

**Default price-quality paths from 1 April 2015
for 17 electricity distributors:
Process and issues paper**

Date: 21 March 2014

This version of the document was published on 24 March 2014, and it supersedes the original version that was published on 21 March 2014.

Errors were identified and corrected in:

- The timeframes for submissions and cross-submissions; and
- The contents of Figure B1.

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Executive Summary

Purpose of paper

X1 This paper seeks feedback on issues we have identified ahead of our draft decision to reset the default price-quality paths that apply to 17 electricity distributors.¹ Details on how you can provide your views can be found in Chapter 9.

X1.1 Submissions are due by **Wednesday, 30 April 2014**.

X1.2 Cross-submissions are due by **Thursday, 15 May 2014**.

X2 This paper also includes an update to the process we propose to follow. The updated process sets out indicative timeframes for all publications and events that are planned between now and our final decision being published in November 2014.

Improving our existing approaches by identifying and resolving new issues

X3 In our view, there would be little reason to depart from the approaches that we have previously relied on when resetting default price-quality paths, unless new issues become apparent, or new information is available. Our existing approaches reflect a number of rounds of consultation, and are familiar to most of our stakeholders.²

X4 Consequently, before we start work on our draft decision, we are canvassing views on new issues or information associated with our existing approaches. In this paper, we set out new issues we have identified, as well as issues raised by stakeholders since the last reset was completed in November 2012. Table X1 contains a summary.

X5 The most significant issues that we have identified reflect the adverse incentives that may be created if we rely on our existing approaches. For example, adverse incentives may be created by relying on the 'pass/fail' approach used to regulate quality during the first regulatory period. More sophistication now seems sensible.

X6 Where possible, we have set out our preliminary thinking on how the issues identified in this paper could be addressed. We invite you to provide your views on our preliminary thinking, to ensure we are aware of any issues associated with the alternatives that we have proposed. We also invite you to suggest any other alternatives you think we should consider.

¹ Notably, Orion New Zealand will remain subject to a customised price-quality path until 31 March 2019.

² Refer, for example: Commerce Commission "Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012).

Table X1: Summary of proposals and key issues

Area	Proposed approach and key issues
Forecast operating expenditure	<p>We propose to retain the approach used for the November 2012 reset, in which we updated an initial level of operating expenditure for forecast changes in the drivers of operating expenditure. Key issues include:</p> <ul style="list-style-type: none"> o whether to determine the initial level using one or more years of data; and o what, if any, additional adjustments need to be made for expenditure that is not already captured by our approach.
Forecast capital expenditure	<p>Due to the adverse incentives that may be associated with our previous approach of relying solely on distributor's own forecasts of capital expenditure, we are investigating alternatives. We therefore invite views on issues associated with:</p> <ul style="list-style-type: none"> o applying a cap on the supplier forecasts, eg, relative to historic levels; and o developing models of certain categories of capital expenditure to determine or inform our forecast.
Forecast revenue growth	<p>We propose to retain the existing approach to forecast revenue growth, updated where required for more recent information. We therefore do not discuss our approach to revenue growth in detail in this paper, but we invite views on any issues with the approach we used previously.</p>
Rate(s) of change in price	<p>The approach used to determine the long run productivity improvement rate in the industry is likely to be similar to that we applied previously. A workshop is scheduled for May 2014.</p> <p>To decide whether alternative rates of change would be necessary or desirable, we expect to rely on our existing approach. For this reset, we see few, if any, new issues to consider.</p>
Quality of service incentives	<p>We propose to move from the current 'pass/fail' regime to a revenue-linked incentive scheme for quality.</p> <ul style="list-style-type: none"> o We consider that a revenue-linked quality incentive scheme is likely to provide better incentives than the current regime. o Our current view is that a revenue-linked incentive scheme will increase the likelihood that consumers receive the quality that they demand for a given cost. o The Electricity Networks Association (ENA) established a working group for quality of service and summarised its finding in a paper it provided to us. We invite you to provide your views on the ENA's paper as part of your submissions.

Enhanced incentives for performance improvements	<p>In addition to incentives for service quality, we have identified two further areas with scope for enhancements:</p> <ul style="list-style-type: none"> o incentives for distributors to control expenditure during a regulatory period; and o incentives for energy efficiency, demand side management and the reduction of losses.
Treatment of uncertainty and catastrophic risk	<p>To take into account uncertainty in our forecasts of expenditure and revenue growth, we expect to adopt an approach similar to that used for the November 2012 reset.</p> <p>We have, however, identified a potential issue with the treatment of pass through costs and recoverable costs. We invite views on how we could reduce any risk of recovering pass through and recoverable costs.</p> <p>We also provide our initial response to issues raised by the ENA about our treatment of catastrophic risk. In summary, we consider that our existing approaches are already consistent with distributors being appropriately compensated for any potential additional net costs or lower-than-forecast revenues resulting from a catastrophic event. We invite you to provide your views on our reasoning.</p>
Outstanding claw-back amounts	<p>We propose to spread any outstanding claw-back amounts, allowed under s 54K(3) of the Act, equally throughout the next regulatory period. We invite views on our proposed approach and the method for calculating the outstanding amounts.</p>

X7 The attachments to this paper invite feedback on certain topics of a more detailed nature, and/or certain topics that are likely to be of more interest to a smaller group of stakeholders. Amongst other things, we set out:

- X7.1 Our proposed treatment of Orion New Zealand;
- X7.2 Our proposed treatment of assets purchased from Transpower New Zealand; and
- X7.3 Our response to issues raised by Wellington Electricity about the form of control that is required by the up-front rules, requirements and processes of regulation—collectively referred to as ‘input methodologies’—which we originally determined in December 2010, following more than two years of consultation.

Working groups established by the Electricity Networks Association

- X8 Many of the issues that we are interested in receiving views on are also being considered by working groups established by the Electricity Networks Association. Commission staff have participated as observers in those groups. We have found this process to be constructive and valuable in considering how the default price-quality paths can be improved to better promote the purpose of Part 4.
- X9 Any reports provided by the working groups before 30 April 2014 will be treated as submissions on this issues paper. We invite other interested parties to consider those reports and provide a cross-submission where appropriate. Any material provided outside of our consultation timeframes for this issues paper will be considered as a submission on our draft decision.

1. Introduction

Purpose of paper

1.1 This paper seeks feedback on issues we have identified ahead of our draft decision to reset the default price-quality paths that apply to 17 electricity distributors. Details on how you can provide your views can be found in Chapter 9.

1.1.1 Submissions are due by **30 April 2014**.

1.1.2 Cross-submissions are due by **15 May 2014**.

1.2 This paper also includes an update to the process we propose to follow. The updated process sets out indicative timeframes for all publications and events that are planned between now and our final decision being published in November 2014.

Default price-quality paths from 1 April 2015

1.3 Seventeen electricity distributors are currently subject to a default price-quality path under Part 4 of the Commerce Act 1986 (Act). Each of these paths specifies the maximum price, and quality standards, that a distributor must comply with during the current regulatory period (ie, 1 April 2010 to 31 March 2015).³

1.4 Four months before the end of the current regulatory period, we are required to reset the default price-quality paths applying to each distributor. Amongst other things, we must reset starting prices, rates of change, and quality standards. The current regulatory period ends on 31 March 2015.

1.5 As outlined on 6 September 2013, we expect to publish our final determination on 28 November 2014. That process paper also provided indicative dates for the key publications and events that are scheduled up to, and including, the publication of the final determination.

Key issues to consider early in process

1.6 We indicated in our process paper that we would seek views on the issues we should consider before issuing our draft determination. We included this process step based on feedback received from stakeholders on our process for resetting the default price-quality paths in November 2012.

³ Orion New Zealand will be subject to a customised price-quality path from 1 April 2014.

- 1.7 In this paper, we have identified the key issues that we expect to confront in the process of reaching draft and final decisions for the reset. We invite you to provide your views on the issues we have identified, and any other issues that you consider relevant. Our views on all matters relevant to this reset will be set out in full in our draft determination and reasons paper.
- 1.8 At this stage we expect to adopt a very similar framework and approach to that which was applied when price paths were reset in November 2012. This is particularly the case for how we determine distributors' current and projected profitability. A full explanation of the framework and approach we applied can be found in the reasons paper that accompanied our final determination.⁴
- 1.9 Although we consider the November 2012 approach remains fit for purpose for many aspects of this reset, there are some areas where we think improvements can be made. These areas include how we regulate quality of service, and how capital expenditure will be forecast.
- 1.10 In Attachment D, we also set out our initial views on how the default price-quality path will apply to Orion New Zealand Limited (Orion) when its customised price-quality path determination expires in 2019. Orion will be subject to the default price-quality path determination generally applicable to other distributors, unless another customised price-quality path is proposed.⁵

Role of working groups established by the Electricity Networks Association

- 1.11 Many of the issues that we are interested in receiving views on are also being considered by working groups established by the ENA. In particular, these working groups cover:
- 1.11.1 Forecasting approaches;
 - 1.11.2 Quality of service incentives; and
 - 1.11.3 Energy efficiency, demand side management, and the reduction of losses.
- 1.12 In February 2014, the report prepared by the quality of service incentives working group received approval by the ENA board and was provided to the Commission. Reports from the other working groups are expected shortly. The report on quality of service has been published on our website alongside this paper.

⁴ Commerce Commission "Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012).

⁵ Commerce Act 1986, s 53X.

- 1.13 We propose to treat all reports provided by the ENA working groups by 30 April 2014 as submissions on this issues paper. We invite other interested parties to consider those reports and provide a cross-submission where appropriate.

Documents published alongside this paper

- 1.14 Throughout this paper we refer to several documents which we have published on our website alongside this paper. These documents are listed below.
- 1.14.1 Report by the ENA on quality of supply (February 2014).
 - 1.14.2 Letter from the ENA on key recommendations emerging from the energy efficiency, demand side management, and the reduction of losses working group (December 2013).
 - 1.14.3 PriceWaterhouseCoopers (on behalf of the Electricity Networks Association), “Review of IMs – issues and suggested solutions”, 14 February 2014.
 - 1.14.4 Letter from Gavin Murphy (General Manager, Business Development, Eastland Network) to John McLaren (Chief Advisor, Commerce Commission) on Transmission spur asset acquisition capex/opex forecasts, economic benefits and timeline (5 September 2013).
 - 1.14.5 Letter from Gavin Murphy (General Manager – Business Development, Eastland Network) to John McLaren (Chief Advisor, Commerce Commission) on Additional information on transmission spur asset acquisition (20 November 2013).
 - 1.14.6 Letter from Wellington Electricity to the Commission on the form of control (February 2014).

2. Starting prices

Purpose of chapter

- 2.1 In this chapter, we signal our approach and seek views on issues relevant to:
- 2.1.1 The decision whether to set starting prices based on the prices that will apply at the end of the existing regulatory period, or based on the current and projected profitability of each distributor; and
 - 2.1.2 The forecasting approaches that we propose to use if starting prices are set based on the current and projected profitability of each distributor.
- 2.2 Attachment A and Attachment B provide further technical detail on the approaches we propose to use to forecast operating and capital expenditure (respectively).

Choice of approach for setting starting prices

- 2.3 The starting price we set for a distributor affects the amount of revenue the distributor can expect to earn in the first year of the regulatory period.⁶ In doing so, the starting price also affects the revenue the distributor can earn in the rest of the regulatory period.⁷ In both cases, it is revenue net of pass-through costs and recoverable costs that is affected.
- 2.4 When setting starting prices, we can either roll over the prices that previously applied, or adjust starting prices based on the current and projected profitability of each distributor, ie, using either s 53P(3)(a) or (b) of the Act. We are interested in your views on the approach we should use to set starting prices for the next regulatory period.
- 2.5 In our view, it is generally not possible to make a decision on the approach to use until we have calculated the starting prices that would apply if starting prices are adjusted based on the current and projected profitability of each distributor. By carrying out this calculation, and determining the materiality of differences between the alternative starting prices, we will be able to make an informed decision.⁸

⁶ An exception is those distributors currently on a customised price-quality path.

⁷ In later years of the regulatory period, the starting price is inflated by the rate of change in price. The rate of change in price is discussed in Chapter 3.

⁸ Materiality in this context is outlined by a 1% change in revenues as outlined previously (see Commerce Commission “Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012)).

- 2.6 We have identified key issues that are relevant when we calculate starting prices based on the current and projected profitability of each distributor. These issues are primarily associated with the way in which we can make incremental improvements to the approaches applied previously.

Treatment of Orion New Zealand Limited

- 2.7 On 1 April 2014, Orion New Zealand Limited (Orion) will become subject to a customised price-quality path that will continue to apply until 31 March 2019.⁹ At the end of the customised price-quality path, Orion will become subject to the default price-quality path that is generally applicable to other distributors.
- 2.8 The way we propose to treat Orion for the purposes of this reset, including the starting prices that will apply if it returns to the default price-quality path, are set out in Attachment D.

Current and projected profitability of each distributor

- 2.9 The approach we propose to apply to calculate starting prices based on the current and projected profitability of each distributor is very similar to the approach we applied in November 2012. In particular, we propose to adjust starting prices such that forecast revenues are equal to forecast costs.¹⁰
- 2.10 Amongst other things, the approach we propose to apply would require us to determine:
- 2.10.1 forecast capital expenditure;
 - 2.10.2 forecast operating expenditure; and
 - 2.10.3 forecast revenue growth.
- 2.11 In addition, we must determine a number of other line items, such as asset disposals, depreciation, and revaluations.

We propose to forecast revenue growth using the same approach as in the previous reset

- 2.12 The focus of this paper is on determining the approach to forecasting expenditure. This is because we believe the most significant improvements to the approach taken in the previous reset can be made in this area.

⁹ *Orion New Zealand Limited Customised Price-Quality Path Determination 2013* [2013] NZCC 21.

¹⁰ Forecast costs must be calculated in accordance with the relevant input methodologies.

- 2.13 As a result of using a weighted average price cap to specify the price for electricity distributors, we are required to forecast revenue growth as well as expenditure, if prices are based on the current and projected profitability of each distributor. To forecast revenue growth, we previously forecast the changes in the quantities billed, which result in 'constant price revenue growth'.
- 2.14 We currently intend to use the same approach to determine forecast revenue as in the previous reset.¹¹ However, we invite views on whether, and how, we should amend our approach to forecasting revenue growth.
- 2.15 One possible amendment for this reset is the introduction of a compensation scheme that would adjust revenues on the basis of implemented energy efficiency measures. Further discussion can be found in Chapter 6.

Submissions provided in response to our previous consultation papers

- 2.16 Where relevant, this issues paper takes into account submissions on previous consultation papers in this area. For example, relevant submissions have been provided in response to our initial observations on distributor's forecasts, and the preliminary version of the financial model.¹²
- 2.17 Notably, this paper provides a further opportunity to submit on relevant issues raised in the report on our initial observations. We appreciate that the limited time for responding to the report meant that submissions were relatively high level and, in some cases, expressed initial thoughts only.

Role of forecasting working group established by Electricity Networks Association

- 2.18 The ENA working group on forecasting approaches is currently undertaking work examining possible approaches to forecasting expenditure and revenue growth.¹³ We recognise that this group is likely to explore many of the issues raised in this paper.

¹¹ Commerce Commission "Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012).

¹² Commerce Commission "Initial observations on forecasts disclosed by 29 electricity distributors in March 2013" (29 November 2013), and Commerce Commission "Preliminary version of the financial model for electricity default price-quality paths from 2015: Technical consultation" (29 November 2013).

¹³ Commission staff are observers on this group.

Key issues for expenditure forecasts

- 2.19 Expenditure can fall into two categories:
 - 2.19.1 Operating expenditure; and
 - 2.19.2 Capital expenditure.
- 2.20 A summary of our current thinking and the relevant issues are described in the following sections. These proposed approaches are developed in further detail in Attachment A and Attachment B.

Forecasting operating expenditure

- 2.21 As noted in Attachment A, we intend to use a similar approach to the approach to forecast operating expenditure to the approach used in the November 2012 reset. In particular, we propose to forecast operating expenditure by updating an initial level of operating expenditure for the impact of expected changes in network scale, partial productivity and input prices.
- 2.22 We consider the key issues at this time are:
 - 2.22.1 Whether to use one or more years of data to determine the initial level; and
 - 2.22.2 What, if any, additional adjustments are required to our overall approach.
- 2.23 Our initial view is that it may be appropriate to use an average of 2012/13 and 2013/14 data to set the initial level of operating expenditure for the forthcoming reset. This is because we are concerned that the forecast of operating expenditure for 2013/14 may not represent distributors' future efficient operating expenditure.
- 2.24 Other options are:
 - 2.24.1 Using 2013/14 data only, which represents the most recently available, single year of operating expenditure available at the time of the final decision;
 - 2.24.2 Using 2012/13 data only; or
 - 2.24.3 Using an average of a longer time series, such as from 2009/10 to 2013/14.

- 2.25 We are interested in whether there are any expected step changes in operating expenditure (either positive or negative) that are not captured by our existing approach.¹⁴ We set out the criteria we intend to apply in deciding whether any additional adjustment for this expenditure should be included. We would expect submitters to provide evidence that these criteria have been met.
- 2.26 Depending on the approach we ultimately adopt in each of these areas, we may require additional audited or certified information from distributors to allow us to implement the approach. The timing and process for any information gathering request is discussed in Chapter 8.

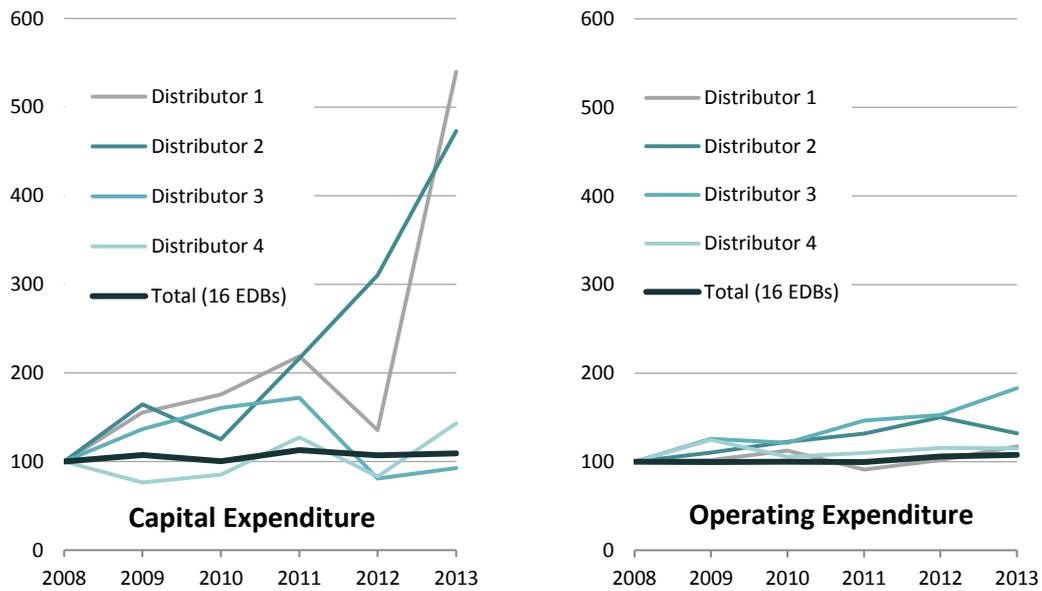
Forecasting capital expenditure

- 2.27 Forecasting capital expenditure can be a more complex task than forecasting operating expenditure due to the potential for larger variability from one period to the next. The variability is driven by the fact that network assets may not be built consistently over time, but instead often require uneven investments, for example, as a result of network capacity reaching certain thresholds.
- 2.28 The extent of this variability on an annual basis can be seen in Figure 2.1. It illustrates how total capital expenditure has varied since 2008 for four selected distributors and the industry as a whole.¹⁵ This can be compared against operating expenditure for the same businesses which have much lower variability.
- 2.29 The annual volatility of capital expenditure is clearly higher when compared to operating expenditure. However this is mitigated to a certain extent in the context of the reset because the price-quality path is set for a five year period. Higher expenditure in one year may be at least partially offset by lower expenditure in a different year.

