deflated by the LCI and PPI, for the period 2012/13 to 2014/15
- the average historical opex data for the period 2008 to 2010, also in constant prices, scaled to reflect the effect of applying IMs to 2010 data. The total operational expenditure data for each EDB is based on information disclosure data (ID data).

C60 Table C12 below shows the results for the reasonableness check for each EDB. The second column in the table shows the percentage difference between average opex 2008 to 2010 and projected opex 2012/13 to 2014/15. While we have adjusted for price effects between the two periods, we have not adjusted the figures to take into account the effects of demand growth. The annual average level of demand growth is shown in the third column. Taking into account demand growth would limit (and, in some cases, eliminate or reverse) the extent of any increase that we have allowed relative to past expenditure levels. This reflects the fact that EDBs are likely to have achieved efficiency gains between 2008 and 2010, which our approach will share with consumers (consistent with s 52A(1)(c)).

---

<sup>108</sup> Essential Services Commission, *Electricity Distribution Price Review 2006-10, Final Decision, Volume 1, Statement of Purpose and Reasons*, October 2005.

<sup>109</sup> Pacific Economics Group, *TFP Research for Victoria's Power Distribution Industry: 2007 Update, Report prepared for Essential Services Commission*, 2008.

**Table C12 Percentage difference between average opex for 2012/13-2014/15 and average opex for 2008-10 (in constant prices)**

<b>EDB</b>	<b>Percentage difference between average estimated opex between 2008-2010 compared to average projected opex (2012/13-2014/15)</b>	<b>Weighted average annual output growth (2009-14)</b>
Alpine Energy	123%	2.0%
Aurora Energy	104%	0.6%
Centralines	108%	0.9%
Eastland Network	106%	1.1%
Electricity Ashburton	114%	2.6%
Electricity Invercargill	118%	1.4%
Horizon Energy	105%	2.3%
Nelson Electricity	116%	1.8%
Network Tasman	105%	2.2%
OtagoNet	103%	0.9%
Powerco	102%	1.5%
The Lines Company	110%	1.4%
Top Energy	122%	2.2%
Unison	114%	1.3%
Vector & Wellington Electricity	110%	3.8%

Source: Commission calculations based on projected opex figures and historical opex figures for each EDB. The historical opex series has been scaled to reflect the effect of applying IMs to 2010 data. Results for Vector and Wellington Electricity are shown together because data for 2008 refers to opex on the networks in combination.

C61 This table demonstrates that the amounts we have allowed for opex between 2012/13 and 2014/15 will share with consumers the benefits of efficiency gains achieved between 2008 and 2010. Over and above this, the amounts that we have allowed are neither materially above nor materially below the amounts that each EDB has required in the past. In no cases do we consider that the allowances are unreasonable. Indeed, to the extent that output growth attributable to the cold winter in 2009/10 put upward pressure on opex in that year, our projections will be higher than they otherwise would have been.

## Approach to Project Capex Growth

- C62 PwC submitted that forecast capex from the AMPs vary considerably between EDBs and that using an industry average is inequitable as it masks underlying trends for each EDB. They submitted that capex is under-forecasted in the latter years of an AMP and suggested that using 2011 AMP capex real and forecast figures would help moderate the trend. PwC submitted that capex calculations should include tailored indices to adjust for price inflation.<sup>110</sup>
- C63 We consider that the growth in forecast capex (growth in commissioned assets) from suppliers' AMPs is a suitable proxy for developing a capex growth assumption.<sup>111</sup> The AMPs contain supplier forecasts of system fixed assets, which comprises over 90% of suppliers' total annual capex.<sup>112</sup>
- C64 The AMP forecasts have not been subject to independent verification. While historical capex disclosed under information disclosure differs significantly from industry forecasts,<sup>113</sup> on balance we consider basing our projections on AMP forecasts is reasonable because EDBs did not know that the forecasts would be used in this way and so are unlikely to have inflated the forecasts to game allowances.
- C65 A number of submitters raised issue with the accuracy of capex forecasts. Forecasts of capex for the industry overall are u-shaped, although the u-shape is not apparent for every EDB. It cannot be conclusively established without more assurances from businesses whether the shape is the result of EDBs generally under-forecasting their capex requirements in future years, over-forecasting in closer years or a combination of both. To allow for the non-linear shape of AMP capex projections the Commission has included individual year growth projections for each EDB and each year between 2011 and 2015 rather than an average growth rate projection for each EDB based on the end point relative to the starting point.
- C66 A number of submitters held that data should be adjusted for capex price inflation. We have adjusted capex for inflation using the overall CGPI for all industries. The development of price indices tailored to the sector cannot be done within the current timeframe. However we intend to consult on whether more tailored indices can be developed cost-effectively for the next price reset.
- C67 The Commission has commissioned NZIER to forecast the all industries Capital Goods Price Index (CGPI). The projected CGPI is presented in Figure C4 below.

