Submission to Commerce Commission on the IM review draft decision and IM report

4 August 2016

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EXECUTIVE SUMMARY

This submission is Vector's response to the Commerce Commission's Input Methodology draft decisions and report. Below is a high level summary of our submission.

Topic	*Vector view*
Process and framework	• Vector broadly supports the Commission's approach to reviewing the IMs. • We encourage the Commission to consider our feedback and impose compliance requirements only where real issues exist.
Form of control for electricity distribution businesses (EDBs)	• Vector supports moving to a pure revenue cap from a weighted average price cap where a wash up account will hold the balance of under and over-revenue recovery. • It is important that the design of the pure revenue cap is set appropriately. To this end we support a symmetrical cap and collar on the wash up draw down amount. We do not support the other proposed optional mechanisms to address potential price volatility.
Regulated asset base (RAB) indexation	• Vector is concerned about the Commission's dependence on Reserve Bank of New Zealand (RBNZ) forecasts estimating revaluation income. The use of RBNZ forecasts are increasingly at odds with market estimates for inflation which risks overestimating inflation embedded in the cost of capital estimate – therefore compromising the ex-ante expectation of a real return. • Given the inherent risks of credible inflation forecasting, Vector recommends rolling the RAB forward at the same rate as the Commission's ex-ante inflation forecast.
Emerging technology – addressing the risk of partial capital recovery	• Vector supports the Commission's recognition of the risks emerging technologies pose to the capital recovery of long-life network investments. • Vector considers an unindexed RAB is an effective alternative for dealing with the risks of partial capital recovery. • Giving suppliers the choice between accelerated depreciation, an unindexed RAB or retaining the status quo will ensure the Commission provides suppliers with the best incentive for investment in light of the risk emerging technologies are creating for partial capital recovery for long life assets.

Topic	*Vector view*
Emerging technology – emerging technology services	• Vector considers the cost and asset allocation IMs provide the appropriate vehicle for overseeing supplier investment in emerging technologies. • Vector agrees with the Commission that any structural approach of regulating assets is a policy decision for policy and law makers and not the Commission. • Regulating assets moves fundamentally away from the principle of Part 4 to regulate goods or services on a technology agnostic basis. • If a structural approach to asset regulation is pursued, it will have implications for other IMs and the Commission's approach to assessing expenditures for default and customised price paths (DPP / CPPs).
Cost of capital issues	• Vector considers a trailing average for the whole cost of debt is consistent with the financing practices of suppliers and better reflects the financing practices of an efficient firm than the Commission's preferred *on-the-day* approach to the cost of debt. • Vector supports the Commission's improvements to sampling the estimate for the asset beta. • Vector generally supports CEG's expert report, commissioned by the ENA on this issue.
Customised price path requirements	• Vector supports the Commission reducing the compliance burden associated with a CPP application. However we do not consider that the proposals go far enough to reduce cost and complexity for applicants, particularly given the level of uncertainty under a CPP application / assessment.

INTRODUCTION

1. This is Vector's submission on the Commerce Commission's (Commission) Input Methodology (IM) review draft decision and report, dated 16 and 22 June 2016 (respectively). This submission provides our feedback on both papers because the issues and draft proposals are interdependent. No part of this submission is confidential and we are happy for it to be publicly released.

2. Vector's contact person for this submission is:

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3. The IMs are the upfront rules and requirements underpinning Part 4 regulation under the Commerce Act 1986 (the Act), which regulates the price and quality of goods of services in markets where there is little or no competition or no likelihood of a substantial increase in competition.[1] The Commission uses the rules to determine the way it sets a price-quality path and information disclosure requirements for regulated goods and services.

4. For Vector, the IMs apply to its electricity and gas distribution businesses default price-quality path (DPP) and information disclosure (ID) determinations in the Auckland region. The structure of our submission largely reflects the format of the Commission's consolidated IM review draft decision paper. We also comment on specific proposals that potentially risk regulatory certainty and consistency (see Appendix A).

5. Vector broadly supports the Electricity Networks Association (ENA) submissions on the IM review draft decision papers and the report on the IM review.

[1] Section 52, Commerce Act 1986

PROCESS AND FRAMEWORK FOR IM REVIEW

General comments

7. The IMs promote certainty by having the rules, processes and requirements set out up front, before being applied by the Commission.[2] The principle of regulatory certainty is promulgated throughout Part 4, which suggests parliament recognises certainty as a pre-requisite for the purpose of Part 4 to be met. That is, suppliers need certainty to promote the long-term benefit of consumers and provide suppliers with the incentives to innovate, make investments, improve efficiency and share efficiency gains. When considering whether to change an IM, the Commission must give effect to, and promote, the purpose of Part 4 of the Act, and the purpose of the IMs:

> *"When considering whether to make a change to the IMs, we must consider the purpose of Part 4 of the Act (section 52A) and the purpose of the IMs (section 52R). We must give effect to these purposes…we must exercise judgment about how to best create IMs that give effect to section 52A and section 52R…and how we evaluate whether the change might better promote [these purposes]."*[3]

8. We agree with this interpretation of the mandate for changing IMs. Any IM changes must be considered in light of the effect on the incentives for suppliers to invest, to the extent it impacts the long-term benefit of consumers, as defined in section 52A. At the same time, the Commission must consider the impacts on supplier and consumer certainty in relation to the rules, requirements and processes applicable to the IM (section 52R).

9. In considering whether an IM amendment gives effect to the purposes of section 52A the Commission recognises the following key economic principles:

   - Real financial capital maintenance (FCM) – to provide suppliers with an ex-ante expectation of capital maintenance in real terms
   - Allocation of risk – to ensure parties who are best placed to manage the risk bear the risk
   - Asymmetric consequences of over- or under-investment – the application of FCM recognises risk of asymmetric consequences as a result of any over- or under-investment

10. Vector broadly supports the Commission's approach and, in particular, its engagement with stakeholders. We look forward to providing further input to the next stages of the IM review to help improve and ensure fit for purpose IMs.