¹⁴ Step changes may include downward as well as upward adjustments to the operating expenditure forecast.

¹⁵ The distributors selected are the non-exempt distributors with highest level of variability in total capital expenditure over the period.

Figure 2.1: Change in capital versus operating expenditure (2008–2013)



2.30 At the November 2012 reset, we determined a capital expenditure allowance based on a combined forecast of network, and non-network capital expenditure.

2.30.1 Network capital expenditure is expenditure on assets that form part of the distribution network. We relied on each distributor’s forecasts to forecast their network capital expenditure in constant prices.

2.30.2 Non-network capital expenditure is expenditure on assets that do not form part of the distribution network. We forecast non-network capital expenditure based on each distributor’s historic average level of expenditure.

2.31 Further information on our previous approach to forecasting capital expenditure for electricity distributors can be found in Attachment B of the final reasons paper for the November 2012 reset.¹⁶

¹⁶ Commerce Commission “Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012).

Adverse incentives imply a different approach may be appropriate for the forthcoming reset

- 2.32 We noted in November 2012 that relying on distributor’s own forecasts creates an adverse incentive for distributors to adopt low risk assumptions, or otherwise inflate their forecasts. In particular, we noted that:¹⁷

It is therefore very unlikely that we would rely on each distributor’s forecasts if they were this high in future, given the incentive that distributors will have to increase their forecast to secure a higher starting price

- 2.33 Due to this adverse incentive, we are now investigating alternative methods to develop capital expenditure forecasts.

Previous approach for gas pipeline businesses

- 2.34 In February 2013 we determined a capital expenditure allowance as part of the 2013–2017 default price-quality path reset for gas pipeline businesses.
- 2.35 The allowances for capital expenditure relied on each suppliers forecasts of network and non-network investment, but we limited the increase relative to their average historic expenditure. Suppliers were allowed their own forecasts of network and non-network investments, up to 120% of their historic average for each type of expenditure.
- 2.36 At the time, Powerco supported using this approach for the 2015 electricity distribution reset.¹⁸ We invite views from other stakeholders on whether such an approach would be appropriate.

¹⁷ Commerce Commission “Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012).

¹⁸ Powerco Limited “Draft Decision on Initial DPPs for Gas Pipeline Businesses” 7 December 2012.

Proposed approach for electricity distributors

- 2.37 We are currently developing our approach to forecasting capital expenditure for the forthcoming reset. There are two general methods for forecasting capital expenditure that we intend to evaluate in advance of the draft decision.¹⁹
- 2.37.1 One method would be to allow distributors their own forecasts of network capital expenditure subject to a limit. The approach to calculating this limit would need to be determined and would not necessarily be the 120% value that was used in the previous reset for gas pipeline businesses.
- 2.37.2 An alternative method would be the development of low cost models that we could use to independently forecast capital expenditure. We previously outlined a possible approach to modelling in this area as part of our initial observations of distributors' forecasts.²⁰
- 2.38 'Models' in this context could involve a number of different techniques. This could range from analysis of historic trends in expenditure to a more sophisticated model (eg, age-based survivor model) that determines expenditure based on expenditure drivers (eg, age, peak demand).

Models for forecasting capital expenditure requirements

- 2.39 The submissions we received on our initial observations of distributors' forecasts made it clear there would be difficulties in building such models but also that modelling of this type may be useful and could only be evaluated once more details are available.

¹⁹ The default price-quality path process requires the price reset to take a relatively low cost approach. This means that the development of complex and detailed bottom-up models by the Commission, tailored to each of the 17 distributors, may not be possible given possible cost impacts. Any models used for the purpose of determining a capital expenditure allowance would likely take a top-down approach to forecasting and would be consistently applied across the industry. The models would also be expected to use data provided by distributors in the information disclosures.

²⁰ Commerce Commission "Initial observations on forecasts disclosed by 29 electricity distributors in March 2013" (29 November 2013).

- 2.40 A useful reference point to consider when evaluating how a model of capital expenditure forecasting could be developed are the guidelines on forecast assessments published by the Australian Energy Regulator in November 2013.²¹
- 2.40.1 The approach of the Australian Energy Regulator is to separate capital expenditure into different categories and use an alternative method of forecasting each category dependent on the characteristics of the individual categories.
- 2.40.2 The two most material categories (replacement capital expenditure and augmentation capital expenditure) use detailed category specific models to forecast capital expenditure while categories with smaller and more consistent levels of expenditure are dependent on higher level modelling techniques, for example trend analysis of historic costs.²²
- 2.41 The modelling of capital expenditure by different categories is an approach that appeals to us as it will enable us to focus time and resources on the categories that have the most material impact on capital expenditure.
- 2.42 In Attachment B we provide illustrative examples of the way that we could forecast capital expenditure for the following categories:
- 2.42.1 Asset replacement and Renewal;
- 2.42.2 System Growth;
- 2.42.3 Consumer Connection; and
- 2.42.4 Other categories of capital expenditure.
- 2.43 We invite views on the approaches we propose. In addition, spur asset transfers will need to be considered as part of the forecasts for capital expenditure. Our current thinking in this area is provided in Attachment C.

²¹ Australian Energy Regulator “Explanatory Statement – Expenditure Forecast Assessment Guideline” (November 2013).

²² ‘Replacement capital expenditure’ and ‘augmentation capital expenditure’ can be broadly considered equivalent to ‘Asset replacement and renewal’ and ‘system growth’ under the categories of capital expenditure listed in the New Zealand information disclosure requirements.

How capital expenditure forecasts could be developed and applied

- 2.44 We are interested in your views on the different options for forecasting capital expenditure. Questions to consider include the following.
- 2.44.1 Is a cap on distributor forecasts or an independent modelling approach more appropriate for developing capital expenditure forecasts?
 - 2.44.2 How should we calculate any cap to distributor forecasts?
 - 2.44.3 Is adequate data available on drivers of expenditure (eg, age of assets) and of a sufficient enough quality to enable models of the type described in this paper to be developed in the timeframe available?
- 2.45 We are also interested in your views on the ways in which modelling results could be used when setting starting prices based on the current and projected profitability of each distributor. For example modelling results could be used as a stand-alone forecast or in conjunction with information from distributor forecasts.
- 2.46 Options could include:
- 2.46.1 Directly using the modelled outputs to determine the capital expenditure allowance for distributors;
 - 2.46.2 Using modelled outputs for certain categories of capital expenditure and asset management plan forecasts with a cap for the remainder of the categories;
 - 2.46.3 Using distributor forecasts unless they are outside a threshold that is based on the model outputs, eg, $\pm 10\%$. The forecast would then revert to the threshold if outside this band; and
 - 2.46.4 Using model outputs as a sense check of the forecasts provided by the individual distributors with further investigation into any significant anomalies. This sense check could also be informed by other evidence. For example, if previous forecasts by that particular distributor have been broadly consistent with actual expenditure (or differ for well understood reasons).
- 2.47 We note there is an inherent trade-off between the complexity and cost of the approach versus the accuracy of the final forecast. We are therefore particularly keen to hear views on the most appropriate modelling approach to use in the 'relatively low cost' context of default price-quality paths, while having due regard for the need for unbiased forecasts.

Menu regulation

- 2.48 Castalia suggested in its submission on our initial observations of distributors' forecasts that a way to get around the difficulties of this trade-off would be to implement a form of menu regulation for the November 2012 reset. It suggested a 'sliding scale' that would allow distributors to select from a menu of capital expenditure allowances.²³
- 2.49 We will give further consideration to how menu regulation could be applied after reading the report being prepared by the ENA working group on forecasting. We understand that group is considering the role that menu regulation could play in setting expenditure allowances for distributors, potentially as a longer term solution that would allow greater reliance to be placed on distributor forecasts.

²³ Castalia Strategic Advisers "Comments on Initial Observations Forecasts Disclosed by 29 Electricity Distributors in March 2013 Disclosed by 29 Electricity Distributors in March 2013" (report prepared for Vector, 23 December 2013).

3. Allowable rate(s) of change in price

Purpose of chapter

- 3.1 This chapter signals our proposed approach and seeks views on any issues relating to the way we propose to set the allowable rate of change in price for distributors.

Determining the allowable rate of change in price

- 3.2 In each year of the regulatory period, we apply a cap to the allowable rate of change in the price of electricity distribution services, net of pass-through costs and recoverable costs. The rate of change is expressed in the form $CPI-X\%$, where 'CPI' reflects general inflation, and X is a percentage differential known as the 'X-factor'.
- 3.3 Under Part 4 of the Act, we are required to determine a 'productivity-based' rate of change in price that is based on the long run average productivity improvement rate of distributors.²⁴ In light of this, when we set the price path in 2010 we considered results from productivity analysis of the electricity distribution sectors in New Zealand and overseas, as well as other relevant factors, when making our decision on the X-factor.²⁵
- 3.4 The productivity-based rate of change will apply to each distributor, unless it is necessary or desirable to set an alternative rate of change.²⁶ Any alternative rate of change we set must be intended to minimise any undue financial hardship to the distributor or to minimise price shock to consumers.²⁷

Productivity-based rate of change

- 3.5 In November 2009, we set an industry-wide rate of change of 0% for the 2010–15 regulatory period. This assumption was informed by estimates from Economic Insights Pty Limited (Economic Insights) and Pacific Economics Group as well as a number of additional factors in light of the Part 4 purpose statement.²⁸

²⁴ Refer to section 53P(6) of the Act.

²⁵ For further details see: Commerce Commission "Initial Reset of the Default Price-Quality Path for Electricity Distribution Businesses" (30 November 2009), Chapter 5: Rate of change.

²⁶ Section 53P(8) of the Act provides the conditions under which we can set an alternative rate of change.

²⁷ We do not consider that it would be appropriate to set an alternative rate of change as an incentive to improve quality. We set out our preferred approach to quality incentives in: Chapter 4: Incentives for service quality.

²⁸ For further details see: Commerce Commission "Initial Reset of the Default Price-Quality Path for Electricity Distribution Businesses" (30 November 2009), Chapter 5: Rate of change.

- 3.6 We have engaged Economic Insights to provide an estimate of the total factor productivity improvement rate of the sector for the forthcoming reset. We will hold a workshop in advance of the productivity study being completed.²⁹

Alternative rates of change

- 3.7 In November 2012, we set out the approach we used to determine whether alternative rate(s) of change were necessary or desirable for that reset.³⁰ We refer to the discussion in the reasons paper we published at that time as we are not aware of any new issues to consider on this topic ahead of our draft decision.
- 3.8 Our decision to set an alternative rate of change may be affected by there being an outstanding claw-back amount from the current regulatory period which has yet to be recovered.³¹ However, our decision to apply an alternative rate of change for a particular distributor will not affect the full recovery of any outstanding claw-back amount over the upcoming regulatory period.³²
- 3.9 We propose to allow recovery of remaining claw-back (where relevant) before we consider an alternative rate of change for reasons of price shock to consumers or financial hardship for a distributor. In other words, the amount of claw-back to be recovered will not depend, or be affected by, any alternative rate of change we may set for a distributor.
- 3.10 For further details on the application of claw-back see Chapter 7: Outstanding claw-back amounts.

²⁹ For further details see Chapter 8: Process from here.

³⁰ Commerce Commission “Resetting the 2010–2015 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012), Chapter 6: Instances in which alternative rates of change will apply.

³¹ We applied claw-back for the 2012/13 year. For details see: Commerce Commission “Resetting the 2010–2015 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012), Chapter 7: Application for claw-back.

³² Any alternative rate of change may be affected by there being outstanding claw-back amount from the previous regulatory period. Our decision to apply an alternative rate of change for a particular distributor would not affect the full recovery of claw-back.

Impact of productivity-based rate of change on allowed revenue

- 3.11 The effect of the productivity rate of change will depend on whether we set starting prices by rolling over the prices that previously applied, or based on the current and projected profitability of each distributor.
- 3.11.1 If starting prices are rolled over, the rate of change will affect the amount of revenue the distributor can expect to earn over the regulatory period.
- 3.11.2 If starting prices are based on the current and projected profitability of each supplier, the rate of change will not affect the amount of revenue the distributor can expect to recover over the regulatory period. This is because we use the rate of change when setting expected revenues equal to expected costs over the regulatory period. The rate of change will, however, affect the level of prices in particular years including at the end of the regulatory period. It may therefore have a significant impact on the size of price changes at resets.
- 3.12 Irrespective of the way we set starting prices, the rate of change will affect the rate at which revenue is recovered during the regulatory period. All things being equal, a higher rate of assumed productivity improvement, ie, the X-factor, will result in an overall lower rate of change, ie, CPI-X, and therefore a lower rate of increase in revenue.

Linkage to estimates of partial productivity

- 3.13 Improvements in productivity associated with either operating expenditure or capital expenditure will reduce the amount of expenditure a distributor needs to provide the service. As set out in Attachment A, we propose to take expected changes in partial operating expenditure productivity into account when forecasting operating expenditure.
- 3.14 Our current view is that if there has recently been a deterioration in partial productivity, this change is likely to be temporary, ie, due to temporary declines in demand. We expect to consider whether this is in fact the case before determining the partial productivity factor for operating expenditure.
- 3.15 For the 2010–15 regulatory period, the partial productivity assumption for operating expenditure was 0%. This assumption was informed by estimates provided by Economics Insights and the Pacific Economics Group.³³

³³ Commerce Commission “Resetting the 2010–2015 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012), paragraphs C31 and C32.

- 3.16 For the 2010–15 regulatory period we did not apply an explicit partial productivity rate in our approach to forecasting capital expenditure.³⁴ At the time, we did not consider that changes in capital expenditure partial productivity would have a significant impact on the overall level of required expenditure.
- 3.17 We have asked Economic Insights to estimate the operating and capital expenditure partial productivity improvement rates.³⁵ We anticipate that these estimates will be generated using the same approach for calculating total factor productivity.

³⁴ Commerce Commission “Resetting the 2010–2015 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012), Attachment B: How we forecast capital expenditure, paragraph B16.

³⁵ For further details see Attachment A.

4. Incentives for service quality

Purpose of chapter

- 4.1 This chapter signals our proposed approach to incentivising service quality during the next regulatory period. In particular, we set out:
- 4.1.1 what we mean by quality;
 - 4.1.2 the incentives that applied during the 2010–15 regulatory period;
 - 4.1.3 potential changes to incentives for the upcoming regulatory period; and
 - 4.1.4 the ways in which incentives could be developed further in future.
- 4.2 The ENA established a quality working group that Commission staff attended as observers. The working group provided us a paper on quality of service. We considered the ENA’s paper when producing this process and issues paper. We invite you to provide your views on the ENA’s paper as part of your submissions.³⁶
- 4.3 Orion’s quality standards were recently set under a customised price-quality path to have effect from 1 April 2014 through 21 March 2019, after which Orion will be subject to the default price-quality path (unless it applies for another customised price-quality path).³⁷ How we propose to set quality standards for the default price-quality path for Orion are set out in Attachment D.

What we mean by quality

- 4.4 In this section we discuss:
- 4.4.1 the aspects of quality valued by consumers;
 - 4.4.2 the role economic regulation plays in promoting the quality outcomes that consumers demand; and
 - 4.4.3 the aspects of quality that are affected by influences outside of the Commission’s regulation.

³⁶ We published the ENA’s report on our website at: <http://www.comcom.govt.nz/regulated-industries/electricity/electricity-default-price-quality-path/default-price-quality-path-from-2015/>

³⁷ Commerce Commission “Setting the customised price-quality path for Orion New Zealand Limited” (29 November 2013), Attachment L: Quality standards.

Consumers value a range of aspects relating to the quality of electricity distribution services

- 4.5 Quality is a wide concept. Broadly, quality could be considered everything a consumer experiences that is not captured in price of the service. Quality that consumers experience and value can be grouped into the following broad categories.
- 4.5.1 Reliability of supply refers to the extent to which there are interruptions in electricity supply and the power going off as a result. Widely used measures of reliability are the average number and duration of interruptions per year for the network overall.³⁸ Other measures include the amount of energy not supplied during a year.
- 4.5.2 Customer service relates to the qualitative aspects of the service provided by distributors. Examples of measures include the time taken to answer the phone, the extent to which consumers receive information around planned and unplanned power cuts and the time a distributor takes to process new connections.
- 4.5.3 Power quality issues include when the voltage is outside of a range that is considered to be acceptable. System voltage at the point of supply is especially important to consumers that own or operate equipment that is vulnerable to voltage disturbance.
- 4.6 Service quality is driven and affected by a combination of factors. The current condition of the network, asset management decisions (such as whether to maintain, replace or leave assets undisturbed), geographic conditions (eg, population concentration, proximity to the sea) and weather conditions are all important determinants of quality.
- 4.7 In the short term, a distributor may not be able to control all the determinants of service quality. For example, a distributor may have limited control over the number of interruptions caused by extreme weather, but it will have more control over how long it takes to resolve each outage and how it communicates with consumers.

³⁸ System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI)

Reliability tends to be the most highly valued aspect of quality

- 4.8 Reliability is often found to be the quality aspect valued most by consumers.³⁹ The ENA quality working group, which summarised customer surveys undertaken by distributors, found the duration and frequency of power cuts to be the most important aspect of quality for consumers.
- 4.9 Using customer surveys and collective experience, the ENA compiled a list of quality aspects that consumers most value.⁴⁰ Starting with the most important, they are:
- 4.9.1 the duration of interruptions;
 - 4.9.2 the number of interruptions;
 - 4.9.3 providing high quality power supply;
 - 4.9.4 the time it takes to respond to a power cut;
 - 4.9.5 the time taken to answer the telephone;
 - 4.9.6 providing information on reasons for and the likely duration and the extent of a power cut;
 - 4.9.7 processing applications for new connections; and
 - 4.9.8 sufficient notice of shutdowns.

Economic regulation has a role in promoting quality outcomes that consumers want

- 4.10 Regulation under Part 4 has a role in incentivising the level of service quality that consumers demand. We have two tools at our disposal to promote this outcome: default/customised price-quality regulation and information disclosure regulation.
- 4.11 For both default and customised price-quality paths, we set a quality path such that:
- 4.11.1 distributors do not outperform their revenue allowance by inappropriately cutting costs and reducing quality below a level that consumers demand; and
 - 4.11.2 distributors undertake investments in quality where the benefits to consumers exceed the cost of providing additional quality.