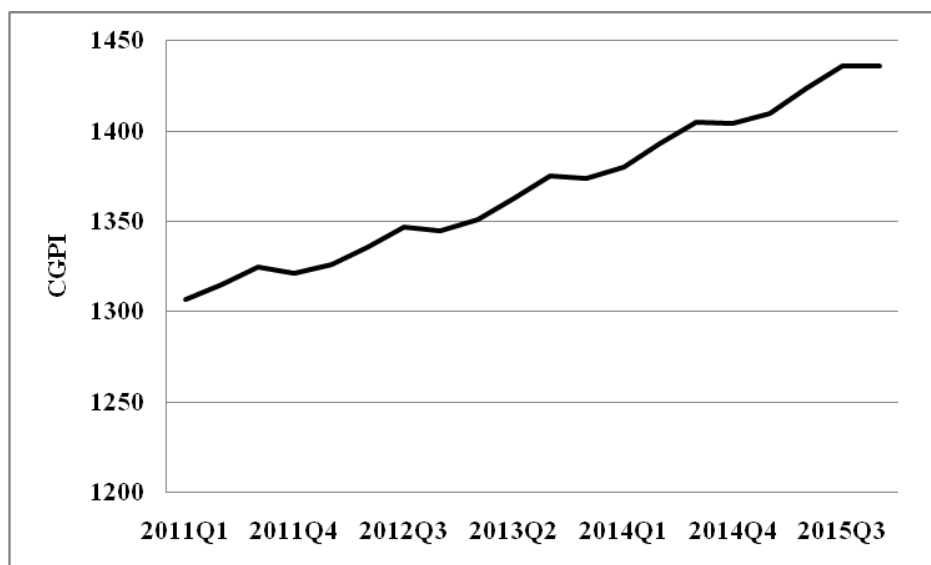
---

<sup>110</sup> *Submission to the Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustments and Other Amendment(2)*, 23 May 2011, pp. 7-8.

<sup>111</sup> Historical capex growth, at more than 10% annual nominal growth since 2009, is significantly higher than that which is forecast by suppliers in their AMPs. The Commission also considered the study on renewal capex by Farrier Swier, which suggested a growth in real renewal capex of 2.5% up to 2015: Farrier Swier Consulting Pty Limited, *Regulation of Electricity Lines Businesses - Research Project for 2009 Threshold Reset - Distribution Networks and Asset Management*, December 2007. The study only focuses on renewal capex and the Commission has not attempted to extrapolate this figure to total capex.

<sup>112</sup> Source: Commission calculations using 2010 information disclosures.

<sup>113</sup> Source: Commerce Commission, *Information Disclosure Summary and Analysis Database 2008 to 2010*.

**Figure C4 Projected CGPI for all industries (2010 to 2015)**

Source: Commission calculations using NZIER Forecasts

## CPI

C68 The CPI enters our modelling in two places. On an annual basis, the CPI is used to update:

- the price path, so it affects our projections of the maximum amount of revenue that EDBs are permitted to earn. This measure of the CPI is lagged by 18 months.
- the value of the RAB, so it affects the amount of revenue that EDBs would require during the regulatory period in order to earn a normal return over time.