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[2] Commerce Commission, *Input Methodology review draft decisions – Framework for IM review*, paragraphs 25, p. 14, published 16 June 2016

[3] *Ibid* n 2, p. 18

FORM OF CONTROL

General comments

11. The Commission proposes to change the form of control on non-exempt electricity distribution businesses (EDB) and gas transmission businesses (GTB) to a pure revenue cap, where suppliers will be required to forecast quantities rather than use lagged quantities. Under a pure revenue cap approach, actual revenue and actual allowable revenue is *washed up*. This means suppliers will always be able to recover their full allowable revenue, where annual variances are recovered in subsequent years via a wash up account. The Commission considers this change will better meet the purposes of Part 4 as it helps address many of the issues and disincentives presented under a weighted-average price cap (WAPC), such as risk of revenue under-recovery due to inaccurate demand forecast, barriers to tariff restructuring, and investment in demand-side management initiatives.

12. Vector supports the move to a pure revenue cap for EDBs. Importantly, a pure revenue cap will support and foster credible and innovative solutions in an environment that is quickly becoming less predictable. However it is vital the design of a pure revenue cap is appropriate and creates the right incentives so consumers are not faced with any negative side-effects resulting from the transition or failing to design a revenue path consistent with the purposes of Part 4.

13. Key elements of the proposed change in form of control include ex-ante price compliance (where price compliance is determined before prices take effect), a revenue wash up account to hold all variances between actual and forecast recoverable and pass-through costs, and potential mechanisms to mitigate price volatility. The Commission also proposes to expand the pass-through cost IM so that new pass-through costs can be specified when a DPP is reset, provided certain criteria is met. Vector supports this proposal and considers it a sensible way to make the pass-through cost IM more workable.

Design of the proposed revenue cap

Wash up account

14. An important feature of the pure revenue cap is the wash up account, which will hold the accumulation of year-on-year under- and over-recovery of revenues as well as the balance of pass-through and recoverable costs, adjusted by the time value of money. Vector supports implementing this feature and considers it appropriate given the EDB transition from the current WAPC regime, and the introduction of new forecasting risks.

15. The implementation of a wash up account is consistent with the principle of ex-ante FCM (discussed above and further below in the RAB indexation section) and symmetric risk-sharing. It is also appropriate given the removal of the pass-through balance, which under the current electricity DPP addresses the forecasting risk of pass-through costs (i.e. levies and rates). The annual draw down amount could be subject to an annual cap and collar (i.e. limiting the annual draw down amount if the wash up account is in excess of the cap

and collar) so that consumers do not experience significant price changes, and where any outstanding balance (i.e. any amounts in excess of the cap / collar) remains in the account for the next pricing year.

Wash up account cap

16. The Commission also proposes the wash up account be subject to a cap. A wash up account cap will permanently remove a portion of suppliers' allowable revenue where any (negative) difference between the allowable revenue and actual revenue is in excess of an amount set by the Commission. This cap is asymmetric, meaning that suppliers are not restricted where the (positive) difference results in revenues that a supplier must pass back to consumers (via a decrease in prices).

17. A move to a revenue cap removes the current pass-through and recoverable balance, which ensures EDBs are not at risk of pass-through and recoverable cost forecasting error. Under a revenue cap EDBs will be exposed to even greater forecasting risk because, as well as forecasting risk from pass-through and recoverable costs, EDBs must also forecast quantities (e.g. kWh) and forecast the likely impact of any tariff restructuring. This proposal effectively penalises suppliers for *any* forecasting errors regardless of the underlying reason for the error. This is not a desirable outcome, nor is an asymmetric permanent loss of revenue consistent with the principle of risk-sharing.

18. We question the merits of the cap given the proposal to move to ex-ante price compliance. This is because ex-ante price compliance provides the Commission with an ability to scrutinise suppliers' forecasts and price setting process before prices are deemed compliant and take effect. The wash up account cap will effectively undermine the Commission's tick of compliance. Furthermore, a cap may give rise to situations where, but for the Commission's request to change a forecast, the supplier would not have a wash up account in excess of a cap and be in a position of permanent revenue loss.

19. Therefore, we do not support the proposal to implement a cap on the wash up account. In our view it is not necessary given the move to ex-ante price compliance and would only create an unwarranted level of uncertainty for suppliers.

Mechanisms to address price volatility

20. The Commission is also proposing several mechanisms to address its concern about potential price volatility. The Commission has included the following mechanisms in the IMs with the intention that it may choose to apply one or any combination of them when setting future DPPs (i.e. these are effectively 'optional' IMs):

    - Cap on the wash up account
    - Constraint on average price increases
    - Cap and collar on the wash up draw down amount
    - Cap on accumulation of voluntary undercharging

21. Vector agrees it is important to mitigate the potential for price shocks and that suppliers should aim to implement price changes smoothly. However, as mentioned in Appendix A,

Vector does not consider that 'optional' IMs should be introduced with the degree of regulatory flexibility currently proposed. The Commission needs to investigate and determine the most appropriate lever for mitigating price volatility consistent with Part 4, and amend the IMs to include only that. Further, the Commission may not have properly considered the operative effect of each, or all, of the mechanisms.

22. Vector has considered the workability of these mechanisms individually and cumulatively and it is our view that in practice, the only mechanism that will appropriately address potential price volatility under a pure revenue cap is the cap and collar on the wash up draw down amount. Therefore, we do not support the proposal to place a cap on the wash up account and constrain the average price increases, and do not consider that EDBs require a cap on the accumulation of voluntary undercharging.

23. In our view the cumulative effect of *both* the constraint on average price increases and the cap and collar on the wash up draw down amount would limit the ability to restructure prices, introduce additional uncertainty and over complicate the price setting process. The resulting price setting process would be even more difficult for consumers (and other stakeholders) to understand, for little or no benefit.

24. We understand the weighted average price increase is calculated ex-ante, while the wash up draw down amount cap or collar is calculated ex-post – after the wash up account begins to accumulate its balance. However, on a practical level they both apply ex-ante in the price setting process (i.e. both elements must be factored into price setting before prices take effect) and both have the effect of constraining the magnitude of price changes, and therefore volatility. Additionally, the weighted average price increase has additional compliance requirements where EDBs must ("demonstrably reasonably") forecast quantities corresponding to t-1 prices (as well as 't' prices). This would be additional work for limited benefit as in practice it will have the same effect as restricting (via the cap or collar) the wash up amount drawn down each year.