³⁹ The ENA notes that commercial consumers place more importance on the duration and number of interruptions than residential customers.

⁴⁰ The Electricity Networks Association “Pathway to Quality – Quality of Supply and Incentives Working Group Paper” February 2014, pages 15–16.

- 4.12 Information disclosure regulation allows interested persons to assess whether the Part 4 purpose is being met. Suppliers are required to disclose information and we are required to undertake summary and analysis of this information. Through this process we improve the transparency of each distributor's performance and create incentives to provide quality that consumers demand.

Quality is also affected by influences outside of Part 4 regulation

- 4.13 The service quality that electricity distributors provide is also influenced by a range of statutory obligations and voluntary arrangements, including:
- 4.13.1 the Consumer Guarantees Act (including recent changes in regard to lines businesses);
 - 4.13.2 the Electricity Act 1992;
 - 4.13.3 power voltage regulation;
 - 4.13.4 voluntary guaranteed service levels; and
 - 4.13.5 electricity governance (connection of distributed generation) regulations.
- 4.14 We aim to take these other obligations and arrangements, and the incentives they create, into consideration when we set quality regulation under Part 4.

Incentives during the 2010–2015 regulatory period

- 4.15 In this section we discuss:
- 4.15.1 the features of the quality path that is currently in place for the 2010 to 2015 default price-quality path; and
 - 4.15.2 potential limitations of this quality regime.
- 4.16 In the next section we explain the potential changes to the quality regime we are considering for the upcoming regulatory period. In particular, we are considering adopting an incentive scheme under section 53M(2) of the Act.

Current approach commonly referred to as a 'pass/fail' regime

- 4.17 Our intent at the beginning of the current regulatory period was to promote a quality outcome such that there is no material deterioration in service reliability.⁴¹ We also considered that, where practical, distributors subject to price-quality regulation should not lose sight of the need to address the demands of individuals or groups of consumers.
- 4.18 The quality standard can be described as a pass/fail approach. The Commission may take enforcement action if a distributor does not meet its quality standard. This occurs when a supplier exceeds its reliability limit for any two out of three years.⁴² A distributor does not receive a financial reward for having a greater reliability than its quality standard.
- 4.19 We set reliability limits using the historic reliability performance of each distributor. We measured reliability as the average number and the duration of interruptions as measured by the system average interruptions frequency index and the system average interruptions duration index. We assumed that a sustained increase (ie, two out of three years) in either the average duration or the number of interruptions indicates a potential underlying deterioration in reliability performance.
- 4.20 Distributors publish data on the number and frequency of interruptions every year. Distributors that are subject to price-quality regulation normalise their measures to account for extreme events.⁴³ The current quality regime does not distinguish between planned and unplanned interruptions.
- 4.21 Where a distributor has breached its quality standards, the Commission may take a range of possible enforcement actions depending on a range of factors.

⁴¹ For further details see: Commerce Commission "Initial Reset of the Default Price-Quality Path for Electricity Distribution Businesses" (30 November 2009), Chapter 6: Quality standards.

⁴² Average duration and frequency of interruption measures are susceptible to variation resulting from extreme events and natural variability. Without measures to mitigate these factors, quality breaches may occur despite there being no material deterioration in underlying reliability performance. As a solution we used dead-bands to calculate the reliability limit, normalisation to adjust for maximum event days and a multi-year assessment to reflect performance over time and further mitigate data variability.

⁴³ Extreme events are considered to be the outage events that result in a maximum event day. A maximum event day occurs when daily duration of interruptions exceeds a boundary value. The duration of interruptions on each day is compared with the calculated duration of interruptions boundary value. If the duration of interruptions for the day exceeds the duration of interruptions boundary value, the day is defined as a maximum event day. The duration of interruptions and frequency of interruptions data for the maximum event day are substituted with the boundary value.

Adverse incentives potentially created by the current pass/fail regime

4.22 Although the general mechanism is designed to incentivise distributors to provide the service quality that consumers demand, its implementation may have some potential problems. We list some examples below.

4.22.1 The approach to setting the reliability limit may provide scope for a material deterioration in reliability. For example, we add a statistical allowance to historically measured quality.⁴⁴ This significantly reduces the likelihood of wrongly identifying a worsening in reliability when in fact there was no deterioration. But it also increases the likelihood that reliability may materially deteriorate without being non-compliant with the quality standard.

4.22.2 The use of a two out of three year assessment rule may incentivise distributors to exceed the reliability limit once but not two times in a row. Distributors may also perceive the reliability limit as a target rather than a lower bound of performance. Data from the information disclosure regime suggests that distributor's average duration and number of interruptions tend to be close to the reliability limit.

4.22.3 The quality regime may have created inefficient timing incentives for planned work. Planned and unplanned interruptions have an equal impact on the average duration and frequency measures of reliability. If a distributor is close to being non-compliant with its quality standard it may reduce or delay planned maintenance and refurbishment (that needs scheduled outages) even if this is inefficient.

4.23 In addition, the current pass/fail regime provides us with discretion over the enforcement action that may be taken where distributors breach their quality standard. While we are currently taking steps to minimise uncertainty for distributors, some level of residual uncertainty will always remain where regulatory discretion exists. Enforcement guidelines and informative precedents will contribute to reducing this uncertainty, but these guidelines will never eliminate uncertainty entirely.

⁴⁴ We made an allowance to account for sampling variability when setting the reliability limits. Broadly, the allowances are calculated as one-standard deviation to be added to the five year average of each of the average duration and average frequency of interruptions values. These averages and standard deviations were from the reference period of 1 April 2004 to 31 March 2009.

Potential changes for service quality for the next regulatory period

4.24 This section will consider:

4.24.1 a revenue-linked quality incentive scheme; and

4.24.2 the improved incentives such a scheme could create.

4.25 In summary, we consider the introduction of a revenue-linked quality incentive scheme may create further incentives for distributors to provide a level of quality that consumers demand. The change in approach is due to both the potentially adverse incentives from the pass/fail regime and the likely beneficial incentives that may be created by a revenue-linked approach.

Introducing a revenue-linked quality incentive scheme

4.26 A revenue-linked quality incentive scheme is likely to provide improved incentives compared to the current pass/fail regime. Our current view is that a revenue-linked incentive scheme will increase the likelihood that customers receive the quality that they demand for a given cost.

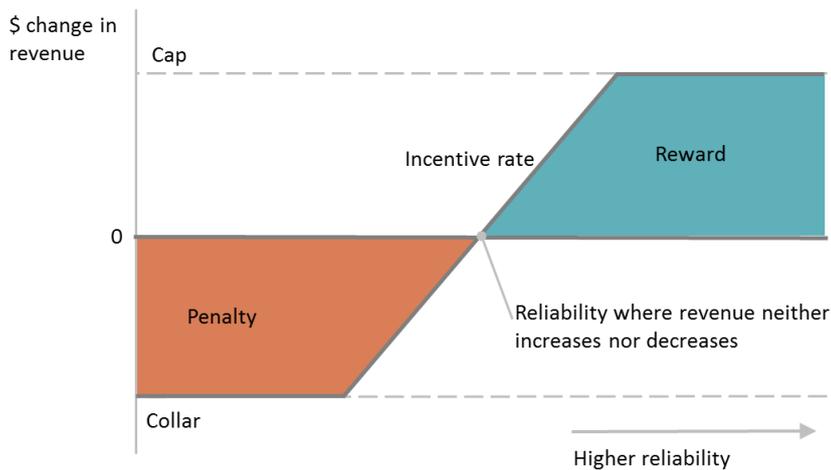
4.27 Under a revenue-linked quality incentive scheme a distributor's revenue is dependent on the level of quality the distributor delivers. Similar schemes elsewhere usually limit the amount of 'revenue at risk'—ie, the maximum amount by which a suppliers' revenue can go up or down depending on its performance.

4.28 Figure 4.1 below sets out an example of a revenue-linked incentive scheme. The scheme uses reliability as the measure of quality.

4.29 The revenue a distributor receives as a reward for outperforming the reliability target increases up to a maximum reliability level known as the 'cap'. The maximum penalty a distributor receives from under-performing the reliability target is also subject to a limit that corresponds to a level of reliability known as the 'collar'. Revenue would increase and decrease by the same amount for the given reliability change—ie, the scheme is symmetric.

4.30 There would be no revenue reward or penalty when a distributor's performance is equal to the reliability target.

Figure 4.1: Example of a revenue-linked incentive scheme based on reliability



- 4.31 The size of the revenue reward or penalty, up to the cap or collar, is determined by how much the distributor departs from the reliability target. The 'incentive rate' is the change in revenue resulting from a change in reliability. A higher incentive rate (ie, a steeper slope in the incentive rate line) leads to larger changes in revenue from a given change in reliability.
- 4.32 The incentive rate beyond the cap or collar on reliability is zero (ie, there are no additional automatic rewards or penalties for reliability exceeding either the cap or collar).

Overall suitability of the quality standard

- 4.33 The suitability of each individual parameter in a revenue-linked reliability incentive scheme will depend on the values of the other parameters. We consider that the parameters of a revenue-linked reliability incentive scheme should not be set in isolation, but rather as a package.
- 4.33.1 The reliability target, cap and collars might be determined first. This leaves the incentive rate and revenue at risk to be determined. A higher (lower) incentive rate will decrease (increase) the bound over which reliability performance has a financial incentive and therefore decrease (increase) the amount of revenue at risk.
- 4.33.2 The amount of revenue at risk and the reliability target might be determined first. This leaves the incentive rate, cap and collars to be determined. A wider (narrower) range between the cap and the collar will require a lower (higher) incentive rate in order to ensure the desired amount of revenue at risk is maintained.

- 4.34 In setting the parameters of the quality standard it is important to consider the value consumers place on the different aspects of quality measured in the regime. This could inform our decisions on, for example, the appropriate level of revenue at risk and also any weighting that might be given to different measures.

Revenue-linked quality regime would improve incentives

- 4.35 We expect that introducing a revenue-linked quality incentive scheme would deliver the following benefits:⁴⁵
- 4.35.1 Better incentives for each distributor to understand the cost-quality trade-off on their network. Through seeking to maximise its economic return a distributor will develop further understanding and control of the costs of providing a given level of reliability.
 - 4.35.2 Better incentives for each distributor to change the current reliability level to that which best reflects the costs and benefits of doing so. The revenue reward and penalty provided by the incentive rate will encourage the distributor to deliver a lower or higher level of reliability reflecting the characteristics of the network and, potentially, consumer demands.⁴⁶
- 4.36 In addition, a revenue-linked incentive scheme is likely to help reduce uncertainty for distributors and consumers. Distributors and consumers will likely have more certainty on how the Commission will assess and enforce compliance with reliability standards and other quality measures.⁴⁷ The financial outcome of a distributor's deviation in quality from the quality target will be calculable year to year.

⁴⁵ These benefits generally appear to be recognised by the ENA working group on quality of service.

⁴⁶ Whether a distributor is incentivised to provide a level of reliability that reflects consumer demands will depend on the parameter settings of the mechanism.

⁴⁷ We also expect there to be limited, if any, increase in compliance costs for distributors, and a reduction in the amount of resources the Commission has to dedicate to assessing compliance with the quality path.

- 4.37 We also note that if the incentives provided by a revenue-linked quality incentive scheme are not strong enough to deter an underlying deterioration in service quality we may need to employ further mechanisms to deter further deterioration. For example, if a distributor is consistently at or below the collar of performance we may consider taking additional enforcement action.⁴⁸

Issues to resolve to implement a revenue-linked quality incentive scheme

- 4.38 The current pass/fail quality regime focusses on the average duration and frequency of interruptions. We expect these reliability measures to remain the focus of the quality regime for the next regulatory period.
- 4.39 In establishing a revenue-linked quality incentive scheme for reliability we would set key features and parameters of the quality standard, including:
- 4.39.1 The incentive rate;
 - 4.39.2 The reliability target;
 - 4.39.3 The caps and collars for reliability;
 - 4.39.4 The revenue at risk; and
 - 4.39.5 The need for any normalisation.
- 4.40 As noted in paragraph 4.33 to 4.34, it is important to consider these parameters as a package.

⁴⁸ Further action may be required for material or persistently low levels of reliability performance. We therefore need to consider how to identify a material deterioration in reliability under a revenue-linked incentive scheme, and the form any additional action could take, eg, Court action.

Incentive rate

- 4.41 The incentive rate determines the dollar size of any revenue reward or penalty attached to a deviation from the reliability target. Factors to consider include:
- 4.41.1 The marginal revenue penalty of reducing reliability below the reliability target;
 - 4.41.2 The marginal revenue reward of increasing reliability above the reliability target; and
 - 4.41.3 The incentive rate over regulatory periods. There may be benefit in establishing the revenue-linked quality regime first and then refining the incentive rate over time.
- 4.42 We invite you to provide your views on the incentive rate that should apply for the upcoming regulatory period.

Reliability target

- 4.43 The reliability target is the level of reliability in which there is no revenue reward or penalty. Factors to consider include:
- 4.43.1 Whether the revenue-linked reliability mechanism will apply to both the average duration and average frequency of interruptions;
 - 4.43.2 The treatment of planned and unplanned interruptions in the average duration and/or average frequency of interruptions measures;
 - 4.43.3 The approach used to set the reliability target. The reliability target could be set using historical or forward looking data; and
 - 4.43.4 Any allowance for sampling variation in the reliability measure. When measured over short periods, such as a year, reliability indices will demonstrate statistical variation around a mean.
- 4.44 We invite you to provide your views on the way in which we should establish reliability targets for the upcoming regulatory period.

Caps and collars for reliability

- 4.45 The caps and collars for reliability can limit the revenue that is at risk under the quality standard. Factors to consider include:
- 4.45.1 The approach to setting the caps and collars and the relation to the reliability target; and
 - 4.45.2 Whether there should be potential for enforcement action if reliability performance is consistently at or below the collar. Additional enforcement action could include a review of asset management practices and/or further enforcement action.
- 4.46 We invite you to provide your views on the appropriate caps and collars we should apply for the upcoming regulatory period.

Revenue at risk

- 4.47 The revenue which is at risk can act as a limit to the amount of a distributor's revenue it can lose or gain under the quality standard. Factors to consider include:
- 4.47.1 The value of the reliability target, caps and collars, and incentive rate will determine the amount of a supplier's revenue which is at risk; and
 - 4.47.2 The appropriate percentage of revenue at risk that promotes desired incentives without imposing excessive risk, eg, 2% of total revenue.
- 4.48 We invite you to provide your views on the appropriate percentage of revenue that should be at risk.

Need for normalisation to identify the underlying trend in reliability

- 4.49 Analysis of reliability data is often susceptible to variation from extreme events. Extreme events can lead the average duration and frequency of interruption measures to be unrepresentative of the underlying service reliability being provided by a distributor.
- 4.50 Under the current pass/fail regime extreme events are identified as major event days and the data set of reliability performance is normalised in order to establish the underlying trend in reliability performance.
- 4.51 If we adjust for major event days under a new revenue-linked reliability incentive scheme we would need to establish a methodology for both identifying major events days and replacing appropriate values into the data sets

Scope for further refinement in future regulatory periods

- 4.52 The regulatory regime under Part 4 is relatively young. We recognise that there will be further scope to improve the quality regime put in place for the upcoming regulatory period.
- 4.53 Our current view is that development of the quality regime in future regulatory periods might be best targeted on capturing the breadth of service quality that consumers value. For example, some examples of customer service measures are:⁴⁹
- 4.53.1 Customer satisfaction;
 - 4.53.2 Timely notification of planned outages;
 - 4.53.3 Processing of new connection requests; and
 - 4.53.4 Quality of information provided during an outage.
- 4.54 In addition, we may in future focus on a refinement of our existing service reliability measures. This is also the ENA quality working group's view. We consider that disaggregation of the average duration and frequency of interruption measures and customer service measures to be the potential next steps in this regard.
- 4.55 Disaggregating the average number and frequency of interruptions could provide a better measure of the distinction in service received by customers of different classes or location. Options include reporting interruptions by:⁵⁰
- 4.55.1 Voltage level;
 - 4.55.2 Worst performing feeders;
 - 4.55.3 Worst served customer; and
 - 4.55.4 Planned versus unplanned interruptions.
- 4.56 Further refining the quality regime in future regulatory periods may first require distributors to report additional data through an enhanced information disclosure regime or through the default price-quality path determination. A distributor may or may not already be collecting a given measure outside of the information disclosure regime.

⁴⁹ For further discussion refer to: Electricity Networks Association "Pathway to quality – quality of supply and incentives working group report" February 2014, pages 38–39.

⁵⁰ For further discussion refer to: Electricity Networks Association "Pathway to quality – quality of supply and incentives working group report" February 2014, pages 35–36.

- 4.57 However, extended reporting does not necessarily have to become a part of the quality path. Additional reporting requirements could be included in our information disclosure requirements. Monitoring and reporting on supplier performance will also assist in incentivising suppliers to provide the quality that consumers demand.

5. Other performance-related incentives

Purpose of chapter

- 5.1 In this reset we intend to focus on changes that result in enhanced incentives for performance improvements that are in the long term benefit of consumers. We have identified three areas with scope for enhancements:
- 5.1.1 Incentives for service quality (discussed in Chapter 4);
 - 5.1.2 Incentives for distributors to control expenditure during a regulatory period; and
 - 5.1.3 Incentives for energy efficiency, demand side management and the reduction of losses.
- 5.2 This chapter sets out and seeks views on our preliminary response to the initial findings of the ENA working group on energy efficiency, demand side management, and the reduction of losses.

Incentives for distributors to control expenditure during a regulatory period

- 5.3 As outlined previously by the Commission, efficiency gains achieved by distributors are currently rewarded differently depending on:
- 5.3.1 the year in which the gain is made; and
 - 5.3.2 the category of expenditure in which the gain is made.
- 5.4 This inconsistent treatment of efficiency gains may create perverse incentives for distributors to control expenditure during a regulatory period. Issues created by these incentives are discussed further in our process and issues paper on expenditure incentives.⁵¹
- 5.5 We are currently considering an amendment to the input methodologies to implement an incremental rolling incentives scheme (IRIS) for default price-quality paths. This mechanism enables suppliers to retain the benefits of efficiency gains beyond the end of a regulatory period. In doing so, an IRIS may address the existing issues associated with expenditure incentives during regulatory periods.

⁵¹ Commerce Commission “Incentives for Suppliers to Control Expenditure During a Regulatory period: Process and Issues Paper” (20 September 2013).

- 5.6 We expect to publish our draft decision on amendments to the input methodologies in relation to expenditure incentives in late April 2014. A final decision is expected before the start of the upcoming regulatory period.

Incentives for energy efficiency, demand side management and the reduction of losses.