C69 We have used the CPI forecasts that are consistent with the WACC that estimated for the 2010-15 regulatory period. This is the approach favoured by a number of submitters. The following table sets out the CPI growth assumptions.

**Table C13 Projected CPI**

Year to	CPI growth (September 2009 forecast)-RAB revaluations	$\Delta$ CPI <sub>t</sub> - Lagged Compliance
2010	1.72%	2.47%
2011	1.98%	1.70%
2012	2.43%	2.07%
2013	2.43%	2.45%
2014	2.43%	2.43%
2015	2.43%	2.43%

Source: Commission calculations using New Zealand Reserve Bank Central Projection March 2011 to March 2013 Monetary Policy Statement at September 2009

**APPENDIX D: AMENDMENTS TO DISCLOSED INFORMATION**

- D1 This appendix sets out the changes we have made to disclosed information that EDBs have provided in response to our s 53ZD information requests and the reasons for making these changes.<sup>114</sup> We have used the amended information in our model.
- D2 This appendix also sets out disclosed information that we have identified as being incorrect but is not necessary to amend for the purposes of our analysis.

**Table D1 Amendments made to disclosed information**

<b>Disclosing entity and disclosed information that has been amended prior to being included in the model</b>	<b>Reasons for amending disclosure</b>
<b>Aurora Energy</b> – Positive permanent differences.	Depreciation has been excluded as it does not meet the definition of positive permanent differences.
<b>The Lines Company</b> – Positive temporary differences and Negative permanent differences.	Depreciation has been excluded as it does not meet the definition of Positive temporary differences or Negative permanent differences.
<b>Unison</b> – Sum of depreciation, Sum of opening RAB values of assets with nil physical asset life at end of the disclosure year 2010 and Sum of opening RAB values of disposed assets for the disclosure year 2010.	Sum of depreciation, Sum of opening RAB values of assets with nil physical asset life at end of the disclosure year 2010 and Sum of opening RAB values of disposed assets for the disclosure year 2010 have been treated as positive rather than negative balances.
<b>Vector</b> – Negative temporary differences.	Negative temporary differences have been treated as a positive rather than negative balance.

---

<sup>114</sup> A copy of the s 53ZD information requests that was sent to EDBs and responses to these s 53ZD information requests have been published alongside this paper. These are available at <http://www.comcom.govt.nz/2010-2015-default-price-quality-path/>.

**Table D2**      **Incorrectly disclosed information that has not been amended**

<b>Disclosing entity and disclosed information that has been identified as incorrect but not required to be amended for the purposes of the model</b>	<b>Reason for not adjusting the information</b>
<p><b>General</b> – a number of EDBs have interpreted the A3 and A5 ‘percentage of value allocated to electricity distribution services using ...’ disclosures as being the percentage of value allocated to the EDB in relation to the total allocatable value, when the disclosure should represent the percentage of value allocated using the allocator or method applicable in relation to the value allocated to the EDB.</p>	<p>The information as disclosed provides more detailed information than required. Also the information is not directly used as an input in the model.</p>
<p><b>Alpine Energy</b> – Schedule A5 does not include information about assets commissioned during the year.</p>	<p>The required information was disclosed to the Commission in the non-public version of Schedule A5. Also the information is not directly used as an input in the model.</p>
<p><b>Electricity Ashburton</b> – Schedule A3 does not tie to Schedule A5 in that the difference between the Unallocated RAB and the RAB values does not equal the value allocated to non-electricity distribution services as disclosed in Schedule A5.</p>	<p>The RAB value disclosed in Schedule A3 and A5 are consistent and it is only that number that is used as an input in the model.</p>
<p><b>Vector</b> – Vector have identified that the disclosure of the 2009 modified asset values includes a \$10m increase in value resulting from the application of the cost allocation input methodology. The increase in value should not be included in RAB value line items prior to the Sum of opening RAB values – disclosure year 2010 line item.</p>	<p>The RAB value disclosed in Schedule A3 and A5 are consistent and it is only that number that is used as an input in the model.</p>

## APPENDIX E: OPTIONS FOR IMPLEMENTING RESET STARTING PRICES

- E1 This appendix relates to the conversion of allowable revenue that we have determined for each EDB into allowable notional revenue consistent with the 2010-15 DPP.
- E2 It sets out our draft decision for implementing reset starting prices in further detail and the assumptions used for deriving the proposed implementation formula.