25. Therefore, we recommend that a more effective and proportionate approach to ensuring smooth prices is to implement a *symmetric cap and collar* on the wash up draw down, where the outstanding balance is rolled in to the following year's wash up draw down amount. This would give EDBs certainty that they will be left whole – consistent with a pure revenue cap approach - while giving consumers certainty that prices will not significantly fluctuate year on year (at least the distribution portion). We do not see a need for other price constraint mechanisms to achieve this.

Voluntary undercharging

26. The Commission proposes a cap on a supplier voluntarily undercharging to address the potential for large accumulations of credit. We are not convinced there is a real risk that requires such a cap and do not support this proposal.

27. In any case, we consider the potential for this risk is mitigated through the ex-ante compliance process and the wash up amount cap. Actual accumulation of credit would be subject to Commission's approval and the suppliers' demonstration of compliance, and any approved voluntary undercharging would be subject to the recoverable amount cap / collar.

Compliance

28. As discussed above, the Commission proposes making price compliance ex-ante, where suppliers would be required to provide their price compliance statements after price-setting but before prices take effect. This will require suppliers to demonstrate their forecast quantities are reasonable. We understand the Commission intends to give further guidance before the DPP reset.

29. In developing its guidance, we request the Commission consider the time constraints involved in setting prices. For instance, any requests for changes or further information may put other compliance obligations at risk – such as EDBs' retailer notification obligations, and price-setting timeframes more generally.

RAB INDEXATION

General comments

30. In its 2010 IM reasons paper the Commission describes the advantages of a RAB indexation approach as protecting the regulatory value of each regulated supplier's investment in real terms, while the straight-line depreciation of assets is calculated in a simple, transparent and well-understood form.[4]

31. There are alternative approaches to ensure suppliers are delivered a real return. The Commission may both apply a nominal weighted average cost of capital (WACC) and not index the RAB for inflation, or it could continue to index the RAB by inflation and apply a real WACC. In the Commission's 2010 IM reasons paper it observed:

> *"Where a nominal cost of capital is used, the value of any existing asset in the RAB does not need to be revalued to reflect the changes in economy-wide inflation for the supplier's financial capital to be revalued in real terms. Alternatively, however, regulated suppliers can also be compensated for inflation by applying a cost of capital calculated in real terms and by indexing the value of the RAB by CPI."*[5]

32. However, the Commission's approach is to apply a nominal WACC and also index the RAB by inflation. Therefore, the Commission's approach requires an extra step to avoid the double compensation for inflation.

33. In the Commission's view it avoids double inflation compensation by applying a *nominal WACC* for the regulatory period on an ex-ante basis and forecasts inflation for the RAB for each year of the regulatory period and deducts this forecast to account for inflation income also on an ex-ante basis. However, the Commission then *rolls forward* the RAB based on *actual inflation* for the next regulatory period. This effectively means that suppliers' cash

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[4] Commerce Commission, *Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper,* p. 116, published December 2010

[5] *Ibid* n 4, p.45

flows are *back-loaded.* Vector is not convinced the application of RAB indexation is still appropriate, particularly given the changing environment faced by suppliers.

34. We recommend the Commission revisit the alternatives to RAB indexation. We discuss this further in the *Emerging Technology* section.

Concerns with RAB indexation

The Commission's approach to RAB indexation

35. The Commission considers its approach to RAB indexation is a means of protecting consumers from paying for inflation twice, first through the use of a nominal WACC where inflation is inherent in the WACC forecast and, secondly, by the revaluation of the RAB – that adjusts the RAB for real inflation. However, the Commission also recognises this approach increases the bankruptcy risk for suppliers to the extent they finance their business through issuing debt. The Commission states:

> *"This happens when inflation is lower than forecast and to the extent that suppliers issue nominal debt. This is because total nominal returns are lower and interest payment terms to debt holders tend to be fixed in nominal terms."*[6]

36. Given the Commission also presumes that an efficient supplier would finance their business by debt financing 41% of their business (presumed in its WACC IM), we find it challenging that suppliers are required to carry this bankruptcy risk. This risk magnifies to the extent a supplier has a debt gearing greater than that presumed in the Commission's estimate of WACC.

37. The CEG report for the ENA recommended this bankruptcy risk be addressed by only partially indexing the RAB.[7] The RAB would only be indexed to the extent the Commission expects an efficient supplier would finance their business through equity financing. Dr Martin Lally dismisses the extent of the bankruptcy risk:

> *"This methodology exposes businesses to some bankruptcy risk when inflation is lower than forecast, because the interest payments to debt holders are fixed in nominal terms. Nevertheless, the Commission's inflation forecast errors are likely to be uncorrelated over time therefore will tend to offset over time."*[8]

38. As further discussed below, we are concerned that the Commission's inflation forecast source is becoming increasingly decoupled from inflation inherent in the cost of capital risk-free-rate. Therefore, the bankruptcy risk rather than "netting off" between regulatory periods may continue to persist. Dr Martin Lally also defended the Commission's approach of RAB indexation as consumers are more likely to prefer prices that are stable in real terms rather than nominal terms.[9]

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[6] Commerce Commission, *Input Methodologies Review Draft Decisions: Topic 1 - Form of control and RAB indexation for EDBs, GPBs and Transpower*, 16 June 2016 p. 59
[7] Dr Tom Hird, CEG, *Inflation: revaluations and revenue indexation,* p. 10, published February 2016
[8] *Ibid* n 6, p. 59
[9] Dr Martin Lally, *Review of further WACC issues*, p. 43, published 22 May 2016

39. We find the above presumption significant and consider it should be tested rather than presumed. Stakeholders (both suppliers and customers) are in a better position to note what form of price certainty customers value, whether it is in nominal or real terms.

40. Vector continues to have concerns about the back-loading of cash-flows that result from indexation. In Vector's view this magnifies the risk of partial capital recovery which, in turn goes to the heart of a supplier's incentive and willingness to invest. We discuss RAB indexation further in the section, *Emerging Technology*.

Inflation forecasting risk

41. There is an inherent assumption in the Commission's description of delivering an ex-ante expectation of a real return that its ex-ante forecast of inflation for determining RAB revaluation income reflects the inflation embedded within the nominal WACC estimate.