- 5.7 Section 54Q states that the Commission must promote incentives, and must avoid imposing disincentivise for distributors to invest in energy efficiency and demand side management, and to reduce energy losses.
- 5.8 We received a number of submissions for our November 2012 reset in favour of explicit incentive schemes that could be put in place for energy efficiency, demand side management, and the reduction of energy losses. We noted that we would give further consideration to any proposals, including those made in prior consultation, as part of work leading up to the reset in 2015.⁵²
- 5.9 Due to the technical nature of the topic we are relying on industry to develop recommendations on how incentives for energy efficiency can be improved.⁵³ This work is currently being led by the ENA Energy Efficiency Incentives Working Group. Commission staff have attended the working group meeting in an observer role. The ENA has written to the Commission to provide an advance signal of the key recommendations emerging from this group. A copy of this letter has been published on our website alongside this issues paper.
- 5.10 The ENA has identified three key issues in relation to incentives for energy efficiency that are relevant for the forthcoming reset.⁵⁴
- 5.10.1 potential for energy efficiency to adversely affect revenue recovered by distributors;
 - 5.10.2 unequal incentives for capital and operating expenditure; and
 - 5.10.3 uncertainty on the regulatory treatment of energy efficiency investments.

⁵² For further discussion of our consideration of incentives schemes for energy efficiency for the November 2012 reset, see Commerce Commission “Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012), chapter 8.

⁵³ We consider the industry is better placed than the Commission to articulate its role in improving energy efficiency and to identify any barriers it faces in influencing energy demand and supply.

⁵⁴ In general, we agree with the issues raised by the ENA. For example, in September 2013 we published a process and issues paper that highlights the unequal incentives for capital and operating expenditure. The paper can be found at www.comcom.govt.nz/dmsdocument/

- 5.11 We are interested in further exploring some of the recommendations proposed by the ENA as short term measures for addressing the issues, and your views on these. In particular:
- 5.11.1 the introduction of a mechanism that compensates distributors for revenue foregone as a result of demand side management initiatives (this is referred to as a 'D-Factor' in Australian energy regulation);
 - 5.11.2 an amendment to input methodologies to address the current incentives that apply to capital and operating expenditure, discussed above; and
 - 5.11.3 clarifying the regulatory treatment of energy efficiency initiatives that do not directly involve the conveyance of electricity by line. Investments that fall within the definition of 'electricity lines services' are included in a distributor's asset base, on which their regulated revenue is based. Investments that fall outside this definition are able to earn unregulated revenue. We are particularly interested in real world examples of instances in which clarification would be helpful.
- 5.12 We recognise that longer term measures to provide better incentives may include changes to input methodologies. Input methodologies must be reviewed within 7 years of the original determination being issued.⁵⁵
- 5.13 We propose to treat any reports provided by the ENA working groups by 30 April 2014 as submissions on this issues paper. This includes any report from the Energy Efficiency Incentives Working Group.

⁵⁵ Refer: s 52Y (1) of the Act.

6. Treatment of uncertainty and risk

Purpose of chapter

- 6.1 This chapter seeks views on issues related to the treatment of uncertainty and risk. In particular, we invite views on the treatment of:
- 6.1.1 Uncertainty associated with forecasts of revenue and expenditure;
 - 6.1.2 Uncertainty and risk associated with pass-through and recoverable costs; and
 - 6.1.3 Risk associated with catastrophic events.
- 6.2 We also invite views on any other issues we should consider in relation to the treatment of risk and uncertainty.

Uncertainty associated with forecasts of revenue and expenditure

- 6.3 In the process leading up to the reset of starting prices in November 2012, a number of stakeholders argued we should include an allowance for the uncertainty associated with our forecasts of expenditure and revenue. Amongst other things, these submissions argued that customised price-quality paths would be a ‘high risk’ and ‘costly’ error correction mechanism if starting prices were set too low.⁵⁶
- 6.4 In light of the submissions we received, we developed an approach for the November 2012 reset for determining whether an additional allowance would be justified. Our approach is explained in Chapter 5 and Attachment H of our November 2012 final reasons paper.⁵⁷ We concluded that an additional allowance was unlikely to be appropriate for any distributors for the November 2012 reset.
- 6.5 We propose to apply a similar approach to determining additional allowances in November 2014, if starting prices are reset based on the current and projected profitability of each distributor. Therefore, at this stage, we do not consider that any further measures are required to address forecasting uncertainty.⁵⁸

⁵⁶ For example, Vector “Submission to the Commerce Commission on Draft Decision and Starting Price Adjustments for Electricity Distribution Businesses” 24 August 2011.

⁵⁷ Commerce Commission “Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012).

⁵⁸ For example, reducing the length of the regulatory period from five years to four years or including a wash up mechanism.

- 6.6 We consider that distributors should manage the uncertainty associated with demand, and the risks that result from this. This is implicit in the use of a weighted average price cap, as opposed to a revenue cap.⁵⁹

Uncertainty and risk associated with pass-through and recoverable costs

- 6.7 Each year, distributors are allowed to recover certain amounts, over and above the amounts implied by their CPI-X price path.⁶⁰ These amounts are referred to as ‘pass-through’ and ‘recoverable costs’. Our expectation is that distributors fully recover these costs.
- 6.8 The way in which distributors must calculate the amounts they can recover is set out in advance of the regulatory period. Based on this, distributors must then forecast their pass-through and recoverable costs to ensure they do not breach the maximum allowable revenue.⁶¹ Pass-through and recoverable costs are netted off the prices set by distributors to determine compliance with the price-quality path.
- 6.9 We invite views on any issues with the current approach for electricity default price-quality paths. We are aware of a number of unresolved issues, which have also been explored in the context of the default price-quality paths for gas pipeline businesses and in the context of the customised price-quality path for Orion New Zealand.⁶² Two issues are described below.
- 6.9.1 In practice, if the value of pass-through and recoverable costs is uncertain, distributors are at risk of breaching their price-quality paths if the value is lower than forecast. Distributors may therefore choose to include a margin for this uncertainty when setting their prices.
- 6.9.2 The treatment of refunds and rebates of rates and levies that have the impact of reducing the value of pass-through and recoverable costs used when accessing compliance with the price-quality path but were not known when setting prices. Distributors may currently include a margin in their prices to allow for this.

⁵⁹ Unison has raised concerns about the volume risk associated with claw-back amounts, which is discussed in Chapter 8.

⁶⁰ Where ‘CPI’ reflects general inflation, and X is a percentage differential known as the ‘X-factor’.

⁶¹ Amongst other things, distributors must forecast transmission charges.

⁶² Commerce Commission “Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012); Commerce Commission “Setting the Customised Price-Quality Path for Orion New Zealand Limited” (29 November 2013).

- 6.10 Our decision on the default price-quality paths for gas pipelines businesses in February 2013 allows suppliers to only deduct pass-through and recoverable costs that are known prior to the start of the assessment period—ie, they cannot deduct values that have been forecast. The reason for this is to minimise the chances of a supplier over- or under-recovering their revenue.
- 6.11 Under this approach, pass-through and recoverable costs that become known after the supplier sets its prices may be claimed in a future period and may be adjusted for the time value of money. We have set the factor for making adjustments for the time value of money using the cost of debt that was used to determine cost of capital.
- 6.12 We invite suggestions on how the existing approach could be improved for electricity distributors, and whether the approach applied to gas pipeline businesses would be appropriate.

Volume risk on pass through and recoverable costs

- 6.13 In addition, the recovery of pass-through and recoverable costs will differ from the forecast if volumes are higher or lower than forecast. This serves to amplify the impact of volumes being higher or lower than forecast on actual revenue recovered under the price-quality path. We invite views on how material an issue this is, and how it could be addressed.

Risk associated with catastrophic events

- 6.14 Our view, as expressed in our decision on Orion's customised price-quality path, is that the risks of future catastrophic events should be shared between distributors and consumers. Allocating all the costs and risks of catastrophic events to consumers would reduce the incentives for distributors to manage these risks efficiently (ie, create a moral hazard).
- 6.15 Our decision for the Orion customised price-quality path was that ex post compensation should be provided for the additional net costs incurred as a result of catastrophic events during the customised price-quality period. However, no additional compensation will be provided for lower-than-forecast revenues due to catastrophic events prior to any reset of the price-quality path.

- 6.16 The reasons behind our decision for Orion are also relevant when considering the impact of future catastrophic events for distributors under a default price-quality path. In addition, we consider distributors' ability to apply for a reconsideration of the default price-quality path, or to apply for a customised price-quality path both provide mechanisms to ensure distributors can expect to earn a normal return from when the price-quality path is reset. These points are discussed further below.⁶³
- 6.17 Therefore, we do not consider that any additional allowance or mechanisms are required for this reset to compensate distributors for any potential additional net costs or lower-than-forecast revenues resulting from a catastrophic event.⁶⁴
- 6.18 Our view takes into account submissions received on our draft decision on the treatment of catastrophic risk and claw-back for Orion. We have not explicitly addressed any issues raised in these submissions that were specific to default price-quality paths. We seek views on whether there are any additional factors to consider.

Ability to reopen the price path or come in for a customised price-quality path

- 6.19 The High Court has recently directed us to amend the input methodologies to allow distributors to request that the default price-quality path is reconsidered in response to a catastrophic event.⁶⁵ We must then consider whether to reopen the price-quality path.
- 6.20 Distributors can also apply for a customised price-quality path where this will better meet their particular circumstances than the default price-quality path. If, as a result of a catastrophic event, a distributor expects to earn below normal returns under a default price-quality path, the customised price-quality path allows the distributor to have an alternative path determined based on the best information available.

⁶³ We also note that the input methodologies allow for the value of assets that are damaged beyond repair, but not disposed of, to remain in the regulatory asset base. Distributors will therefore be able to recover the return on and of these assets (net of insurance proceeds) once prices are reset.

⁶⁴ We do not therefore at this stage agree with the ENA submission on our process paper. The ENA submitted that until the Commission commits to providing ex post compensation for catastrophic events, it should include a mechanism to compensate distributors as part of the default price-quality path. Electricity Networks Association "Comment on the Commission's DPP Process Paper" 20 September 2013, paragraphs 12 to 14.

⁶⁵ *Wellington International Airport Ltd & Ors v Commerce Commission* [2013] NZHC [11 December 2013].

6.21 We envisage that catastrophic events may be more effectively dealt with through a customised price-quality path, rather than through reopening the default price-quality path. That is because the Part 4 framework and input methodologies explicitly provide for claw-back for distributors moving from a default price-quality path to a customised price-quality path as the result of a catastrophic event. We do not consider that claw-back is available when a default price-path is reopened. As was the case with our decision for the Orion customised price-quality path, we consider claw-back would be used to provide ex post compensation for the additional net costs incurred as a result of catastrophic events during the default price-quality period, prior to the customised price-quality path taking effect. However, no additional compensation would be provided for lower-than-forecast revenues due to catastrophic events prior to any reset of the price-quality path.

Investor diversification

6.22 Investor diversification minimises the impact of risks resulting from catastrophic events. To well-diversified investors, only the expenditure and demand risks that affect all investments matter. The risks specific to one investment can be expected to be offset by those of other investments, and unexpected positive and negative shocks may be experienced by individual businesses over time. Such shocks are therefore of little consequence to a diversified investor.

Practical effect of using an uplift to the mid-point percentile cost of capital

6.23 The practical effect of using an uplift to the mid-point estimate of the cost of capital is to provide a buffer for catastrophic events. We note that catastrophic events are expected to have a relatively minor impact when compared to the size of the uplift associated with using the 75th percentile cost of capital.

6.24 We have recently consulted on whether we should consider reviewing or amending the input methodologies for the cost of capital.⁶⁶ This is in response to the recent judgment from the High Court, which questioned the use of the 75th percentile estimate of cost of capital rather than a lower percentile. Any consideration of the cost of capital will likely consider the potential role of an uplift in providing a buffer for catastrophic events.

⁶⁶ For more information, see Commerce Commission “Invitation to have your say on whether the Commerce Commission should review or amend the cost of capital input methodologies” (20 February 2014).

Ability to supply lines services

- 6.25 Services should be provided at a quality that reflects consumer demands, including meeting their demand for electricity distribution services. We consider distributors' ability to undertake emergency repairs to meet demand for electricity distribution services in response to a catastrophic event is generally best met through ex post, rather than ex ante, measures.⁶⁷
- 6.26 Providing ex post compensation for prudent additional net costs incurred due to catastrophic events may strengthen the distributor's existing incentives to restore supply on the network prior to the price-quality path being reset. Consumers will benefit from the distributor's ability to recover these costs because it will help ensure that demand is able to be met.

Appropriate sharing of demand risk with consumers

- 6.27 We do not consider an ex ante allowance for demand risk will result in appropriate sharing of the risks of catastrophic events between distributors and consumers. In our view distributors should bear demand risk associated with catastrophic events until a customised price-quality path takes effect (or until a reopened default price-quality path takes effect). After the reset, prices are able to be adjusted to reflect reduced demand. Therefore, demand risk is effectively shared because the impact of lower-than-forecast revenues is borne by consumers after the reopened path takes effect.

⁶⁷ This ex post compensation is intended to allow distributors to respond to short-term issues resulting from a catastrophic event. We consider distributors' focus should be on meeting consumer demands for electricity distribution services and recovering from the catastrophic event, rather than immediately focussing on regulatory issues.

7. Outstanding claw-back amounts

Purpose of chapter

- 7.1 This chapter invites views on the approach for allowing distributors to recover any claw-back amounts that are still outstanding from the November 2012 reset under s 54K(3) of the Act.

Outstanding balances arising as at 1 April 2015

- 7.2 In November 2012, we reset the default price-quality paths for 16 electricity distributors and applied claw-back due to the delay in the process for resetting the paths.⁶⁸ The Act defines the application of claw-back as the Commission either:⁶⁹
- 7.2.1 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
 - 7.2.2 allowing a supplier to recover some or all of any shortfall in its revenues that occurred under the prices previously charged by the supplier.
- 7.3 We noted at the time that we were required to spread claw-back over time to minimise price shocks to consumers or undue financial hardship to the supplier. We therefore applied a limit to the maximum price increases allowed in the 2010–15 regulatory period.
- 7.4 Given the size of the price increases, we expected that:
- 7.4.1 most distributors would be able to recover the full claw-back amount in 2013/14; and
 - 7.4.2 distributors that were subject to an alternative rate of change to minimise price shocks would recover their claw-back amounts in the next regulatory period, and we would consult on the appropriate rate of recovery in the run up to that reset.
- 7.5 Claw-back was therefore spread over more than one year, including into the next regulatory period, where the implied price change was sufficiently large.

⁶⁸ *Electricity Distribution Services Default Price-Quality Path Determination 2012* [2012] NZCC 35.

⁶⁹ Commerce Act 1986, section 52D.

Claw-back applied in full in 2014/15 for eleven distributors

- 7.6 For eleven distributors, the claw-back amounts were to be recovered in full in 2014/15. This is because, in our view, the application of claw-back did not cause price shocks to consumers, or financial hardship to suppliers. The claw-back amount was to be recovered through the recoverable costs term in the price path.
- 7.7 For these distributors, the claw-back amount reflected the amount of over- or under-recovery of revenue that occurred in 2012/13. The extent of the over- or under-recovery was calculated by comparing:⁷⁰
- 7.7.1 the maximum allowable revenue we calculated for the year 2012/13, as specified in the determination;⁷¹ and
 - 7.7.2 the distributor's line charge revenue for 2012/13 (as disclosed through information disclosure) less the distributor's actual pass-through costs and actual recoverable costs and indirect transmission charges for 2012/13.
- 7.8 In calculating the amount to be applied in 2014/15, the eleven distributors were required to use an interest rate of 5.84% p.a., which reflected a three year pre-tax cost of 5.84% and a two year fixed term mortgage rate of 5.8% p.a.⁷²

Claw-back smoothed into next regulatory period for five distributors

- 7.9 In November 2012, we set alternative rates of change for five distributors. These five distributors were:
- 7.9.1 Alpine Energy Limited;
 - 7.9.2 Centralines Limited;
 - 7.9.3 The Lines Company Limited;
 - 7.9.4 Top Energy Limited; and
 - 7.9.5 Unison Networks Limited.

⁷⁰ *Electricity Distribution Services Default Price-Quality Path Determination 2012* [2012] NZCC 35, Schedule 1E Equation 4.

⁷¹ *Electricity Distribution Services Default Price-Quality Path Determination 2012* [2012] NZCC 35, Schedule 1E Table 5.

⁷² Commerce Commission "Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012), paragraph J26.

- 7.10 As a result of setting the alternative rates of change, four of these distributors⁷³ would have expected to recover less revenue in the current regulatory period than they would have if the productivity-based rate of change had applied. For these four distributors, the alternative rates of change therefore had an NPV-negative impact.⁷⁴
- 7.11 Consequently, claw-back is still to be applied for all five distributors to compensate the distributor for the under-recovery of revenue that occurred in 2012/13 as a result of the delay in the process for resetting the paths under s 54K(3). Additional claw-back is also to be applied to compensate four distributors for the NPV-negative impact that the alternative rate of change had on their business.

Key issues to consider

- 7.12 The key issues we must consider ahead of the next reset are:
- 7.12.1 how the outstanding claw-back amounts are to be calculated as at 1 April 2015 to give effect to our decision in November 2012; and
 - 7.12.2 how the outstanding claw-back amounts should be recovered over the next regulatory period, ie, the rate of recovery.
- 7.13 In addition, we are interested in views on an issue raised by Unison in relation to the volume risk associated with claw-back amounts. These issues are discussed in turn below.

⁷³ These distributors are: Alpine Energy, Centralines, The Lines Company, and Top Energy.

⁷⁴ Commerce Commission “Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012), paragraphs 6.7–6.10.

How outstanding claw-back amounts are to be calculated as at 1 April 2015

- 7.14 The present value of the outstanding claw-back amount as at 1 April 2015 is a function of:
- 7.14.1 for the five distributors with an alternative rate of change, the under-recovery in 2012/13 (calculated in accordance with paragraph 7.7);⁷⁵
 - 7.14.2 cost of debt;⁷⁶ and
 - 7.14.3 for the four distributors with an NPV-negative rate of change, the amount of under-recovery in 2014/15 that occurred as a result of having an NPV-negative rate of change.
- 7.15 In addition, an intra-year timing adjustment is required to express the discounted difference between the cumulative 2012/13 claw-back amounts and the cumulative 2014/15 claw-back recoveries as a 1 April 2015 value.

How the outstanding claw-back amounts should be recovered

- 7.16 We propose to apply claw-back through the recoverable cost term, as required in the input methodologies; however, a decision is still required on the rate at which claw-back should be recovered over the regulatory period.
- 7.17 Our initial preference is to smooth the recovered amounts equally, in present value terms for each year of the regulatory period, using the cost of debt as the interest rate. If necessary or desirable, we would apply alternative rates of change to avoid price shocks.

⁷⁵ Schedule 1E Table 5 of the *Electricity Distribution Services Default Price-Quality Path Determination 2012* [2012] NZCC 35 specifies the maximum allowable revenue for the year 2012/13 for only 11 distributors. In the modelling that was undertaken to inform this decision, a corresponding value was derived for each of the remaining four distributors. Refer row 12 of the 'Results' worksheet in Commerce Commission "Financial model—Reset of the 2010–2015 default price-quality paths for EDBs" (30 November 2012).

⁷⁶ In Commerce Commission "Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012), paragraph J37.1, we noted that we consider 5.84% is also the appropriate discount rate for calculating the claw-back amounts through to the end of the regulatory period.