### Proposal for Implementing Reset Starting Prices

#### *Determining prices for 2012/13*

- E3 To give effect to the reset starting prices, it is necessary to convert each EDB's allowed revenue and, where relevant, alternative rate of change in a way that is consistent with the weighted average price-cap under the 2010-15 DPP.
- E4 Our draft decision is to specify Equation 1 in the 2010-15 DPP determination so each EDB can determine its allowable notional revenue for 2012/13. This will enable EDBs to determine what their permitted weighted average prices are for 2012/13. Consistent with the price path compliance formula in clause 8.4 of the 2010-15 DPP determination, an EDB's notional revenue for 2012/13 (given by Equation 2) must not exceed the allowable notional revenue 2012/13.
- E5 This proposed implementation approach exploits some simple mathematical relationships between variables in the price path compliance formula. It also assumes that allowable notional revenue for any given year (rolled forward using the price path compliance formula) will coincide with notional revenue in that year. Compounding real revenue growth projections (or quantity changes) assumed in our approach for 2012/13 and 2011/12 allows the relationship in Equation 1 to be established (see further below for derivation). Dividing by the real revenue growth projections converts the 2012/13 quantities back two years to be consistent with the price path compliance formula, which uses lagged volumes.

#### **Equation 1 Allowable notional revenue for 2012/13**

$$R_{2013} = \frac{AR_{2013} + (K_{2013} + V_{2013})}{\Delta D} - (K_{2013} + V_{2013})$$

where:

$AR_{2013}$  is the allowable revenue for the year 2012/13 specified in Table E1 that is calculated using our proposed approach.

$\Delta D$  is the compounded real revenue growth projections that are applied in our proposed approach for the periods 1 April 2011 to 31 March 2012 and 1 April 2012 to 31 March 2013, as specified in Table E1.

$K_{2013} + V_{2013}$  is the sum of all pass-through costs and recoverable costs for the 2012/13 assessment period, which need to be forecasted by the EDB.

**Table E1 Inputs for determining allowable notional revenue for 2012/13**

<b>EDB</b>	<b>Allowable revenue for 2012/13 (AR<sub>2013</sub>) \$m</b>	<b>Real revenue growth projection for 2011-13 (<math>\Delta D</math>) %</b>
Alpine Energy	30.2	104.0%
Aurora Energy	57.7	100.8%
Centralines	7.9	102.1%
Eastland	20.5	102.9%
Electricity Ashburton	29.0	106.0%
Electricity Invercargill	12.8	102.2%
Horizon Energy	19.5	103.6%
Nelson Electricity	6.7	104.3%
Network Tasman	28.4	105.1%
OtagoNet	22.5	100.8%
Powerco	220.9	102.9%
The Lines Company	29.9	102.4%
Top Energy	29.6	105.5%
Unison	90.7	102.6%
Vector	399.4	105.9%
Wellington Electricity	109.1	104.2%

**Equation 2 Notional revenue for 2012/13**

$$NR_{2013} = \sum_i P_{i,2013} Q_{i,2011} - (K_{2013} + V_{2013})$$

where:

$P_{i,2013}$  is the  $i^{\text{th}}$  price for the year 2012/13.

$Q_{i,2011}$  is the quantity corresponding to the  $i^{\text{th}}$  price during 2010/11.

$K_{2013} + V_{2013}$  is the sum of all pass-through costs and recoverable costs for the 2012/13 assessment period.