42. The Commission's WACC IM has a number of inputs to estimate the relative costs of debt and equity. However, the inflation relevant parameter to the WACC estimate is the *risk-free-rate,* which the Commission estimates using the yield on a five-year New Zealand government bond. The inflation built into this parameter is a *market estimate* of inflation – determined by bond holders' expectation of inflation. However when deducting revaluations as income, the Commission relies on a different source for its forecast of inflation – namely the Reserve Bank of New Zealand's (RBNZ) CPI forecast.

43. Vector is concerned about the presumption of symmetry between the inflation presumed in the market forecast embedded in the nominal WACC estimate and *reversed out* in the RAB revaluation income. Where the RBNZ's forecast for inflation is greater than the inflation inherent in the ex-ante WACC estimate, suppliers are effectively over-penalised for the double counting of inflation.

44. Recently, in an article in the National Business Review discussing RBNZ forecasts Bancorp remarked, inflation is persistently undershooting the RBNZ's forecasts and the forecast is not reflecting international bond markets.[10] Bancorp observed that primary bond markets are selling government bonds at negative yields. According to Bancorp treasury advisor Peter Cavanaugh:

> *"You'd only do that if you thought that this is the best opportunity you've got for investing money today that you know you will get back in 10 years' time, or also that there's no inflation threat and there will be no inflation, because the slightest whiff of inflation means that your real return on the bonds goes [even more] negative."*[11]

45. Vector requested Bancorp to review the market's current expectation of inflation to that being forecasted by the RBNZ. For this purpose, Bancorp compared the average yield on a 10 year inflation linked bond and the average yield on a nominal 10 year bond (trading at May 2016). The implied inflation rate is expected to be 1% over the 10 years. In contrast, the RBNZ's latest monetary policy statement is forecasting headline inflation at

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[10] Jenny Ruth, 'Global markets to reserve bank: there is no inflation' National Business Review, 15 July 2016 http://www.nbr.co.nz/article/global-bond-markets-reserve-bank-there-no-inflation-jr-p-191656

[11] *Ibid* n 10

1.6% up to 31 May 2017, and 2% for 31 May 2018 and 2019 years. These estimates suggest a 3 year average inflation of 1.87%. Given the market view is a 10 year forecast, it is likely to understate the market's expectation of inflation over the next three years. Accordingly, the difference of almost one percent between the market expectation of inflation and the RBNZ's forecast is material.

46. Given the decoupling of RBNZ inflation forecasts and the market expectations for inflation, there is a real risk the Commission's forecast of inflation to estimate revaluation income exaggerates the "double count" of inflation from the application of a nominal WACC.

47. Dr Martin Lally has dismissed CEG's suggestion on behalf of the ENA of using a market based approach to estimating inflation for the purpose of RAB indexation. Dr Martin Lally suggested:

> *"CEG's "break even" inflation forecast might be too low or too high. Thus, it is not a reliable estimator. Unsurprisingly, the Reserve Bank…uses a range of estimators and concludes from them that inflation will converge on its 2% midpoint over the next five years. This supports the Commission's approach."*[12]

48. We do not consider the fact that "inflation will converge on the [RBNZ's] 2% midpoint over the next five years" as being credible evidence that the RBNZ forecast is a more reliable inflation forecast. Rather, all the evidence to date suggests the RBNZ's forecast of inflation since the global financial crisis has resulted in a tendency to over forecast inflation. The RBNZ has acknowledged that "since the financial crisis, inflation has persistently been weaker than forecast."[13] Therefore, the Commission's ex-ante inflation forecast for determining RAB indexation income will overestimate the market's forecast of inflation embedded in the cost of capital.

49. To address this concern, Vector recommends the Commission rolls forward the RAB at its ex-ante forecast of inflation.

50. At a minimum, the Commission must improve its approach to inflation forecasting by taking into account market expectations of inflation. The Commission's forecast should include market based instruments for inflation such as index-linked government bonds. We see significant risk with the Commission relying on the RBNZ's inflation forecast given the history of over-forecasting inflation since the global financial crisis and decoupling with market expectations for inflation.

[12] *Ibid* n 9, p. 44

[13] Dr John McDermott (Assistant Governor), *How the Bank formulates and assesses its monetary policy decisions*, speech to Manawatu Chamber of Commerce, p. 7, published 13 July 2016

FUTURE IMPACT OF EMERGING TECHNOLOGY

General comments

51. Emerging technologies such as more affordable forms of distributed generation, distributed storage and energy efficiency solutions are enabling customers to reduce their dependence on regulated services. This creates a risk that regulated suppliers' business could in future be stranded as emerging technologies become an effective alternative and reach a critical point of customer up-take.

52. Some emerging technologies also possess characteristics such that they could provide an alternative for traditional network investments. These technologies offer the opportunity for suppliers to provide new innovative services – in addition to the benefit provided to a regulated service.

Risk of partial capital recovery

The drivers for partial capital recovery

53. Vector agrees with the Commission that developments in emerging technology and energy efficiency are increasing the risks for energy suppliers to fully recover their capital under the current IMs.

54. In the traditional unidirectional energy supply chain where customer choice for energy was limited to their local supplier, all customers benefited from the economies of scale that incremental connections added to the network. In that sense more connections increased the economies of scale of the network which improved cost of service for individual customers. There was also a credible assumption that disconnection from the network would be limited.

55. Vector agrees with the Commission's observation that advances in technology are improving the affordability of distributed generation and distributed storage. The rate of innovation and improved affordability is providing consumers with greater choice for their energy needs. Accordingly, consumers will have much greater choice about their power options including the ability to choose "independence" from the centralised energy system. Therefore, suppliers are at a greater risk of significant reductions in demand for their networks over time from a range of innovations. This will result in assets being materially underutilised with suppliers being unable to raise prices sufficiently to recover network costs without accelerating customer preferences to significantly reduce reliance on the network and favour options for bypass or disconnection.