7.18 Consequently, our initial view is that the formula is:

$$CR_t = \frac{1}{y} \times CO \times r^{t-0.5}$$

where:

CR_t is the claw-back to be recovered in year t of the regulatory period, expressed in nominal dollars;

CO is the present value as at 1 April 2015 of the amount of claw-back outstanding at 1 April 2015;

y is the number of years in the regulatory period starting 1 April 2015;

r is the cost of debt for the regulatory period starting 1 April 2015.

Issue raised by Unison in its feedback on process

7.19 We also invite views on an issue raised by Unison,⁷⁷ concerning the volume risk associated with claw-back amounts. Unison, in its response to our open letter of November 2012,⁷⁸ considered that the reasons we gave in our November 2012 reasons paper for setting the discount rate for claw-back at the cost of debt rather than at the cost of capital were unsupported.

7.20 In our reasons paper we stated:⁷⁹

We have decided that the cost of debt is a more appropriate discount rate than the cost of capital for the following reasons. This is because the cost of capital reflects the cost of equity, which in turn reflects exposure to systematic risk. However, there is no systematic risk associated with the recovery of the claw-back amounts.

⁷⁷ Letter from Nathan Strong (General Manager Business Assurance, Unison) to John McLaren (Chief Adviser, Commerce Commission), in response to the Commission's open letter of 23 April 2013 (24 May 2013).

⁷⁸ Open letter from Sue Begg (Deputy Chair, Commerce Commission) to electricity distributors, gas pipeline businesses, consumers and representatives, and any other interested parties, seeking feedback on the process for setting default price quality paths (23 April 2013).

⁷⁹ Commerce Commission "Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012), paragraph J30.

- 7.21 Unison noted In its feedback that an expert report⁸⁰ submitted to the Commission by Vector Limited, the Competition Economists Group considered there is systematic risk involved in recovering claw-back amounts in the same way as general revenues are recovered:

Alternatively, it may be argued that cashflows which are modelled as part of the recovery of this shortfall (or disgorgement of an over-recovery), to the extent that these form part of Vector's general revenue, are subject to the same risks as Vector's ordinary business and should be discounted back to the present time at Vector's regulated WACC of 8.77%.

- 7.22 We invite Unison and other distributors to provide evidence on the materiality of this issue for their business. We also note there is a more general issue of volume risk associated with the recovery of pass-through costs and recoverable costs. This issue is discussed further in Chapter 6.

⁸⁰ Competition Economics Group "Application of claw-back, a report for Vector" (report prepared for Vector, June 2012).

8. Process from here

Purpose of chapter

- 8.1 This chapter sets out our proposed consultation process and indicative dates for key milestones in the run up to the reset due on 30 November 2014.

Where we have been and where we are going

- 8.2 Last year, we issued a preliminary process timetable.⁸¹ The process we proposed takes a similar form to the process used in our most recent resets of default price-quality paths, with some refinements.⁸²
- 8.3 As with our previous processes for resetting default price-quality paths, the key milestones in our process include:
- 8.3.1 issuing information gathering notices for targeted pieces of information;
 - 8.3.2 providing an opportunity for interested parties to provide their views on the key issues we should consider in our reset of default price-quality paths for the next regulatory control period;
 - 8.3.3 providing an opportunity for interested parties to provide submissions and cross-submissions on our draft determination (which includes an accompanying reasons paper and models); and
 - 8.3.4 providing a second opportunity for interested parties to provide submissions on the technical drafting of the determination before it is finalised.
- 8.4 A final determination on the default price-quality path will be made on or before 30 November 2014.

Process to date

- 8.5 The key process steps that we have completed to date are shown in Table 8.1 below. The process paper and preliminary version of the financial model are available on our website.⁸³

⁸¹ See Commerce Commission “Proposed process – Default price-quality paths from 2015” (6 September 2013).

⁸² These include the reset of default price-quality paths for electricity distribution businesses in 2012, following a change to the relevant input methodologies, and the setting of default price-quality paths for gas distribution businesses in 2013.

Table 8.1: Previous publications and events

Date	Publication or event
6 September 2013	Process paper
29 November 2013	Preliminary version of the financial model
12 December 2013	Question & answer session on the financial model
17 February 2014	Signal of contents of information gathering request
12 March 2014	Information gathering request

8.6 We appreciate the feedback received from stakeholders during our process to date.

Updated indicative timetable for default price-quality paths

8.7 Table 8.2 sets out an indicative timetable of the remaining parts of our process for resetting default price-quality paths, which is scheduled to end on 30 November 2014.

Table 8.2: Upcoming publications and events with indicative dates

Indicative date	Publication or event
21 April 2014	Updated financial model
1 May 2014	Productivity workshop
30 June 2014	Draft decision
14 July 2014	Question & answer session on models
14 July 2014	Information gathering request (if required)
30 September 2014	Updated determination for technical consultation
28 November 2014	Final decision

⁸³ Documents are available at <http://www.comcom.govt.nz/regulated-industries/electricity/electricity-default-price-quality-path/default-price-quality-path-from-2015/>

- 8.8 In addition, we will be separately considering amendments to the input methodologies for default price-quality paths to be made prior to our determination. We set out the timeframes for these amendments in paragraphs 8.31 to 8.35.

Key points to note

- 8.9 This section explains some of the key points that we want you to be aware of in the process for resetting default price-quality paths. These points relate to:
- 8.9.1 the financial model;
 - 8.9.2 the productivity workshop;
 - 8.9.3 information gathering requests;
 - 8.9.4 our draft determination; and
 - 8.9.5 consultation on the drafting of the determination.
- 8.10 We invite you to provide your views on our proposed process.

Financial model

- 8.11 On 29 November 2013, we published a preliminary version of the financial model to be used for the default price-quality path reset, which was accompanied by an explanatory note and overview.⁸⁴ We released the preliminary version of the model to allow interested persons an opportunity to comment on the model:
- 8.11.1 in response to stakeholder submissions in favour of early release; and
 - 8.11.2 to improve layout and presentation of the model.
- 8.12 The model explained how each row in the preliminary model for the 2015 default price-quality path reset relates to the model that was used for setting the 2010–15 default price-quality path. We also held a question and answer session on the financial model on 12 December 2013.

⁸⁴ Commerce Commission “Preliminary version of the financial model for electricity default price-quality paths from 2015: Technical consultation” (29 November 2013). The preliminary version of the financial model is available at <http://www.comcom.govt.nz/regulated-industries/electricity/electricity-default-price-quality-path/default-price-quality-path-from-2015/>.

- 8.13 In light of submissions on the preliminary version of the financial model, we propose releasing an updated version ahead of our draft decision on the reset. In particular, we propose to release:
- 8.13.1 one version that corrects errors in the existing model; and
 - 8.13.2 a second version if any draft amendments are made to input methodologies before we publish our draft determination (paragraphs 8.31 to 8.35 provide further information on the scope and timing of potential amendments).⁸⁵
- 8.14 Each version of the model we release will include reconciliation to the previous version, and we intend to invite feedback on these models as part of the consultation on the draft decision. Any errors identified in the model will be addressed after we have considered submissions and cross-submissions on our draft determination.
- 8.15 We propose to allow distributors until 23 May 2014 to:
- 8.15.1 correct any errors in the data sources we propose to rely on for our draft decision; and/or
 - 8.15.2 provide updated estimates of any data points that we propose to rely on for our draft decision (ie, data points that have not yet been disclosed under information disclosure regulation).⁸⁶
- 8.16 After our draft decision, we will hold a question and answer session on our models, including the financial model. Interested parties will be provided with an opportunity to submit questions in advance for discussion at the session.

Productivity workshop

- 8.17 As discussed in Chapter 3, the productivity-based rate of change must be based on the long run average productivity improvement rate achieved by either or both of distributors in New Zealand, and distributors in comparable countries, of electricity distribution services.⁸⁷

⁸⁵ Amongst other things, releasing two versions of the model will allow stakeholders to assess the impact of any draft amendments we propose to input methodologies before the draft determination.

⁸⁶ Each model will include a table setting out the data sources that we propose to rely on for the draft determination as well as the data sources we propose to rely on for the final determination. Where there are differences between draft and final we will provide an explanation, eg, 'data source for final determination will not be available at the time of the draft determination'.

⁸⁷ Commerce Act 1986, s 53P(6).

- 8.18 We have engaged Economic Insights to prepare a report on:
- 8.18.1 the long run productivity improvement rate in the electricity distribution sector;
 - 8.18.2 the operating expenditure partial productivity improvement rate for the electricity distribution sector; and
 - 8.18.3 the capital expenditure partial productivity improvement rate for the electricity distribution sector.
- 8.19 We anticipate that Economic Insights will prepare the report using a broadly similar approach for assessing total factor productivity to that undertaken in the previous reset. This report will be taken into consideration in our decision on the productivity-based rate of change.
- 8.20 To improve the robustness of our estimate of long run productivity, we will hold a workshop on or about 1 May 2014. The information provided in the workshop will be used by Economic Insights in the preparation of their report, and we will take the report and information provided at the workshop into account in determining our draft decision on the productivity-based rate of change.

Information gathering requests

- 8.21 In setting the default price-quality path, we make substantial use of data disclosed under our information disclosure regulation. For example, we will rely on:
- 8.21.1 regulatory asset values;
 - 8.21.2 historic levels of expenditure; and
 - 8.21.3 drivers of expenditure.
- 8.22 Additional information is also required to be provided in accordance with information gathering requests issued under section 53ZD of the Act. This additional information is used, for example, to inform our decision on forecast operating and capital expenditure.

- 8.23 An information gathering request was issued under section 53ZD of the Act on 12 March 2014.⁸⁸ That request included information in the following categories:
- 8.23.1 price adjustments;
 - 8.23.2 transmission assets; and
 - 8.23.3 reliability.
- 8.24 In light of the feedback we received on our process paper, before releasing the request we signalled the likely contents of the request, prepared a draft information request, and engaged with ENA representatives on the format and content of the request. That feedback was helpful in managing the scope and wording of the information request.
- 8.25 We anticipate releasing a further section 53ZD notice at the time of our draft decision with any additional information we require.⁸⁹ The likely contents will be signalled to stakeholders prior to the request.
- 8.26 We intend to follow a similar process in preparing any additional request. We invite submissions on any ways in which that process could be improved. In addition, in case it was not clear previously, we would like to clarify that distributors should contact the Commission directly (rather than through ENA representatives) in the event that further guidance is required about the information we are seeking.

Draft decision documents

- 8.27 Similar to previous resets, the draft determination will be accompanied by:
- 8.27.1 a reasons paper;
 - 8.27.2 supporting models; and
 - 8.27.3 consultant reports.
- 8.28 We propose to provide six weeks for submissions on the draft determination, and an additional two weeks for cross-submissions.

⁸⁸ Email from the Commerce Commission "Commerce Commission - Request for information - Default price-quality paths from 2015" (17 February 2014).

⁸⁹ The amount of time provided for responses will depend on the types of information we request.

Consultation on drafting of the determination

- 8.29 Our decision will be implemented through an amendment to the existing default price-quality path determination applicable to distributors.⁹⁰ In light of previous feedback, we intend to provide two opportunities to submit on the drafting of the determination before our determination is finalised: first, at the draft determination stage; secondly, an updated version shortly before our final determination is published.
- 8.30 The updated version will be published in September and will take into consideration feedback provided at the draft determination stage. The draft will be released for technical consultation, and will not include any values that are specific to distributors, for example, starting prices and rates of change will be blank.

Potential amendments to input methodologies

- 8.31 Some of the input methodologies relevant to setting the default price-quality path are likely to be amended prior to our final determination. The amendments include the following.
- 8.31.1 Amendments required by the High Court's decision in *Wellington International Airport Ltd & Ors v Commerce Commission* [2013] NZHC [11 December 2013].
- 8.31.2 Amendments arising from our consultation on incentives for distributors to control expenditure during a regulatory period, a notice of intention of which was released on 30 April 2013, and a process and issues paper on 20 September 2013.⁹¹
- 8.32 We are also considering whether to start work on other amendments, such as error corrections. Amongst other things, we are currently considering a list of amendments proposed by PWC (on behalf of the ENA). This list of proposed amendments is available on our website alongside this paper. If we start work on any of these amendments, we will notify parties in due course by issuing a Notice of Intention.

⁹⁰ Commerce Act 1986, s 53P(1).

⁹¹ Copies of the notice of intention, the process and issues paper, and submissions and cross-submissions on the process and issues paper, are available at <http://www.comcom.govt.nz/regulated-industries/input-methodologies-2/amendments-and-clarifications/>.

- 8.33 In our draft decision for default price-quality paths, we expect to take into account:
- 8.33.1 any amendments that have been made in response to the High Court's decision, which are dependent on the timing and nature of the Court order; and
 - 8.33.2 any draft amendments published on or before the date that our draft decision is published.
- 8.34 The issues raised in this paper, including issues surrounding potential new incentive arrangements (discussed in Chapters 4 and 5) and the treatment of spur assets (Attachment C), may be implemented through amendments to the input methodologies. If a need for such additional amendments is identified, we expect to release draft amendments on or before the date we publish our draft determination.
- 8.35 In our draft determination we will identify the effect any proposed amendments to the relevant input methodologies will have on our determination, if they are adopted. We will separately consider whether a further consultation is required at that time.

9. How you can provide your views

Purpose of chapter

- 9.1 This chapter sets out how you can respond to issues we have identified in this paper, and to identify any other issues that you consider relevant.

Responding to this paper

- 9.2 As noted in the introduction, we welcome your views in the timeframes set below.

9.2.1 Submissions are due by **5pm, Wednesday 30 April 2014**.

9.2.2 Cross-submissions are due by **5pm, Thursday 15 May 2014**.

Address for responses

- 9.3 Responses to this paper should be addresses to:

John McLaren (Chief Advisor, Regulation Branch)
c/o regulation.branch@comcom.govt.nz

- 9.4 We prefer responses in a file format suitable for word processing, rather than the PDF file format.

Requests for confidentiality

- 9.5 We encourage full disclosure of submissions so that all information can be tested in an open transparent manner, but we offer the following guidance.⁹²

9.5.1 If it is necessary to include confidential material in a submission should be provided.

9.5.2 Both confidential and public versions of the submission should be provided.

9.5.3 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.

⁹² You can also request that we make orders under s 100 of the Act 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 us, and must identify the reasons why the relevant information should not be made public. We will 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, we will follow our usual process in response to any request for information under the Official Information Act 1982.

- 9.6 We request you provide multiple versions of your submission if it contains confidential information or if you wish for the published electronic copies to be 'locked'. This is because we intend to publish all submissions and cross-submissions on our website. Where relevant, please provide both an 'unlocked' electronic copy of your submission, and a clearly labelled 'public version'.

Attachment A: Forecasting operating expenditure

Purpose

- A1 This attachment outlines our approach to forecasting operating expenditure in the November 2012 reset, and seeks views on whether, and how, this approach should be amended for the forthcoming reset.⁹³

Overview of how we forecast operating expenditure in the November 2012 reset

- A2 In November 2012, we forecast each distributor's operating expenditure by updating an initial level of operating expenditure for the impact of changes in the main factors that affect operating expenditure. Our approach included an additional adjustment to reflect increases in insurance costs that were attributable to natural disasters.
- A3 Before making the adjustment for increased insurance costs, we modelled the impact of three factors on each distributor's operating expenditure.
- A3.1 Network scale – Changes in the scale of the network affects operating expenditure because it is associated with a change in the level of service.
- A3.2 Partial productivity – Changes in operating expenditure partial productivity change the amount of operating expenditure needed to provide a given level of service.⁹⁴
- A3.3 Input prices – Changes in input prices affect the cost of providing a given level of service.
- A4 Each of these factors is discussed in the sections that follow. The formula we used is shown in Box A1. This formula results in an adjustment to operating expenditure in the previous year based on changes in each of the factors.

⁹³ Further information on our previous approach to forecasting operating expenditure can be found in Attachments C and D of the reasons paper for the November 2012 reset (Commerce Commission "Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012)).

⁹⁴ The operating expenditure partial productivity measures changes in the ratio of operational expenditure to associated outputs. It can be measured based on historical operating expenditure partial productivity changes for New Zealand and overseas distributors. Consistent with the productivity-based X factor, we previously set the operating expenditure partial productivity to be the same for each distributor.

Box A1: Formula for calculating operating expenditure⁹⁵

$$\text{operating expenditure}_t = \text{operating expenditure}_{t-1} \times$$

$$(1 + \Delta \text{ due to network scale effects}$$

$$- \Delta \text{ operating expenditure partial productivity}$$

$$+ \Delta \text{ input prices})$$

- A5 It is appropriate to forecast operating expenditure in this way because the majority of operating expenditure is relatively stable. This is because it relates to activities which are typically recurring. As such, operating expenditure is expenditure that is likely to be repeated regularly, and which can be expected to be influenced by certain known and predictable factors.

Similar approach proposed for November 2014 reset

- A6 At this stage, we propose to undertake a similar approach for the reset due in November 2014, using updated data and parameters (where appropriate).

Alternative approaches not preferred at this time

- A7 We consider our existing approach is preferable to alternatives, such as estimating the absolute level of operating expenditure for each distributor rather than changes in historic operating expenditure.⁹⁶ To estimate expenditure in level terms, the forecast could be calculated as a proportion of capital expenditure or the regulatory asset base.⁹⁷ However, this approach is unlikely to reflect distributor's existing levels of expenditure.

⁹⁵ CEG highlighted that the operating expenditure projection omits interaction terms between network scale, input prices and partial productivity. Competition Economists Group, *Default Price-Quality Path Reset*, October 2012 paragraphs 35 to 41. However, no other submitter raised an issue with the specification of the formula, and there is regulatory precedent for a similar specification.

⁹⁶ This approach was also highlighted by Castalia (Castalia Strategic Advisors "Comments on Regulatory Incentives Process and Issues Paper" (report prepared for Vector, 21 October 2013), page 4).

⁹⁷ The Commission may not use comparative benchmarking on efficiency in order to set starting prices. Therefore, any approach based on the level of expenditure would not be able to be based on a distributor's relative efficiency.

A8 We have previously considered alternative approaches suggested by submitters, including the use of distributor’s forecasts of operating expenditure from information disclosure, but did not consider these appropriate. Submitters should refer to the final decision for the November 2012 reset for more information on our reasoning.⁹⁸

Initial level of operational expenditure

A9 We previously used a single year of data to set the initial level of operating expenditure in our formula. In particular, we relied on the most recent year’s data prior to the start of the regulatory period. We therefore used operating expenditure in the 2009/10 disclosure year as the initial level of operating expenditure for the November 2012 reset. The same initial level applied to all distributors.

A10 Our initial view is that it may be appropriate to use an average of 2012/13 and 2013/14 data to set the initial level of operating expenditure for the forthcoming reset. This is because we are concerned that the forecast of operating expenditure for 2013/14 may not represent distributors’ future efficient operating expenditure. Distributors have forecast an increase in operating expenditure in 2013/14 relative to historic levels.

A11 We seek your views on:

A11.1 whether we should use one or more years of data to set the initial level of operating expenditure;⁹⁹ and

A11.2 which data we should rely on for the draft and final decisions.

A12 We also invite you to provide your views on any other issues we should consider when deciding how to determine the initial level of operating expenditure.

⁹⁸ Commerce Commission “Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012), Attachment C.