E6 Our model includes the proposed formula to allow EDBs to determine how their weighted average prices would be affected by the reset.

***Determining prices for 2013/14 and 2014/15***

E7 For the last two years of the regulatory period (2013/14 and 2014/15), allowable notional revenue is to be calculated as per clause 8.4 of the 2010-15 DPP determination. Any alternative rate of change that is determined for an EDB (as discussed in Chapter 4) will apply in each of the last two years of the regulatory period.

***Reasons for Proposed Implementation Approach***

- E8 There are a number of alternative ways of deriving 2012/13 allowable notional revenue from 2012/13 allowable revenue depending on what assumptions are made. We consider that the proposed implementation approach set out above uses a set of assumptions that provides the best combination of simplicity, accuracy and transparency.
- E9 Under the proposed implementation approach, allowable notional revenues for 2010/11 and 2011/12 do not need to be determined for the purposes of compliance. We, therefore, do not propose to respecify what starting prices should have been for 2010/11. However, EDBs can easily derive what this would have been using the price path compliance formula.

**Alternative Options*****Proposal in the Update Paper***

E10 We proposed in the Update Paper that allowable notional revenue for 2012/13 could then be determined using either of the equations below.<sup>115</sup>

**Equation 3**

$$R_{2012-13}^r = AR_{2012-13}^r \left( \frac{\sum_i P_{i,2012-13} Q_{i,2010-11}}{\sum_i P_{i,2012-13} Q_{i,2012-13}} \right) - Y_{2012-13} \left( 1 - \frac{\sum_i P_{i,2012-13} Q_{i,2010-11}}{\sum_i P_{i,2012-13} Q_{i,2012-13}} \right)$$

or:

**Equation 4**

$$R_{2012-13}^r = AR_{2012-13}^r \left( \frac{NR_{2012-13} + Y_{2012-13}}{DR_{2012-13} + Y_{2012-13}} \right) - Y_{2010-11} \left( \frac{DR_{2012-13} - NR_{2012-13}}{DR_{2012-13} + Y_{2012-13}} \right)$$

where:

$DR_{2012-13}$  is the distribution revenue for the year 2012/13.

$Y_{2012-13}$  is the sum of all pass-through costs and recoverable costs for the 2012/13 assessment period.

<sup>115</sup> See Appendix D of the Update Paper for derivation. Note that terms with superscript 'r' refers to being derived from maximum allowed prices following the reset.

- E11 However, the complication with this approach is that the conversion of allowable revenue to allowable notional revenue relies on quantities that would not be known at the time that the prices for 2012/13 are set by EDBs.
- E12 As is the case in the price path compliance formula pass-through and recoverable costs need to be forecast for the upcoming assessment period, this option requires pass-through and recoverable costs for 2012/13 to be forecast. Since pass-through and recoverable costs are likely to be less volatile and more predictable than the output quantity elements of revenue – and revenue estimates will be less sensitive to errors in pass-through and recoverable costs given their relatively smaller impact compared to output quantities – the need to forecast 2012/13 pass-through and recoverable costs does not appear to be a significant disadvantage.<sup>116</sup>

### *Option proposed in submissions*

- E13 An alternative approach proposed by Vector was to use the size of the adjustment to net revenue as the basis of adjusting an EDB's price path.<sup>117</sup> This alternative has the advantage of being relatively easy to implement and of being transparent. It would be possible for the Commission to demonstrate the impact of the price adjustments accurately using this approach. However, the approach's simplicity is achieved at the potential expense of accuracy as it assumes the same relationship between allowable revenue and actual line charges over time and the same relativity between allowable notional revenue and allowable revenue over time. Although superficially attractive as a rough approximation, this proposal involves a number of hidden assumptions about relativities being maintained over time.

### **Assumptions for Deriving Proposed Formula**

- E14 It is assumed that the  $R_t^r$  is equal to what the supplier's notional revenue for  $t$  where the supplier charges prices  $P_{i,t}^r$  for all  $i$  ( $NR_t^r$ ). Equation 5 sets out what this assumption.