Economic stranding

56. In describing the risk of economic stranding the Commission notes the distinction from physical asset stranding; where assets have become redundant for a variety of reasons. The Commission notes the IMs protect against physical stranding by allowing suppliers to continue to earn their return on and of capital in the RAB for the physical life of the asset. The Commission defines economic stranding as referring to the circumstances where the

disconnection of customers from the network results in the supplier being unable to recover sufficient revenue from the remaining customer base to allow the full recovery of its historic capital investment.[14]

57. The rate of change in technology innovation is not limited to more reliable sources of distributed generation. To the extent regulation[15] results in suppliers earning a greater proportion of their revenue from volumetric charges they are also at a greater risk of costs exceeding revenues from energy efficiency innovations that reduce mass consumption. Accordingly, the rate of mass-market take-up of energy efficiency innovations will also increase the risk and timing of economic stranding where the encumbrances of regulations favouring volumetric charges remain.

Accelerated depreciation for partial capital recovery

58. Given the heightened risk arising from technology innovation in the energy sector, Vector agrees suppliers have a real concern about investing in long-life physical assets for only partial capital recovery. This is especially the case given standard physical lives in the IMs for most network assets are between 20-60 years.[16]

59. The Commission's proposal is to give EDBs an opportunity to request accelerated depreciation of their RAB at the time of the next electricity DPP reset (or CPP application). The proposed solution will entitle EDBs to *apply* for a factor by which to adjust the weighted average remaining life for existing assets. The Commission has capped the adjustment factor to 0.85 – allowing depreciation to be accelerated by a maximum of 15 percent. A decision to allow accelerated depreciation is not a windfall for EDBs. Rather, accelerated depreciation is neutral on a present value basis as it brings forward the depreciation that EDBs are entitled to in future regulatory periods.

60. The Commission's proposal will require EDBs to adjust their information disclosure schedules such that the remaining average life for information disclosure reflects the "adjusted" weighted average life used for the DPP / CPP. The Commission's reason for applying this type of approach is to ensure information disclosure will be used to define the weighted average life of the RAB for future DPP / CPP. The Commission has also stated that "because of the added complication that would occur if we allowed EDBs to make multiple adjustments, we are proposing to allow EDBs to make one adjustment."[17]

61. We are concerned the above statement could be interpreted as restricting accelerated recovery to a "one off". A *one-off point in time* solution to address the risks of partial capital recovery does not, in our view, address the underlying problem. It does not adequately address EDB investment risk given the threat from emerging technology will only increase, and not abate, over time. We recommend EDBs should be able to apply for accelerated depreciation at each DPP / CPP reset.

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[14] Commerce Commission, *Input Methodologies Review Draft Decisions: Topic 3 - the future impact of emerging technologies in the energy sector,* p. 31, published 16 June 2016

[15] Such as the operation of *the Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004*

[16] Vector is providing input into the ENA coordinated review of physical asset lives for electricity assets as part of the Commission's consultation on the IM Determinations

[17] Commerce Commission, *Input Methodology Draft Decisions: Report on the IM review*, p. 32, published 22 June 2016

62. Under this approach, the Commission will still require EDBs to apply for any further accelerated depreciation and decide on the merits of the case whether any further acceleration is warranted. Therefore, there is no risk of prices increasing more than necessary to compensate for investment concerns about capital recovery.

63. Alternatively, the Commission's proposal may refer to a "one-off" application to assets. In this sense, the Commission is proposing an asset that has been subject to an application for accelerated depreciation cannot be considered for any future acceleration of depreciation. This solution also does not align with the Commission's problem definition. The Commission's problem definition identified the risk for EDBs to be *economic stranding* as opposed to physical asset stranding (as described above).

64. Where an EDB has already accelerated the depreciation for a class of assets it would be precluded from making any further application in relation to that class, or subset of the class of assets, in future regulatory periods. This solution does not provide confidence for investment as there is a real risk that despite assets having a "one-off" acceleration, they could still be left stranded as customers continue to adopt emerging technologies. The likelihood of, one or more, emerging technologies becoming an effective competitive alternative to the regulated service within a period of years, rather than decades, is a real and not fanciful risk.

65. The 15 percent cap for recovery is also unnecessary. Hardcoding a cap for accelerated depreciation in the IMs will tie the hands of the Commission. This will limit the ability for the Commission to deal with circumstances where suppliers can demonstrate they operate in an environment where partial capital recovery is likely and materially affecting investment incentives.

Specifying the process or criteria for applications for accelerated depreciation

66. We encourage the Commission to provide some guidelines and criteria for EDBs considering making an application for accelerating depreciation. The more transparent the Commission is able to be around its treatment of an accelerated depreciation claim, the greater likelihood it will maintain the incentive for suppliers to keep investing in their regulated services. Transparent criteria will provide EDBs with confidence about the action they can prospectively take to mitigate the likelihood of partial capital recovery. We recommend the IMs include a requirement on the Commission to create guidelines for applicants wishing to use the accelerated depreciation allowance indicating what information would be necessary for a potential applicant.

Emerging technology is more than solar PV and distributed storage

67. The Commission's proposed solution for partial capital recovery of accelerating depreciation to a maximum of 15 percent intentionally does not fully mitigate the risk of asset stranding. In choosing only a partial solution, the Commission suggests EDBs "have the strongest incentive, to manage this risk, for example through pricing (e.g. to ensure uptake of solar PV is not inefficiently incentivised)." This perception of the risk from emerging technology is very one dimensional. While EDBs, to some extent, have the opportunity to charge tariffs relevant to solar PV, there are a variety of network threatening

technologies other than solar PV. Regulators overseas are recognising the significance of the changes affecting the sector. The State of New York Public Service Commission recently noted:

> *"With recent advances in information technology and automation, the structure of competitive markets outside of the utility industry has changed dramatically. This allows the assumptions that have framed traditional ratemaking to be questioned."*[18]

68. For instance, there are many emerging alternative energy sources where tariff measures cannot "manage the risk" such as hydrogen fuel cells.[19] This technology allows users to generate their own electricity on-site using reticulated natural gas networks as a source of fuel. Far from being a concept technology, hydrogen fuel cells are already used by more than 100,000 households in Japan. While this particular form of emerging technology is only relevant to the North Island where reticulated gas networks are present, it highlights the multifaceted risk emerging technologies pose to traditional networks.

69. Accordingly, Vector is concerned about the Commission only applying a partial solution on the basis that EDBs can "manage the risk". The problem is more significant and the threats to regulated services will come from many types of emerging technologies as innovations become commercialised.