⁹⁹ Powerco and Vector have expressed support for the use of a single (2013/14) year of data to set the initial level of operating expenditure. The ENA favours the use of multiple years of data to set the initial level. Vector “Submission to the Commerce Commission on the Preliminary version of the financial model for electricity default price-quality paths from 2015: Technical consultation” 14 February 2014, paragraph 14; Powerco “Submission on preliminary version of the financial model for electricity default price-quality paths from 2015: Technical consultation” 14 February 2014, page 2; ENA “Submission on preliminary version of the financial model for electricity default price-quality paths from 2015: Technical consultation” 14 February 2014, paragraph 21.

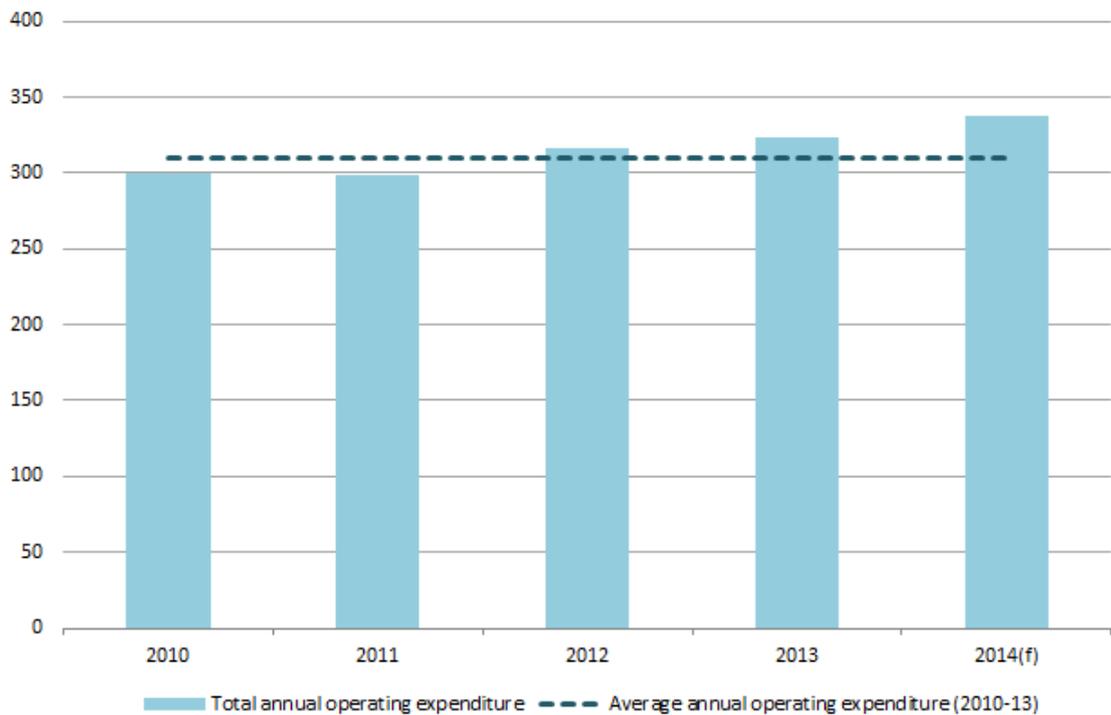
Use of one or more years of data to set the initial level

- A13 In principle, using the most recently available, single year helps ensure efficiency gains achieved prior to the start of the regulatory period are passed onto consumers. Using several years of data to set the initial level may reduce the extent to which efficiency gains are shared with consumers. Using a single year will still allow distributors to retain the benefit of efficiency gains achieved since the start of the current regulatory period.
- A14 However, there are several reasons why it may not be appropriate to use a single year of data to set the initial level of operating expenditure for the forthcoming reset.
- A14.1 Atypically high or inefficient costs in a single year may lead to a forecast that is biased in favour of the distributors and, by the same reasoning, an atypically low cost year may bias the forecast to the disadvantage of distributors.¹⁰⁰
- A14.2 As we used a single year in the November 2012 reset, distributors may have presumed that we would also rely on a single year for the forthcoming reset, which may have created adverse incentives. In particular, distributors may have had an incentive to advance or defer expenditure to this year in order to obtain a higher starting price.
- A15 Distributors have forecast an increase in operating expenditure in 2013/14 relative to historic levels. This may indicate that 2013/14 is expected to be an atypical year or that expenditure has been deferred or advanced to this year.
- A16 Figure A1 shows total annual operating expenditure for 16 electricity distributors for the period 2009/10 to 2013/14, as well as the average for the period 2009/10–2012/13.¹⁰¹ It shows that, in March 2013, total operating expenditure in 2013/14 was forecast to be 6% higher than the historic average.¹⁰²

¹⁰⁰ A symmetric incremental rolling incentive scheme (IRIS) addresses this issue, if implemented in the future. However, there is currently no IRIS for default price-quality paths. We are separately consulting on the implementation of an amendment to the input methodology for IRIS.

¹⁰¹ Orion is excluded from this analysis. Orion was not required to disclose information on its operating expenditure in 2011.

¹⁰² An updated forecast of operating expenditure will be disclosed by each distributor in March 2014. However, actual data for this year will not be available until August 2014, ie, after our draft decision is published. We intend to use actual data for 2013/14 in making our final decision.

Figure A1: Annual operating expenditure (2010–14)

Note: Orion is excluded from this analysis. Data shown in this figure is not necessarily reported on a consistent basis (ie, consistent with the input methodologies). Data shown is in constant prices.

- A17 Using an average of 2012/13 and 2013/14 data may smooth the impact on the data of atypical events or distributors' incentives to inflate costs in a single year. The resulting initial level may therefore be more representative of distributors' future operating expenditure needs than using the most recently available, single year. The ENA supports the reliance on an average of 2012/13 and 2013/14 data for the forthcoming reset.¹⁰³

¹⁰³ ENA "Submission on preliminary version of the financial model for electricity default price-quality paths from 2015: Technical consultation" 14 February 2014, paragraph 21.

A18 However, we are interested in your views on alternative approaches that we could consider. Other options include using:

A18.1 2013/14 data only, ie, the most recently available at the time of the final decision;

A18.2 2012/13 data only; or

A18.3 an average of a longer time series, such as from 2009/10 to 2013/14.¹⁰⁴

Data relied upon for the initial level for the draft decision

A19 If we are to rely on data for 2013/14 to set the initial level of operating expenditure, we will not have actual information for the 2013/14 year at the time of our draft decision. Information for 2013/14 will not be disclosed until August 2014.

A20 In the absence of disclosed information on actual expenditure for 2013/14, our draft decision could:¹⁰⁵

A20.1 use estimates for 2013/14 disclosed by distributors in March 2014;

A20.2 use data for 2012/13 in place of data for 2013/14; and/or

A20.3 allow distributors to provide 2013/14 data to us before our draft decision.

A21 Our preferred approach for the draft decision, if 2013/14 data is required, would be to use the estimates for 2013/14 that are disclosed in March 2014. However, we would also propose to allow individual distributors the opportunity to provide actual data for 2013/14 to us before our draft decision.¹⁰⁶

¹⁰⁴ If we rely on a longer time series to set the initial level of operating expenditure, we may have to require distributors to re-disclose data for 2010/11 and 2011/12 to be consistent with the input methodologies for cost allocation that apply to information disclosure regulation. Information for these years may have been disclosed using an approach to cost allocation that is inconsistent with the input methodologies. Distributors have already provided expenditure information for 2009/10 that is consistent with the input methodologies (in response to an earlier s 53ZD request).

¹⁰⁵ Vector has proposed using 2013 data for the draft decision while Powerco proposed providing the Commission with draft information for 2014 to be used in the financial model. Vector "Submission on preliminary version of the financial model for electricity default price-quality paths from 2015: Technical consultation" 14 February 2014, paragraph 15; Powerco "Submission on preliminary version of the financial model for electricity default price-quality paths from 2015: Technical consultation" 14 February 2014, page 2.

¹⁰⁶ Using the estimates for 2013/14 disclosed in March 2014 will not affect the outcome of our final decision (which is able to use the actual 2013/14 data disclosed in August 2014), but may result in less certainty and transparency than using updated information.

- A22 By allowing distributors to provide data, distributors are able to help minimise any avoidable changes between our draft and final decisions. The deadline for providing data informally would be 23 May 2014.
- A23 Distributors that wish to provide up to date information for 2013/14, in case it is required for the draft decision, are invited to contact the Commission at the earliest convenience, and no later than 30 April 2014. We do not propose to issue a s53ZD notice to obtain this data but encourage distributors to provide this information, if they wish.

Changes due to network scale effects

- A24 Consistent with our previous model for forecasting operating expenditure, changes in scale will affect our forecast of operating expenditure.¹⁰⁷ To estimate the impact of changes in scale on operating expenditure, we separately modelled the relationship between operating expenditure and scale for expenditure:
- A24.1 on the network (network operating expenditure); and
 - A24.2 to support the network (non-network operating expenditure).
- A25 Our approach estimates the impact of scale on operating expenditure across the industry as a whole using an econometric model. The model, and our resulting estimate, uses two proxies for network scale: network length and number of users.
- A26 Our approach required assumptions on expected changes in scale for network and non-network operating expenditure. The growth rates we relied upon were tailored to each distributor and were based on:
- A26.1 historic trends in network length for each distributor; and
 - A26.2 a population forecast tailored to the area served by each distributor (as a proxy for the growth in the number of connections).
- A27 We weighted network and non-network operating expenditure using the average proportion of these costs across the industry. We applied the same weight to all distributors as we did not have sufficiently reliable information that could be used to make the weights distributor specific.

¹⁰⁷ This view is supported by previous submissions on the November 2012 reset, our initial observations of information disclosed and additional papers on this topic.

A28 The ENA working group on forecasting approaches is currently undertaking work examining possible approaches to forecasting operating expenditure. This includes providing recommendations whether the econometric models for operating expenditure developed for the November 2012 reset can be refined and improved. We are awaiting the findings of this group before undertaking any further work in this area.

Partial productivity

A29 We previously assumed a 0% change in operating expenditure partial productivity for the November 2012 reset. This assumption was based on analysis provided by Economic Insights and by Pacific Economics Group on historical operating expenditure partial productivity changes for New Zealand and overseas distributors. We set the change in operating expenditure partial factor productivity to be the same for each distributor.

A30 We have engaged Economic Insights to update this analysis for the upcoming reset. Our estimate of operating expenditure partial productivity will be informed by this analysis as well as the Part 4 purpose. There will be further consultation on the appropriate approach to estimating and applying operating expenditure partial productivity as part of the work undertaken by Economic Insights and any further work we undertake on this issue. We propose to hold a workshop in May 2014 to discuss the preliminary findings.

Changes in input prices

A31 We previously adjusted operating expenditure for forecast changes in the cost of inputs used by distributors using the weighted average forecasts of the changes in the all industries labour cost index, and the all industries producer price index. We weighted the forecast labour cost index by 60% and the forecast producer price index by 40%.

A32 At this stage, we propose to adopt the same approach for the upcoming reset, using the latest available forecasts of the labour cost index and the producer price index provided by the New Zealand Institute of Economic Research. We remain open to alternative approaches and indices, including any recommendations on this issue from the ENA working group. However, submitters should note our previous concerns about the predictability of sector specific indices.¹⁰⁸

¹⁰⁸ Commerce Commission “Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012), Attachment C.

Additional adjustments

- A33 Our operating expenditure projection for the November 2012 reset included an additional adjustment for increased insurance costs resulting from the Canterbury earthquakes and other natural disasters. We included insurance forecasts provided by each distributor, but required that these were independently verified and certified by a Director.
- A34 As explained in the reasons paper for the November 2012 reset, our expectation is that any increases in insurance costs are now included in the actual operating expenditure figures that will determine the initial level of operating expenditure. As such, our proposed approach will capture these costs and we do not anticipate that any further adjustment will be necessary.¹⁰⁹

Criteria for including additional adjustments

- A35 We remain open to considering whether any adjustments are required for other step changes in operating expenditure provided these are:
- A35.1 significant;
 - A35.2 can be robustly verified;
 - A35.3 cannot be captured in the other components of our projection;
 - A35.4 are largely outside the control of the distributor; and
 - A35.5 our expectation is that any adjustment would have to be in principle applicable to most, if not all, distributors.
- A36 Any adjustments for step changes in future operating expenditure may be downward, as well as upward.

We would expect submissions to provide evidence that these criteria are met

- A37 Distributors have previously indicated a number of areas where they expect a step change in their future operating expenditure. For example, Powerco notes that it, along with other distributors, is forecasting a step change in expenditure on system operations and network support.¹¹⁰

¹⁰⁹ Commerce Commission “Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012), paragraphs C44 and C45.

¹¹⁰ Powerco “Submission on initial observations on forecasts disclosed by 29 electricity distributors in March 2013” 20 December 2013, page 7.

- A38 Distributors have submitted step changes in other areas, including:¹¹¹
- A38.1 increased costs arising from changes to health and safety law and regulations;
 - A38.2 the costs associated with seismic strengthening work and improved network resilience;
 - A38.3 increased insurance for catastrophic events;
 - A38.4 an increase in ownership and maintenance of consumer service lines; and
 - A38.5 additional liability exposures resulting from the Consumer Law Reform Bill.
- A39 To date, we have not seen evidence to suggest these factors result in a step change and that they are not already captured through the different factors in our operating expenditure projection formula. Furthermore, distributors have not indicated the extent to which these costs are outside their control or meet the other criteria set out in paragraph A35. We do not propose to include any additional adjustments in our projection of operating expenditure unless evidence is provided that these criteria have been met.

¹¹¹ Powerco "Submission on initial observations on forecasts disclosed by 29 electricity distributors in March 2013" 20 December 2013, page 10; ENA "Submission on the Commerce Commission's Initial Observations on Forecasts Disclosed by 29 Electricity Distributors in March 2013" 23 December 2013, paragraph 24; Wellington Electricity "Initial observations on forecasts disclosed in 2013 AMP" 23 December 2013, page 2; Vector "Submission to the Commerce Commission on initial observations of EDB forecasts" 23 December 2013, paragraph 55.

Attachment B: Forecasting capital expenditure

Purpose of attachment

- B1 This attachment seeks views on the methods identified by us as having potential for developing models of capital expenditure and whether they could help improve our approach to forecasting capital expenditure.
- B2 As noted in Chapter 2 we have identified two approaches for forecasting capital expenditure:
- B2.1 to allow distributors their own forecasts of network capital expenditure subject to a limit, for example based on their historic average expenditure; and
 - B2.2 to investigate the development of low cost models that we could use to independently forecast capital expenditure.
- B3 This attachment focusses on the second approach and discusses potential modelling techniques that we have identified and which could be used for the purpose of forecasting capital expenditure.

Overall approach

- B4 As discussed in the sections that follow, we are investigating separate forecasting approaches for different categories of expenditure. We propose to distinguish between:
- B4.1 Asset Replacement and Renewal;
 - B4.2 System Growth;
 - B4.3 Consumer Connection; and
 - B4.4 Other categories of capital expenditure.¹¹²
- B5 Of these categories, our priority for the forthcoming reset is to investigate a model for asset replacement and renewal. We consider this category contains the most potential for developing a robust and useful model, and it is a material category for a large number of distributors.

¹¹² The other categories of expenditure are 'Asset Relocations', 'Reliability, Safety and Environment' and 'Non-network assets' as per the categories for capital expenditure in Information Disclosure.

- B6 Our aim is to develop a model that provides more appropriate incentives than using distributor's own forecasts, and that is more accurate than other forecasting approaches that are available to us.
- B7 We also intend to evaluate the potential for a model that can help us forecast requirements for system growth. However, we recognise that achieving a robust model by November 2014 would involve the resolution of a greater number of issues than a model of asset replacement and renewal, particularly around the availability and robustness of relevant data. Therefore this modelling is a longer term priority, but we will do what we can to progress the work in advance of this reset.
- B8 Consumer connection is the third category of capital expenditure where we will spend time investigating the most appropriate modelling approach. The lower variability seen historically suggests an appropriate model could be developed for this category. The main limitation in this area could be the availability of appropriate data.
- B9 Our current thinking is that we do not expect to develop detailed models for the other categories of capital expenditure. Instead we will be guided by an assumption that expenditure in these categories will be relatively stable over time and are a smaller percentage of overall expenditure.
- B10 Therefore, we consider other approaches may be more suitable. These may include:
- B10.1 greater reliance on distributor forecasts, albeit with an appropriate cap applied;
 - B10.2 projecting historic trends going forward. This is the approach taken for non-network capital expenditure in the 2012 reset;¹¹³ and
 - B10.3 estimating the absolute level of expenditure based on simple metrics and/or unit costs, for example, as a proportion of total expenditure or based on the number of connections and an assumed unit cost for each connection.
- B11 We invite views on the potential approaches to forecasting the different categories of capital expenditure, how any models could be used and any of the other issues raised in this chapter.

¹¹³ Commerce Commission "Resetting the 2010–15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012).

Views of stakeholders in response to our initial observations of distributors' forecasts

- B12 We received a number of submissions in the area of capital expenditure modelling in response to our initial observations of distributors' forecasts.¹¹⁴ We noted the three most significant categories of forecast capital expenditure were asset replacement and renewal, system growth and consumer connections.
- B13 We explored two generic approaches for developing capital expenditure models.
- B13.1 An 'adjustment method', which projects forward historical expenditure adjusting for any forecast changes of high level expenditure drivers. It therefore estimates future *changes* in expenditure relative to a historic baseline.
- B13.2 An 'absolute calculation' that would calculate the future *level* of expenditure based on information on the individual drivers of expenditure (for example, asset condition) and volumes. This approach has less focus on expenditure in the immediately preceding period relative to the 'adjustment method'.
- B14 Some submitters indicated that they had an open mind on developing capital expenditure forecasting models.¹¹⁵ Other submitters were sceptical that capital expenditure modelling will be possible given the data available in the information disclosures and the observed variability often seen in capital expenditure.¹¹⁶
- B15 We acknowledge these submissions and recognise the difficulties in developing independent capital expenditure forecasting under a low cost regulatory regime. However, in the absence of an alternative approach that provides appropriate incentives, we still consider it is valuable to investigate potential modelling options in advance of the draft decision.

¹¹⁴ Commerce Commission "Initial observations on forecasts disclosed by 29 electricity distributors in March 2013" (29 November 2013).