#### **Equation 5**

$$R_{2012-13}^r = NR_{2012-13}^r = \sum_i P_{i,2012-13}^r Q_{i,2010-11} - Y_{2012-13}$$

- E15  $\Delta D_t$  is the real revenue growth projection used in our approach for assessing current and projected profitability and can be assumed to give:

---

<sup>116</sup> Note that in setting notional revenue equal to allowable notional revenue the effects of pass-through and recoverable costs are further minimised, as the minus ' $(K_{2013}+V_{2013})$ ' term in Equation 1 and Equation 2 are cancelled out.

<sup>117</sup> Vector, *Submission to Commerce Commission on 2010-15 Default Price-Quality Path Starting Price Adjustment and Other Amendments Update Paper*, 16 May 2011, p. 48.

**Equation 6**

$$\Delta D_t = \frac{Q_{i,t}}{Q_{i,t-1}} \text{ for all } i$$

E16 Equivalently,  $\Delta D_{t-1}$  can be expressed as follows:

**Equation 7**

$$\Delta D_{t-1} = \frac{Q_{i,t-1}}{Q_{i,t-2}} \text{ for all } i$$

E17 The real revenue growth projection for two consecutive years can be given by:

$$\Delta D_t \Delta D_{t-1} = \frac{Q_{i,t}}{Q_{i,t-1}} \frac{Q_{i,t-1}}{Q_{i,t-2}}$$

or equivalently:

**Equation 8**

$$\Delta D_t \Delta D_{t-1} = \frac{Q_{i,t}}{Q_{i,t-2}}$$

E18 For  $t=2012/13$ , Equation 8 is:

$$\Delta D_{2012-13} \Delta D_{2011-12} = \frac{Q_{i,2012-13}}{Q_{i,2010-11}}$$

Solving for  $Q_{i,2012-13}$ :

$$Q_{i,2012-13} = \Delta D_{2012-13} \Delta D_{2011-12} Q_{i,2010-11}$$

Multiplying both sides by  $P_{i,2012-13}^r$ :

$$P_{i,2012-13}^r Q_{i,2012-13} = P_{i,2012-13}^r (\Delta D_{2012-13} \Delta D_{2011-12} Q_{i,2010-11})$$

Summing over all  $i$  gives:

$$\sum_i P_{i,2012-13}^r Q_{i,2012-13} = \sum_i P_{i,2012-13}^r (\Delta D_{2012-13} \Delta D_{2011-12} Q_{i,2010-11})$$

or equivalently:

**Equation 9**

$$\sum_i P_{i,2012-13}^r Q_{i,2012-13} = \Delta D_{2012-13} \Delta D_{2011-12} \sum_i P_{i,2012-13}^r Q_{i,2010-11}$$

From Equation 5

$$\sum_i P_{i,2012-13}^r Q_{i,2010-11} = R_{2012-13}^r + Y_{2012-13}$$

Substituting into Equation 9 gives:

$$\sum_i P_{i,2012-13}^r Q_{i,2012-13} = \Delta D_{2012-13} \Delta D_{2011-12} (R_{2012-13}^r + Y_{2012-13})$$

Solving for  $R_{2012-13}^r$ :

$$R_{2012-13}^r = \frac{\sum_i P_{i,2012-13}^r Q_{i,2012-13}}{\Delta D_{2012-13} \Delta D_{2011-12}} - Y_{2012-13}$$

Substituting  $AR_{2012-13}^r + Y_{2012-13}$  for  $\sum_i P_{i,2012-13}^r Q_{i,2012-13}$

### Equation 10

$$R_{2012-13}^r = \frac{AR_{2012-13}^r + Y_{2012-13}}{\Delta D_{2012-13} \Delta D_{2011-12}} - Y_{2012-13}$$

E19  $R_{2012-13}^r$  sets the EDB's allowable notional revenue for 2012/13.