Removing RAB indexation as an alternative

70. Vector agrees with the Commission that RAB indexation is another means of reducing the risk of asset stranding. Similar to accelerated depreciation RAB indexation is net present value neutral. As discussed earlier in this submission, the impact of RAB indexation is to "backload" the cost recovery profile from assets.

71. In the past the Commission acknowledged there are circumstances where suppliers should favour an unindexed RAB. The Commission's 2010 IMs reasons paper stated:

> *"To the extent that suppliers will be unable to recover the full RAB value in the future – e.g. if demand was to fall away entirely – then this would argue in favour of a faster recovery profile than that implied by CPI indexation."*[20]

72. Given the Commission's acknowledgement of the economic stranding risk EDBs have with investing in the presence of network threatening emerging technologies there is a risk for demand to decline significantly over time.

73. A key reason for the Commission not pursuing this option was its forecast increase to prices of between 7-10 percent (depending on the EDB) based on the Commission's internal analysis from the 2015-2020 DPP model.[21] We have some concern about this forecast. The impact of removing RAB indexation should be assessed on a forward looking basis rather than using the Commission's ex-ante expectations of returns at the time of the

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[18] State of New York Public Service Commission, Order adopting a ratemaking and utility revenue model policy framework, 19 May 2016 p. 4

[19] Panasonic hydrogen fuel cell: http://panasonic.co.jp/ap/FC/en_about_01.html

[20] *Ibid* n 4, p. 117

[21] *Ibid* n 14, p. 36

reset including its inflation forecast. This should not be the starting point for assessing the impact of moving to an unindexed RAB. A forward looking view would account for the market's expectation for the cost of capital and the forecast for inflation. As discussed earlier in this paper, we believe enhancements to the Commission's forecast for inflation to include market forecasts would also have a bearing of the impact removing indexation would have on prices.

74. In the past the Commission suggested:

> *"An un-indexed approach will result in higher revenues for some suppliers, but not all suppliers. This is because a supplier's overall cash flows are determined by the average age of the asset base not by the age of any particular asset. Those suppliers with a relatively immature asset base will receive higher cash flows now than they would under a CPI-indexed approach. On the other hand, those that have an older capital stock could receive lower revenues."*[22]

75. The Commission's 2010 reasons paper suggested the impact of CPI revaluations will be specific to the age profile of each particular EDB's RAB. Yet the Commission's IM draft determination paper states that moving to an unindexed RAB "would result in larger price rises"[23] suggesting removing indexation will unequivocally result in price rises for consumers.

76. Given the Commission's approach to RAB indexation is based on a forward looking forecast of inflation (both for the WACC and forecast inflation) then the Commission's expected increase in prices should be based on its expected forecast of inflation at the time of the next reset. We expect there to be considerable scope for forecasting error in such an estimate.

77. We see a key benefit for removing RAB indexation over the Commission's accelerated deprecation approach is that it is simple to implement and does not require any manipulation of ID asset lives. Removing RAB indexation provides a consistent transparent signal about the recovery profile for investment.

A better approach – giving supplier's the choice

78. Vector recommends a better approach for dealing with the risk of partial capital recovery would be for supplier's to have the choice to apply the best lever that delivers the most confidence for investment. Therefore, suppliers may choose whether they favour accelerated depreciation or a non-indexed RAB. Alternatively, a supplier may not need any further incentive to invest despite the risks emerging technologies create for partial capital recovery. Given all of these solutions are NPV neutral then consumers should not be worse off.

79. Rather, each approach will result in customers paying the full cost for their network but the first two options reduce the value at risk from future stranding. However, the options of accelerating depreciation or removing RAB indexation will provide emerging technology

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[22] *Ibid* n 4, p. 117
[23] *Ibid* n 14

risk conscious suppliers more comfort to efficiently invest in their networks. This approach provides more options and caters for the diverse views EDBs may have about stranding risk. Choosing one particular lever may not deliver the desired outcome for all EDBs to have confidence for investment in the face of emerging technology risk. However, enabling EDBs to select the lever that does deliver confidence for investment will protect customers from the risks of under investment.

80. This approach is consistent with the Commission's approach of providing more tailoring of DPP / CPPs.

Regulatory treatment of emerging technology

81. Vector is encouraged by the Commission undertaking a thorough examination of the issues relevant to the use of emerging technology by EDBs. While this is in the context of a formal one-in-seven year review, we strongly believe there is a need for the Commission to continue engagement in this area given the potential rate of technology change in the years ahead. The Commission has acknowledged that emerging technologies can offer new types of investment opportunities for electricity networks to deal with network challenges traditionally dealt with by investing in long life "poles and wires." Emerging technology may, in some circumstances, provide opportunities for EDBs to provide new and innovative services that benefit consumers.

82. There has been some concern about EDB supply of other non-regulated services from emerging technology assets. These concerns are directed at potential EDB delivery of new innovative non-regulated services impeding the development of a market for such services. This has resulted in suggestions that EDBs should be prohibited or severely constrained from investing in such assets. These concerns are hypothetical but the proposed solutions from the likes of Electricity Retailers of New Zealand (ERANZ) fundamentally change the application of Part 4 regulation. Vector supports the Commission taking a considered and proportionate approach to considering EDB investment in emerging technology assets rather than prematurely responding to an assumed problem.

83. Vector has reviewed international jurisdictions opining on EDB investment and involvement in new innovative services. A consistent theme emerges, namely that technology will change the investment requirements for networks that were "historically driven by customer demand that was out of supplier control."[24] Such changes will mean networks will need to respond by investing in more innovative network solutions. To place artificial barriers at this early stage will risk preventing or deterring EDBs from exploring projects and ultimately delivering service innovation, which may obstruct EDB ability to meet changes in network requirements and consumer needs. Such artificial barriers are short-sighted and counter-productive in any regulatory regime that has the long-term interests of consumers as its purpose.

[24] State of New York Public Service Commission, *Order adopting a ratemaking and utility revenue model policy framework*, p. 3, published 19 May 2016

84. Most jurisdictions are recommending evidenced based regulation for considering EDB involvement in "new activities". Very few jurisdictions are "presuming" network involvement in delivering new services will obstruct the development of a contestable market.