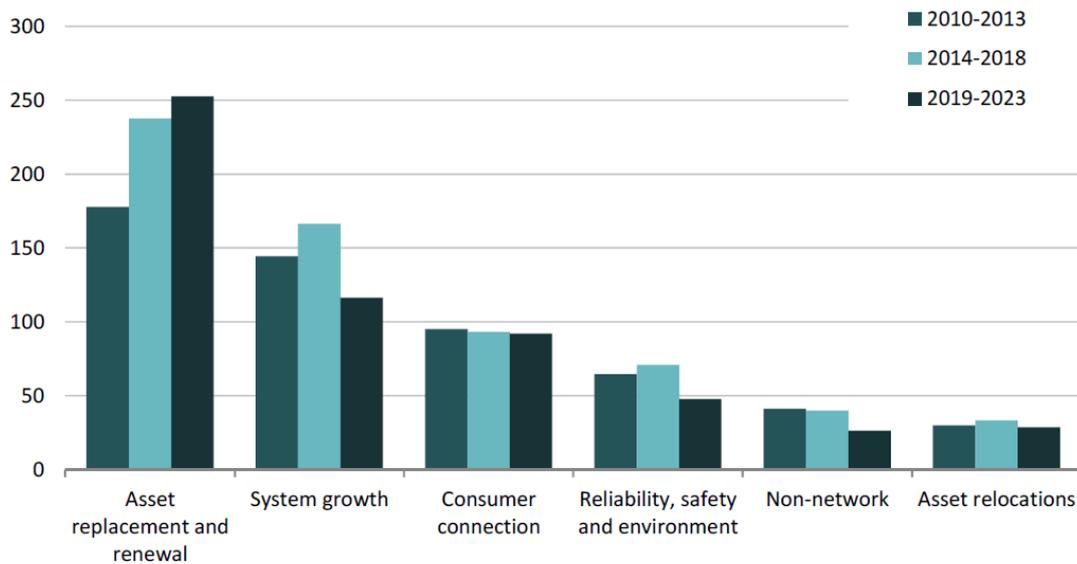
¹¹⁵ For example, Vector noted that "the two approaches put forward are worth considering" Vector "Submission to the Commerce Commission on initial observations of EDB forecasts" 23 December 2013, paragraphs 58 to 59, while Powerco submitted that "at this stage we have an open mind on the application of either approach" Powerco "Submission on Information Disclosure: Initial Observations on forecasts disclosed by 29 electricity distributors in March 2013" 20 December 2013.

¹¹⁶ For example, PWC submitted that "Given the variance in capital expenditure plans between networks, and over time within each network, it is not immediately obvious that top down capital expenditure modelling is a reasonable approach to summary and analysis", PWC "Submission to the Commerce Commission on Initial Observations on Forecasts Disclosed by 29 Electricity Distributors in March 2013" (report prepared for 22 Electricity Distribution Businesses, 23 December 2013). Wellington Electricity also expressed similar concerns: "Deterministic use of capital expenditure models requires high quality data over an extended period of time to ensure that the outputs of the model can be relied upon" Wellington Electricity Lines Ltd, "Initial observations on forecasts disclosed in 2013 AMP" 23 December 2013.

Model for capital expenditure on asset replacement and renewal

B16 Our initial observation of distributors' forecasts illustrated that historically the largest category of capital expenditure has been 'asset replacement and renewal'. It is also the category that is expected to grow most significantly between now and 2023. This suggests it is an area in which we should focus our resources when developing forecasts of capital expenditure.

Figure B1: Industry-level breakdown of annual average capital expenditure (\$m, 2013 prices)



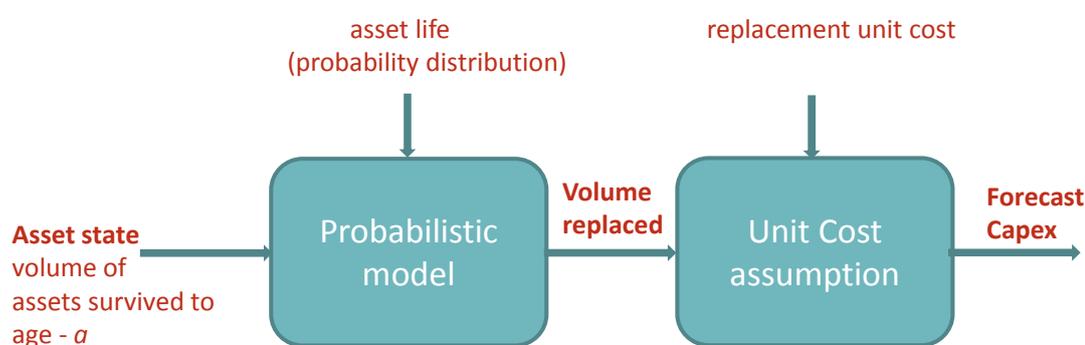
B17 Due to the significance and inherent 'lumpiness' of asset replacement and renewal it cannot be easily evaluated based on historic trends of expenditure.

B18 A common approach among other regulators and businesses to evaluate capital expenditure is to use an age-based survivor model.¹¹⁷ This type of model uses the age of individual assets in a network in order to project the level of capital expenditure required to replace older assets in the next regulatory period.

¹¹⁷ Models of this type have been developed by Ofgem and the AER in recent years.

- B19 The modelling process requires data on:
- B19.1 the age of individual asset types for each distributor;
 - B19.2 the assumed average asset life for each type of asset, with an associated probability distribution to take into account the variability of actual asset lives for individual assets around the average asset life; and
 - B19.3 the unit costs of replacing each asset type.
- B20 An illustrative example of this type of model is given in Figure B2.¹¹⁸

Figure B2: Illustrative example of an age-based survivor model



- B21 We would also need to make a number of high level assumptions to develop this approach as a practical tool for regulatory purposes. These assumptions would reduce the complexity of the model and the associated data requirements. Some examples of these simplifying assumptions could be that:
- B21.1 the probability distribution of asset ages around the average is assumed to be a normal distribution; and
 - B21.2 all older assets are assumed to be replaced on a one-for-one basis.
- B22 We previously commissioned Farrier Swier in 2007 to undertake modelling of this type for electricity distributors as part of the process for setting the price threshold under the previous regulatory regime.¹¹⁹

¹¹⁸ See also, Commerce Commission “Examples of capital expenditure models – Initial observations workshop” (12 December 2013), and Australian Energy Regulator “Electricity network service providers replacement expenditure model handbook” (November 2013).

¹¹⁹ Farrier Swier Consulting *Research Project for 2009 Threshold Reset – Distribution Networks and Asset Management* (December 2007).

- B23 We believe the results of this type of analysis may provide a useful tool in evaluating capital expenditure. The improved information available in the annual information disclosures may allow us to undertake similar analysis in advance of the forthcoming reset.

Key issues to consider

- B24 In order to be used to determine an independent expenditure forecast, any capital replacement model needs to be sufficiently robust. The robustness of the model is dependent on resolving a number of questions on key issues in advance of any model being used in the reset process. However, a less robust model may still be useful, for example, as a cross-check against distributors' forecasts.
- B25 Some of these issues are listed below. We invite views on all of these issues and any others relevant to this type of capital expenditure replacement modelling.
- B25.1 What issues are there likely to be with the asset age information provided under information disclosure regulation?
- B25.2 What alternatives, if any, are there to using asset age as a proxy for asset condition for electricity distributors, given the data currently available?
- B25.3 What issues are there likely to be if we use normal distribution curves around the expected life of a network asset when forecasting replacement volumes?
- B25.4 Are you aware of alternative options other than using an inflation-adjusted optimised deprival value to derive unit cost data?¹²⁰ For example, unit cost data from overseas or other industry sources might be appropriate.
- B25.5 What risks do you see with using an inflation-adjusted unit costs from the optimised deprival value handbook, and how could these risks be mitigated, for example, in the application of the model?
- B25.6 Could this type of age-based survivor model be usefully applied if suitable unit cost data was not available, for example, by comparing the average age of each distributor's network against capital expenditure forecasts as a cross-checking exercise?

¹²⁰ Commerce Commission "Handbook for Optimised Deprival Valuation of System Fixed Assets of Electricity Lines Businesses" (30 August 2004); PWC "Report to the Electricity Network Association – Revised ODV Handbook" (9 August 2010).

Development of an aggregated aged-based survivor model

- B26 A problem with applying an age-based survivor model in New Zealand is that the smaller size of many distributors may cause difficulties in model calibration due to the lower frequency of major investments.¹²¹
- B27 We intend to investigate the appropriateness of the available data in developing an aged-based survivor model for individual companies. However, we are also considering whether to investigate a model of this type that covers the whole of the electricity distribution industry in New Zealand.
- B28 A high-level approach like this would help us understand the appropriate level or rate of change of investment across the industry as a whole, which in turn would be beneficial when determining capital expenditure forecasts. For example, this could inform any cap on capital expenditure increases applied across the industry.
- B29 We therefore invite views on the following.
- B29.1 Whether it would be appropriate to investigate the use of age-based survivor modelling for the total electricity distribution industry; and
- B29.2 Whether there is any other way that this type of modelling could be used at high level to help inform our expenditure forecasts.

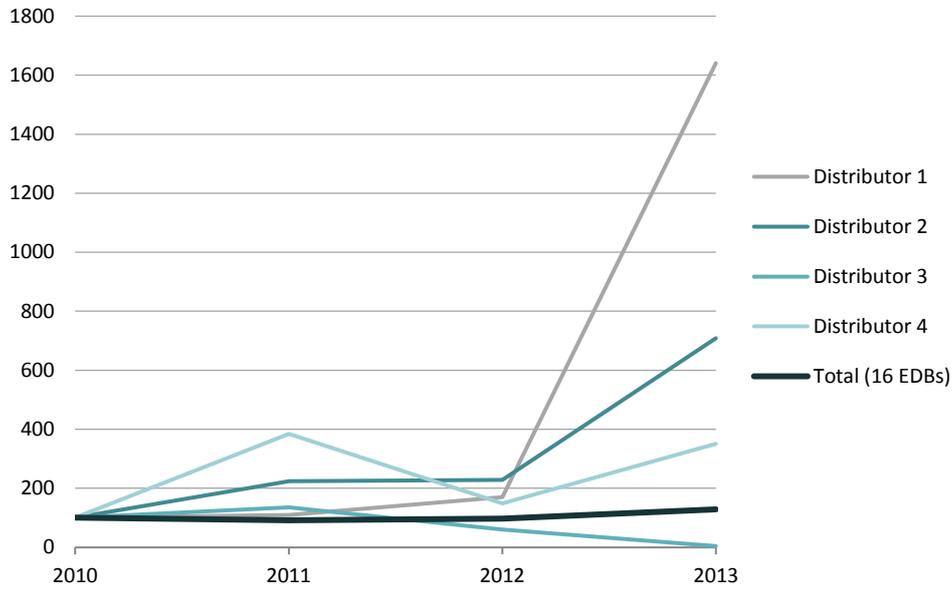
Model for system growth

- B30 The second most significant category of expenditure according to Figure B1 is system growth. However the relatively low expectations of demand growth in New Zealand over the next ten years mean that the industry as a whole forecasts it to grow at a much slower rate than capital expenditure on asset replacement and renewal.
- B31 Capital expenditure on system growth is broadly correlated with the growth in peak demand over the longer term but it can be quite variable from one year to the next. This is illustrated in Figure B3 which shows the variability of capital expenditure on system growth of four individual distributors over the period 2010 to 2012 together with the variability of total industry expenditure in this category.
- B32 This variability occurs because expenditure is dependent on whether key lines and infrastructure on a network have sufficient spare capacity to meet increases in demand. Sufficient spare capacity would result in minimal additional investment; however if the network asset capacity has been breached then significant expenditure is required to build new assets.

¹²¹ A further problem is that required data for each company may also be aggregated at too high a level to be used in this type of analysis.

- B33 The variability illustrated from the annual historical data is mitigated to some extent by the fact that we are setting prices for a five year period. It is clear however that forecasting future expenditure in this category is challenging due to the patterns of historical investment.

Figure B3: Change in capital expenditure (system growth) (2010–2013)



- B34 In order to take account of these variabilities any modelling of system growth needs to examine the utilisation of individual assets. If certain assets are expected to reach (or get close to) full capacity it will require the construction of additional assets to cope with changing demand requirements.

Illustrative example

- B35 Examination of utilisation rates has been undertaken by regulators overseas and we understand is a common approach used by overseas distribution businesses to understand future system growth requirements.

B36 The augmentation capital expenditure model outlined by the AER provides one way in which this type of model could work in practice.¹²² Broadly the model projects future expenditure by:

B36.1 comparing utilisation thresholds of individual assets with forecasts of maximum demand growth in order to identify areas of a network that are expected to require reinforcement;

B36.2 using capacity factors to determine the increase in assets that will be required; and

B36.3 using unit cost assumptions to determine the level of expenditure due to system growth.

B37 Over the long term, we propose to develop a model similar to that outlined by the AER.

Key issues

B38 There are a number of issues that would need to be resolved before a model of this type could be used in New Zealand. Therefore at this stage we consider that it is unlikely that we will be developing a detailed model for system growth for the forthcoming reset.

B39 We are currently minded to prioritise the development of a model that covers asset replacement and renewal over one that covers system growth. This is due to the greater magnitude of asset replacement as a source of capital expenditure. We also believe that a greater number of questions would need to be resolved in order to develop a model for system growth.

¹²² Australian Energy Regulator “Guidance document – AER augmentation model handbook” (November 2013).

- B40 Some of these questions include the following.
- B40.1 What are the risks that would arise from using the utilisation data in the information disclosures for this type of modelling?^{123, 124}
 - B40.2 How could the magnitude of new capacity be determined in the event of the forecast utilisation rising above capacity?
 - B40.3 Are you aware of alternative options other than using an inflation-adjusted optimised deprival value to derive unit cost data?¹²⁵
- B41 We are keen to explore the potential for a model of this type for use in the future. However, our current position is that it is unlikely to be possible to develop a model of this type for the forthcoming reset.
- B42 We invite submissions on whether you consider that we have the correct prioritisation (ie, focussing on developing a category specific model of asset replacement over system growth). We also invite submissions on how the identified issues affecting the forecasting of system growth capital expenditure could be resolved. This is particularly relevant if you believe the modelling of this category of expenditure should have a higher priority for the forthcoming reset.

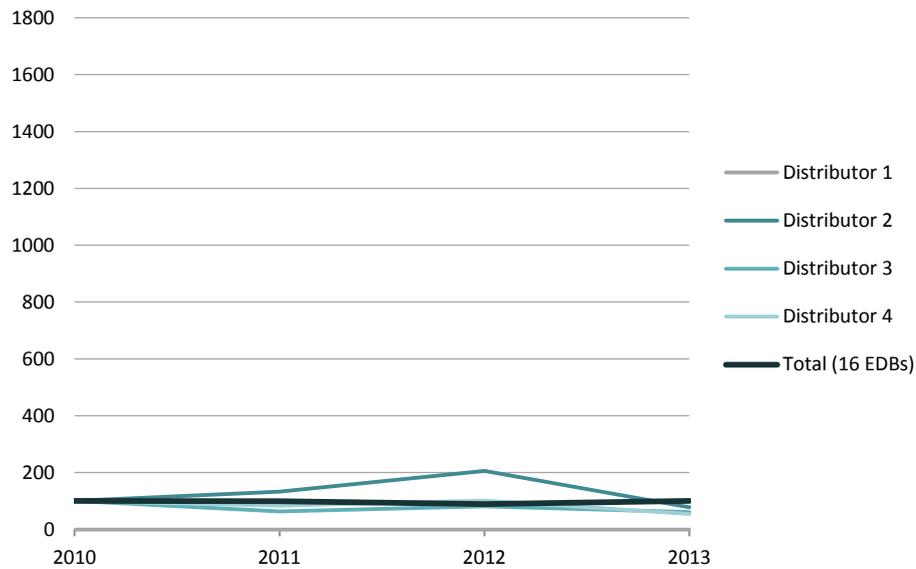
Model for customer connections

- B43 The third most significant category of expenditure according to Figure B1 is consumer connections. This type of expenditure is more predictable than other categories and historically appears to have been more consistent.
- B44 Figure B4 shows the relatively low rates of change seen since 2010 for expenditure on consumer connection. This compares with the much higher variability previously shown in Figure B2 of capital expenditure on system growth.

¹²³ *Electricity Distribution Information Disclosure Determination 2012* [2012] NZCC 22, Schedule 12b,.

¹²⁴ For example, Vector has outlined how they often operate substations in excess of firm capacity due to the cyclic nature of their load. However this measurement does not indicate that security standards have been breached. Vector “Submission to the Commerce Commission on initial observations of EDB forecasts” 23 December 2013, paragraphs 58 to 59.

¹²⁵ Commerce Commission “Handbook for Optimised Deprival Valuation of System Fixed Assets of Electricity Lines Businesses” (30 August 2004); PWC “Report to the Electricity Network Association – Revised ODV Handbook” 9 August 2010.

Figure B4: Change in capital expenditure (consumer connection) (2010–2012)

- B45 The greater level of predictability of consumer connection means that we propose to investigate the use of historic information in this area to forecast future expenditure. Historic relationships between expenditure on consumer connections, population growth and demand can be used, alongside forecasts of these drivers, to estimate future expenditure on consumer connections.
- B46 This could be undertaken using an econometric approach using similar methods that were previously used to forecast operating expenditure in the 2012 reset. For example, we could determine the statistical relationship between historic expenditure on consumer connections and population and demand. The results of this analysis could then be combined with forecasts of population and demand growth to estimate future expenditure on consumer connections.
- B47 An alternative to an econometric approach would be to undertake a simple evaluation of historical trends using the assumption that future demand growth is likely to be relatively consistent with historical trends.
- B48 We invite views whether you think these approaches would be appropriate, and any alternative approaches for modelling capital expenditure on consumer connections.

Other categories of capital expenditure¹²⁶

- B49 The other categories of capital expenditure provided less than 23% of capital expenditure spend in the period 2010 to 2012 and this is forecast by the distributors to reduce to 18% by the period 2019 to 2023.
- B50 As these categories are a lower proportion of capital expenditure we propose to take a more simplistic approach to modelling than we suggested for the categories of asset replacement and renewal and system growth.
- B51 A simplistic approach could potentially include:
- B51.1 extrapolating historic trends;
 - B51.2 using distributor provided forecasts up subject to a cap;
 - B51.3 a simplified 'absolute approach', as described in paragraph B10; and
 - B51.4 using distributor forecasts subject to a check against identified drivers to ensure consistency.¹²⁷

¹²⁶ The other categories of expenditure in this case are 'Asset Relocations', 'Reliability, Safety and Environment' and 'Non-network assets' as per the categories for capital expenditure in the Information Disclosures for distributors.

¹²⁷ Further investigation of forecast capital expenditure for certain distributors could be undertaken when discrepancies arise.

Attachment C: Treatment of assets purchased from Transpower New Zealand

Purpose of attachment

- C1 This attachment clarifies our treatment of assets purchased from Transpower New Zealand.

Clarification sought from distributors

- C2 A number of distributors have contacted us to request that we clarify the regulatory treatment of assets purchased from Transpower New Zealand (Transpower).¹²⁸ Usually, distributors pay Transpower connection charges associated with the assets on behalf of end consumers.¹²⁹ However, some distributors are proposing to purchase the assets outright.
- C3 The three key areas in which the regulatory treatment is relevant are:
- C3.1 our forecast of capital expenditure when we reset default price-quality paths;
 - C3.2 incentive mechanism applying to asset transfers; and
 - C3.3 extent to which asset transfers affect the quality of service standards.
- C4 We address each of these areas in turn. Following on from this discussion, we set out the proposed treatment of other costs associated with a purchase, for example, additional operating or capital expenditure may be required.

Forecast of capital expenditure

- C5 We have requested information from distributors about past and future asset transfers, so that we can determine a forecast of capital expenditure that is expressed net of any asset transfers. This 'net' forecast of capital expenditure will provide a baseline for further consideration. The approach ensures we can decide whether to include asset transfers, potentially on a case-by-case basis.