85. Accordingly, the Council of European Energy Regulators (CEER) recommends a cost/benefit analysis should be part of any regulatory design governing EDB participation in any new activities.[25] The approach by CEER is consistent with the broad direction in Europe where the Agency for Cooperation of Energy Regulators (ACER) has noted:

> *"DSOs may use smart grid solutions to manage efficiently the much greater penetrations of generation (particularly low-carbon technologies, including renewable-based generation) connected to distribution networks at least cost."*[26]

Part 4 is directed at the regulation of goods or services and not assets

86. The Commission has correctly held back from making any presumption that EDB delivery of new innovative services from non-traditional investment would obstruct the development or operation of a workably competitive market. Vector supports the Commission's proportionate approach to any potential risk of EDBs using opportunities of "economies of scope" to deliver possible innovative services from emerging technology assets. We consider acknowledgement of the potential customer benefits combined with an evidenced based approach to regulation is most consistent with the purposes of Part 4.

87. Part 4 of the Act is specifically directed at the regulation of goods or services, and not assets or infrastructure. This distinction was intentional as it supports a technology agnostic approach to the delivery of the regulated service. Technology neutrality has been a foundational principle of sector-specific regulation in New Zealand. This approach recognises businesses and not administrators will choose the most efficient approach for delivering the regulated service. Given the variety of technologies on the horizon, maintaining a technology agnostic approach is important to promoting the purposes of Part 4 regulation.

88. We agree with the Commission that an alternative approach which restricts EDBs from investing in assets "where the service delivered from which is deemed to be capable, or capable of being provided under workable competition…shall be zero,"[27] is cumbersome and unworkable. It would impose a regulatory barrier to the development of new innovative services by the party that has clear capability to deliver the innovation. Regulating assets will impose an additional layer of regulation on an already complicated regulatory regime for suppliers. In a recent report for the Australian Commonwealth Scientific and Industrial Research Organisation and the Australian Energy Networks Association (ENA), the Cambridge Economic Policy Associates (CEPA) noted:

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[25] CEER, *The Future Role of DSOs*, p. 10, published 13 July 2015

[26] ACER, *Energy Regulation: A Bridge to 2025 Conclusions Paper*, 19 September 2014, p.21

[27] ERANZ, *Submission on Emerging Technologies Workshop and Pre-workshop Paper*, p. 3, published 4 February 2016

> *"While there is some significant 'refocusing' of regulatory frameworks, some added complexity appears to be the result of layering new arrangements on top of the existing frameworks. This should be avoided where possible."*[28]

89. EDBs should have the choice and not be fettered in their network management decisions about commissioning assets and incurring costs for the delivery of their lines service to the quality demanded under a DPP or CPP. An approach that restricts EDB investment in emerging technology assets moves fundamentally away from the principle of Part 4 (to regulate services or goods) and down a slippery slope to direct regulation of assets.

Regulating emerging technology assets will change the structure of the electricity sector

90. Vector agrees with the Commission that regulating assets would be a fundamental change to the design of the electricity industry and cannot be introduced under Part 4, or the IMs.

91. We also support the Commission's conclusion that any necessary structural changes to the design of the sector should be addressed by (evidenced based) policy changes to legislation. Pre-empting rules for an emerging market is fraught with risk and is likely to result in consumers missing the benefits from service innovation. This issue was recognised by Professor George Yarrow and Synergies Consulting who noted:

> *"It is important to be aware that imposing one restriction (say a prohibition of providing a contestable service) quite often leads to the further imposition of costly measures (such as public subsidies) in the attempt to secure a desirable public policy goal."*[29]

Regulating emerging technology assets would be administratively unworkable

92. Regulating assets capable of being delivered under "workable competition" would be administratively unworkable. It would require network engineers to periodically undertake "market definition" research as part of asset commissioning projects. They would be required to undertake significant research to determine whether the asset could be delivered as a workably contestable service, or even a possible contestable service, in New Zealand.

93. For example, an EDB investing in remote sensor equipment for its lines service would have to first check as part of a "market definition" exercise whether the asset could be delivered as a service by a supplier, including an overseas supplier contemplating entering the New Zealand market, or even a business possessing the capability of supplying the service but not currently doing so.

94. Alternatively, the Commission would be required to maintain a specific asset schedule for assets that could potentially be delivered through workable competition. Under this approach the Commission would be the party responsible for undertaking the "market

[28] CEPA, *Future Regulatory Options for Electricity Networks*, p. 1, published August 2016
[29] Synergies Consulting and George Yarrow, *Applying the Hilmer Principles on Economic Regulation to Changing Energy Markets*, p. 12, published April 2016

definition" exercise above. This also brings challenges of ensuring the Commission is up to date with latest innovations and engineering requirements for networks and assessing whether a new technology asset should credibly be "ring fenced". This is not the technical expertise of the Commission – nor should it be compelled to maintain this engineering expertise to keep such a schedule updated. Indeed an out-of-date schedule of "ring-fenced" assets, where assets are added to the schedule after suppliers have made investments, would create significant challenges. This would be exceptionally challenging for the Commission in a low cost DPP environment where uniform assumptions are applied to all suppliers. This approach is fraught with the risk of unintended consequences and a likely high burden of cumbersome administrative procedures to manage such risk.

Regulating assets will require higher operating expenditures

95. Regulating assets risks cornering EDB management into imperfect solutions to meet network planning and reliability requirements – as well as consumer demands. EDBs will be inhibited from achieving their desired network architecture to optimally meet immediate planning challenges as well as accounting for longer term impacts of emerging technologies.

96. If the Commission undertakes an asset regulation approach, despite holding the view that it is a policy matter beyond its statutory mandate, it will have to consider the impacts on operating expenditure (opex). Requiring EDBs to procure a service from a "market" or "prospective market" would need to be explicitly recognised in EDB opex allowances. This is because EDBs would need to contract for the service over a period of time, which is likely to be much longer than a DPP / CPP. Accordingly, there is a risk of the costs for the emerging technology service being disallowed in the setting of the opex building block when resetting a DPP / CPP.