¹²⁸ Refer, for example: Letter from Gavin Murphy (General Manager – Business Development, Eastland Network) to John McLaren (Chief Advisor, Commerce Commission) on Transmission spur asset acquisition – capex/opex forecasts, economic benefits and timeline (5 September 2013), Letter from Gavin Murphy (General Manager – Business Development, Eastland Network) to John McLaren (Chief Advisor, Commerce Commission) on additional information on transmission spur asset acquisition (20 November 2013). A copy of both letters is available on our website alongside this paper.

¹²⁹ Connection charges are determined by the Electricity Authority's Transpower Pricing Methodology.

- C6 The forecast of capital expenditure informs the forecast value of commissioned assets, which in turn affects the value of the regulatory asset base in each year of the regulatory period. This is because assets are added to the asset base in the year in which they are commissioned.
- C7 Each distributor can expect to earn an appropriate return on and of capital during the regulatory period on:¹³⁰
- C7.1 the forecast value of the regulatory asset base as at the start of the regulatory period (ie, 1 April 2015); and
 - C7.2 the forecast value of any assets expected to be added to the asset base during the regulatory period.
- C8 We address each of these issues in turn.

Forecast value of assets as at the start of the regulatory period

- C9 Ideally, the value of the regulatory asset base at the start of the regulatory period would be known when we set prices. Therefore, any asset transfers that occur prior to the start of the regulatory period would be included.
- C10 However, at the time we set prices, we must make an assumption about whether future asset transfers will occur, as well as the value of the transfer, before the start of the regulatory period. This is because we will only have data on actual asset transfers up to 2013/14 (in addition, there will still be a number of months remaining in 2014/15).

¹³⁰ The term 'return *on* capital' refers to the cost of capital while the term 'return *of* capital' refers to depreciation.

- C11 Given the scale of some of the proposed asset transfers, we consider it appropriate to seek assurance that a forecast transfer will go ahead as planned.¹³¹ For example:
- C11.1 for transfers that occur after 31 March 2014 and the date for providing responses to any information gathering request, we could request information consistent with what would be required to be disclosed in the information disclosure requirements;¹³² and
 - C11.2 for transfers that are forecast to occur after the deadline for providing responses to our information gathering request, we could request information from distributors, eg, contractual arrangements.
- C12 We considered similar issues when setting a customised price-quality path for Orion New Zealand. When setting the customised price-quality path:
- C12.1 transferred assets were included in the value of the regulatory asset base as at the start of the regulatory period if the transfer had already occurred up to and including the year in which data had most recently been disclosed under information disclosure regulation;¹³³ and
 - C12.2 other asset transfers that were forecast to occur before the start of the regulatory period were added to the regulatory asset base when determining its value as at the start of the regulatory period, provided contracts were in place for purchase.
- C13 We expect a similar approach may be appropriate when setting default price-quality paths.

¹³¹ Eastland Networks 2013–2023 asset management plan indicates a significant ‘step up’ in capital expenditure will be required from 2015 due to the acquisition of the Eastland transmission spur assets, notably an estimated \$21.6 million transfer cost and \$14.2 million transmission asset renewal expenditure. Eastland Networks Limited, “Asset Management Plan 2013–2023” 1 April 2013, at xi. Notably this amounts to almost 30% of Eastland’s disclosed 2012 asset valuation of approximately \$123 million.

¹³² Put another way, distributors would be required to provide information earlier than they would otherwise be required to.

¹³³ In the case of the forthcoming reset, the most recently available year will be 2013/14.

- C14 We recognise, however, that a contract being in place does not ensure that the transfer will occur. In the event that the asset transfer did not proceed as planned, distributors would be able to recover a return on and of assets in the next regulatory period for assets that were not acquired. Put another way, distributors may earn excessive profits in the next regulatory period if the transfer does not proceed as planned.
- C15 An option that would help protect against the risk of asset transfers not proceeding as planned would be to amend the input methodologies to include an additional recoverable cost term. In particular, an additional recoverable cost term could be designed to ensure that the revenues that each distributor could expect to recover during the regulatory period would exactly reflect the actual value of the regulatory asset base as at the start of the regulatory period.
- C16 For example, the recoverable cost term could correct for any differences between the assumed and actual level of asset transfers that occur prior to the start of the regulatory period. Alternatively, the recoverable cost term could apply more widely to the difference between the assumed and actual level of capital expenditure that occurs prior to the start of the regulatory period.
- C17 We will consider this option further and notify parties if we decide to start work on a potential amendment to input methodologies.

Incentive mechanism applying to asset transfers and forecast value of assets transferred during the regulatory period

- C18 The input methodologies and default price-quality path determination contain an incentive mechanism that applies to asset transfers from Transpower. In particular, distributors are allowed to recover, for a period of five years, the value of any transmission charges that are avoided by purchasing an asset from Transpower.¹³⁴
- C19 The ability to recover avoided transmission charges for five years after the transfer applies irrespective of the date of the transfer.

¹³⁴ *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clauses 3.1.3(1)(b) and 3.1.3(1)(e).

- C20 Consistent with the intent of the incentive provided by the input methodologies and our approach to the recent Orion customised price-quality path decision, we will not include forecast asset transfers in the regulatory asset base during the regulatory period. The incentive to purchase assets from Transpower is created by the distributor being able to treat the avoided transmission charge of the asset as a recoverable cost for the five years after acquisition.
- C21 Consequently, our current view is to not include asset transfers in forecast capital expenditure during the regulatory period. Instead, we will rely on an incentive mechanism applying to asset transfers.

Impact on quality of service standards

- C22 After assets are transferred to a distributor from Transpower, the underlying trend in the reliability performance of the distributor's network may experience step change. This may mean, for example, that the average number and duration of interruptions on the distributor's network increase solely as a result of owning the asset.¹³⁵
- C23 A step change in the underlying trend in the average number and duration of interruptions may have:
- C23.1 direct financial consequences for the distributor under the proposal to move to a revenue-linked incentive scheme for the upcoming regulatory period; and
 - C23.2 may increase the chance of a breach of the quality path under the current pass/fail regime.¹³⁶
- C24 To avoid creating potentially undesirable incentives we propose to include an adjustment mechanism in the quality standards we use in setting quality paths for the expected impact of asset transfers. This could be done, for example, with reference to the spur assets historic reliability.

¹³⁵ Note that the number and duration of interruptions experienced by end consumers could remain unchanged.

¹³⁶ Refer to Chapter 4: Incentives for service quality.

Impact of asset transfers on operating and capital expenditure requirements

- C25 The assets purchased from Transpower may require additional expenditure, such as:
- C25.1 operating expenditure relating to operating and maintaining the asset; and
 - C25.2 capital expenditure relating to maintaining the asset or increasing the assets service potential.
- C26 For those assets purchased up to and including the 2013/14 year, any additional expenditure requirements for:
- C26.1 operating expenditure would be captured through actual expenditure used as a base for forecasting operating expenditure (see Attachment A: Forecasting operating expenditure); and
 - C26.2 capital expenditure will be treated in the same way as the other assets in the distributor's network (see Attachment B: Forecasting capital expenditure).
- C27 Our current view is that, for assets forecast to be purchased in the 2014/15 year:
- C27.1 the forecast purchase of the asset will be reflected in the regulatory asset base for the next regulatory period, as described in C13 and C14.¹³⁷
 - C27.2 there will be no additional allowance made for operating expenditure or capital expenditure in the next regulatory period; and
 - C27.3 additional expenditure is funded via the incentive for distributors to purchase assets from Transpower.¹³⁸
- C28 For those assets purchased during the next regulatory period, after 2015/16:
- C28.1 we do not need to include forecasts of assets purchased in the regulatory asset base for reasons described earlier in this chapter;
 - C28.2 there will be no additional operating or capital expenditure allowances made within the next regulatory period; and
 - C28.3 additional expenditure is funded via the incentive for distributors to purchase assets from Transpower.

¹³⁷ Where appropriate assurance is given that a forecast asset purchase will go ahead.

¹³⁸ For five years after the purchase of the asset a distributor may treat as a recoverable cost the avoided transmission charge of that asset.

The distributor's incentive to purchase assets from Transpower changes over time

- C29 A distributor's incentive to purchase assets from Transpower will change depending on the year in which the asset is purchased. Reasons for this include:
- C29.1 the distributor must wait until the next price reset before it can earn a return on and of capital for the asset;
 - C29.2 for five years after the asset is purchased the distributor may treat the avoided transmission charge of that asset as a recoverable cost; and
 - C29.3 a distributor must wait until a price reset for any additional expenditure allowance related to the purchased asset (also depending on our treatment of forecast asset purchases).
- C30 Given our current view on assets forecast to be purchased in the 2014/15 year, we can demonstrate the different incentive strength a distributor has to purchase assets from Transpower in years one, four and five (assuming a five year regulatory period).
- C30.1 In the first year of a regulatory period, just after a price reset, a distributor will have the lowest incentive to purchase assets from Transpower. If it was to purchase assets in this year it would forgo the return on and of capital and the required operating and capital expenditure for the asset until the next price reset in five years. The distributor would be able to treat the avoided transmission charge of the asset as a recoverable cost for the next five years.
 - C30.2 In the fourth year of the regulatory period, the distributor will have the strongest incentive to purchase assets from Transpower. It will be able to earn a return on and of capital and be able to recover the required operating and capital expenditure for the asset but only after waiting one year for the next reset. The distributor would be able to treat the avoided transmission charge of the asset as a recoverable cost for the next five years.
 - C30.3 In the fifth year of the regulatory period, the distributor likely has positive incentive to purchase assets from Transpower but it will not be as strong as purchasing in year four. It will be able to earn a return on and of capital, but will not be able to recover additional operating and capital expenditure for the asset in the next regulatory period. The distributor would be able to treat the avoided transmission charge of the asset as a recoverable cost for the next five years.
- C31 We seek views on whether it is desirable to amend the input methodologies to create similar, or the same, incentive to purchase assets from Transpower in each year of a regulatory period.

Attachment D: Treatment of Orion New Zealand Limited

Purpose of attachment

D1 In this attachment, we set out our preliminary views as to how we will treat Orion under this reset of the default price-quality path.

Customised price-quality path applies from 1 April 2014 to 31 March 2019

D2 On 1 April 2014, Orion will become subject to a customised price-quality path, which applies until 31 March 2019.¹³⁹ The customised price-quality path reflects Orion's particular circumstances and takes into consideration the impact of the Canterbury earthquakes.

D3 When the customised price-quality path expires, Orion will be subject to the default price-quality path determination generally applicable to other distributors, unless Orion seeks another customised price-quality path.¹⁴⁰

D4 The default price-quality path must set out the starting prices, quality standards, and rate of change that apply to Orion. Our preliminary view, set out below, is that we are not required to determine separate starting prices for Orion at this time, as the starting prices applicable to Orion will be determined at the expiration of the customised price-quality path in accordance with section 53X of the Act.

D5 While we are not setting starting prices for Orion at this time, Orion will be subject to the quality standards set under this reset of default price-quality path at the expiration of the customised price-quality path.¹⁴¹ How we propose to set Orion's default price-quality path quality standards is set out below.

D6 When Orion comes off the customised price-quality path and onto the default price-quality path, they will be subject to the rate of change generally applicable to distributors.¹⁴²

¹³⁹ *Orion New Zealand Limited Customised Price-Quality Path Determination 2013* [2013] NZCC 21.

¹⁴⁰ Commerce Act 1986, s 53X.

¹⁴¹ Commerce Act 1986, s 53P.

¹⁴² Commerce Act 1986, s 53X(1).

Starting prices applicable to Orion

D7 In relation to starting prices, the Act provides that upon expiration of the customised price-quality path—¹⁴³

The starting prices that apply at the beginning of the default price-quality path are those that applied at the end of the customised price-quality path unless, at least 4 months before the end of the customised price-quality path, the Commission advises the supplier that different starting prices must apply.

D8 In our view, there are two possible interpretations of section 53X(2):

D8.1 the starting prices that apply when Orion comes back on to the default price-quality path are the prices that applied in the last year of the customised price-quality path; or

D8.2 the prices that apply when Orion comes back on to the default price-quality path are the starting prices determined under this reset from the beginning of the default price-quality path regulatory period.¹⁴⁴

D9 We consider that the interpretation most consistent with the intended operation of the default/customised price-quality framework is that the starting prices that apply when Orion again becomes subject to the default price-quality path are the prices that applied in the last year of the customised price-quality path.

D10 If we consider the prices under the customised price-quality path will no longer be appropriate at the expiration of the customised price-quality path, the Act allows us to set different starting prices, to apply when Orion again becomes subject to the default price-quality path, at least 4 months prior to the expiration of the customised price-quality path. These starting prices would likely be based on Orion's current and projected profitability as determined in the final year of the customised price-quality path.

¹⁴³ Commerce Act 1986, s 53X(2).

¹⁴⁴ Our preliminary view is that the starting prices would be the prices determined under the customised price-quality path, which is based on Orion's current and projected profitability.

- D11 The customised price-quality path is intended to better meet the particular circumstances of the distributor.¹⁴⁵ Orion's customised price-quality path starting prices are therefore expected to provide an accurate estimate of the current and projected profitability of Orion at this time, and is likely to promote outcomes consistent with the outcomes produced in workably competitive markets, including the incentives set out in section 52A of the Act.¹⁴⁶
- D12 The alternative interpretation would require us to determine starting prices to apply from the commencement of the default price-quality path. These prices would not have any legal effect until after the expiration of the customised price-quality path. On balance, we do not consider that the effort and expense of setting new starting prices for Orion at this point of time is necessary or appropriate, particularly as we have recently set a customised price-quality path for Orion that is based on its current and projected profitability.
- D13 Our preliminary view is therefore that we do not need to determine new starting prices for Orion as part of our reset of the default price-quality path. We will therefore not be seeking information from Orion as part of this reset.
- D14 We are aware, however, that the current prices set under the customised price-quality path takes into consideration the additional costs of responding to the Canterbury earthquakes, and therefore may not continue to be appropriate once the customised price-quality path expires and Orion transitions to the default price-quality path. Prior to the expiration of the customised price-quality path, we will assess whether different starting prices should apply for the last year of the default price-quality path, in accordance with section 53X.

¹⁴⁵ Commerce Act 1986, s 53K.

¹⁴⁶ Consideration of these incentives, as they apply to Orion's customised price-quality path, are set out in Commerce Commission "Setting the customised price-quality path for Orion New Zealand Limited – Final reasons paper" (29 November 2013).

- D15 We will notify parties of our particular process for assessing and, if we deem it necessary and appropriate, determining new starting prices closer to the expiration of the customised price-quality path. However, we expect that the process will be substantially similar to the process we currently use for resetting the default price-quality path under section 53P of the Act, including:
- D15.1 requesting information from Orion to assess its current and projected profitability;
 - D15.2 using similar approaches to assessing and modelling forecast expenditure;
 - D15.3 consulting on a draft decision; and
 - D15.4 advising Orion of the starting prices that apply.
- D16 We note that Orion may also apply for another customised price-quality path to have effect from the expiration of the current customised price-quality path.¹⁴⁷ Orion has advised that its decision will be informed by our decision on the default price-quality path.¹⁴⁸
- D17 We seek your views on our proposed approach to Orion.

Quality standards applicable to Orion

- D18 This section sets out issues specific to Orion under this reset of the default price-quality path. The two main issues are:
- D18.1 how to set quality standards for Orion; and
 - D18.2 whether Orion should be part of any improved quality incentive scheme.

How we set quality standards for Orion

- D19 Orion's quality standards were set under the customised price-quality path.¹⁴⁹ The quality standards reflect the pass/fail quality regime in place under the current default price-quality path.

¹⁴⁷ Under s 53Q(3) of the Commerce Act 1986, a customised price-quality path proposal may not be submitted in the last 12 months before a default price-quality path is due to be reset. Given that the customised price-quality path expires on the day before the last 12 months of the default price-quality path, Orion will need to decide whether to apply for another customised price-quality path before the expiration of its customised price-quality path.

¹⁴⁸ Orion New Zealand Limited 'Orion CPP Proposal: Draft Decision' 20 September 2013, at [396].

¹⁴⁹ Commerce Commission "Setting the customised price-quality path for Orion New Zealand Limited" (29 November 2013), Attachment L: Quality standards.

- D20 The reliability limits for the average duration and frequency of interruptions reflect the fact the Orion was subject to a catastrophic event. At the end of the customised price-quality path Orion's reliability limits will have returned to within 25% of the limits in place before the earthquake.

Service quality incentives for Orion

- D21 Our current view is that after Orion's customised price-quality path, the quality standard for the remainder of next regulatory period should reflect the quality standard in place under the customised price-quality path, ie, retain a pass/fail quality standard based around the average duration and frequency of interruptions.
- D22 The benefits of moving from a pass/fail quality regime under the customised price-quality path to a revenue-linked reliability incentive scheme for a relatively short period of time may be limited.
- D23 We welcome views on how to set appropriate reliability measures for Orion over the next default price-quality.

Attachment E: Form of control

Purpose of attachment

- E1 This attachment sets out our response to issues raised by Wellington Electricity about the form of control for the upcoming reset.

Input methodologies specify distributors' price as a cap on weighted average prices

- E2 We express the maximum prices electricity distributors may charge as a cap on distributors' weighted average prices. We are required to use a weighted average price cap for electricity distributors under input methodologies for the specification of price.¹⁵⁰
- E3 Wellington Electricity asked us to consider the form of control for the upcoming reset.¹⁵¹ In its letter Wellington Electricity raised issues on the following:
- E3.1 Forecasting errors in relation to our forecasts of constant price revenue;
 - E3.2 Ability to control changes in quantities over the regulatory period; and
 - E3.3 Incentives for energy efficiency and demand side management.
- E4 Wellington Electricity suggests we should consider introducing a wash up mechanism into the specification of the weighted average price cap to correct for forecasting error. Wellington's preferred form of control is a revenue cap but it recognises in its letter that there is limited time to amend the input methodologies.
- E5 In relation to the accuracy of our forecast for constant price revenue, we currently intend to retain the existing approach to forecast revenue growth, updated where required for more recent information. We therefore do not discuss our approach to revenue growth in detail in this paper.
- E6 We understand that the ENA working group is currently investigating how forecasting in this area could be improved and we invite any further views on any issues with the existing approach. Further discussion on the risk and uncertainty of forecasting errors and our approach in this area is provided in Chapter 7.

¹⁵⁰ *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 3.1.1.

¹⁵¹ Wellington Electricity, Greg Skelton letter to Commission on 'Form of Price Control' 21 February 2014

- E7 In relation to controllability of demand risk, we determined in our input methodologies that a weighted average price cap has a number of features that make it appropriate for the regulation of electricity distribution services and gas distribution services, particularly with regard to the promotion of efficiency. One of which was that regulated distributors are generally better placed than consumers to manage demand risk.¹⁵²
- E8 We therefore do not intend to introduce any amendment to the input methodologies that changes this approach or introduce any form of wash up that has the same outcome as a revenue cap.
- E9 An exception is revenue that is impacted by the promotion of energy efficiency, demand side management and the reduction of losses. We are currently investigating how incentives to distributors in these areas could be enhanced. We set out our current views on this topic in Chapter 5.

¹⁵² Commerce Commission “Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper” (22 December 2010), para. 8.3.8.