Regulating assets is inconsistent with the incremental rolling incentive schemes (IRIS)

97. Regulating assets EDBs can invest in will result in unintended consequences for the application of IRIS. The IRIS IMs were introduced at the 2015-2020 DPP, and apply to opex and capital expenditure (capex). The capex and opex IRIS are symmetrical, where savings are rewarded and overspends are penalised. Therefore, where EDBs' spend is increasing they will be financially penalised under the IRIS IMs.

98. As discussed above, EDBs' opex is more than likely to increase over time where it is only entitled to use emerging technologies as a procured service. This limitation will likely lead to financial penalties under the opex IRIS.

99. Regulating assets will also limit the opportunities for efficiency gains (such as swapping opex solutions for asset innovations) that may arise from investing in the emerging technology investments. We consider these IRIS efficiency considerations should be taken into account if the Commission were ever to go down the path of regulating assets.

Section 54Q and 52T(3) energy efficiency and investment

100. With respect to emerging technology assets delivering energy efficiency, we believe section 54Q of the Act provides a positive obligation on the Commission not to include such assets as part of any "structural solution". Section 54Q states:

> *"The Commission must promote incentives, and must avoid disincentives. For suppliers of electricity lines services to invest in energy efficiency and demand side management, and to reduce energy losses, when applying this part to electricity lines services".*

101. The Commission has already defined its mandate under section 54Q with its deliberation of whether load control relays could be included in the RAB as part of its 2010 IM reasons paper. The Commission noted that Genesis considered the provision of load control as "contestable", however the Commission still considered load control relays part of the regulated service. The Commission provided the following reasoning:

> *"The Commission considers where an EDB owns load control relays, it should be able to include these in the RAB value subject to the cost allocation IM, and that doing so will promote demand side management consistent with section 54Q."*[30]

102. Some emerging technologies will have the capability of providing energy efficient solutions, demand side management and assist with energy losses. Therefore, parliament clearly intended for such emerging technology assets where they can also be used for the regulated electricity lines service to be invested in by EDBs where possible.

103. Furthermore, the High Court has confirmed that section 52T(3) of the Act provides a positive obligation on the Commission *not to deter investment* by regulated suppliers in other goods or services not covered by Part 4, i.e. unregulated services.[31] Accordingly, EDB use of emerging technology assets to provide new innovative unregulated services clearly meets the express intent given by parliament for section 52T(3).

Emerging technology is distinguishable from legacy vertical integration

104. EDB delivery of innovative emerging technology services is clearly distinguishable from legacy vertical integration. This point was highlighted by George Yarrow and Synergies Consulting:

> *"When dealing with drastic or disruptive innovation, the relevant starting point for thinking about the issues is not one supplier, but no suppliers. Starting at zero rather than one is arguably as disruptive for regulatory thinking as changing technologies are for established businesses in the sector. Unregulated monopoly, with its tendency to restrict output and raise prices, may be bad for consumers, but not nearly as bad as no output at all."*[32]

105. In this respect, EDB use of emerging technology assets necessary for its regulated service to also deliver innovative unregulated services (if an opportunity arises) will assist in

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[30] *Ibid* n 4, p. 295
[31] *Ibid* n 14, p. 54
[32] *Ibid* n 29, p. 32

creating services that may not otherwise occur. Rather than contributing to consumer harm, EDB delivery of the unregulated service contributes to welfare by unlocking new service opportunities for consumers. This ability for networks to leverage economies of scope is recognised by Professor George Yarrow and Synergies who noted:

> *"In industries undergoing a new cycle of development as a result of disruptive technologies, vertical integration, not separation, is frequently likely to be the more socially efficient business structure for meeting the long term interests of consumers."*[33]

106. EDB use of emerging technology assets to deliver emerging technology services can be contrasted to the fixed line telecommunications sector and incumbent ownership of the ubiquitous customer access network (CAN). In the case of telecommunications, vertically integrated incumbents used their ownership of the CAN to obstruct retail competition and innovation. This is due to the fact that incumbents had a market penetration of nearly 100 percent of an established service for residential household and business telephony customers. Accordingly, the use of vertical integration, especially where third-party access seekers relied on incumbent upstream service inputs to deliver retail services, was used as a tool to delay the erosion of this retail market share.

107. Another feature of vertical integration in the fixed line telecommunications sector was the "lazy incumbent". This involved incumbents resisting investment in their CAN infrastructure. Ultimately, in some instances 20 years after the original microeconomic reform, public subsidy inducements have assisted with modernising CAN infrastructure with copper wires being replaced with optical fibre-to-the-building assets.

108. The concerns with EDB investment in emerging technology assets and delivering new services share none of the characteristics of the fixed line telecommunications market. Rather, as the Commission has observed "the benefits [of structural remedies] are conditional on the creation of a workably competitive market that does not fully exist today." EDBs share all the characteristics of a new entrant as opposed to an incumbent for potential emerging technology services.

109. Other businesses such as integrated generation/retailers also benefit explicitly from vertical integration providing them with significant opportunity to leverage existing relationships with customers and economies of scale from multiple activities. With respect to emerging technology services vertically integrated generation / retailer businesses collectively appear to exhibit more of the characteristics of a vertically integrated incumbent than EDBs. New innovative services disrupting traditional energy services can only be in the long-term interests of consumers.

110. This is a marked contrast to the circumstances of telecommunications incumbents that were protecting a household/business penetration of close to 100 percent for an established service. Given such emerging technology services are at a premature stage of development any assertion of theoretical or perceived risk of competitive harm is better addressed by competition law levers rather than heavy handed sector rules. Sector

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[33] *Ibid* n 29, p. 17

specific rules would necessitate policy makers second guessing emerging market structures without any real insight of how such markets may ultimately evolve.

111. EDB investment in emerging technology assets not only assists in modernising the delivery of the electricity lines service, it will also stimulate investment in an emerging service. This is a marked contrast to the telecommunications sector where fixed line incumbents neglected investment and “sweated assets” and were often accused of engaging in anti-competitive conduct to protect market share for an established service (with limited growth opportunity).

Cost and asset allocation

112. The Commission’s asset and cost allocation IMs are directed at ensuring electricity lines consumers pay no more than the EDB’s cost for delivering the electricity lines service, exclusive of any “monopoly rent”. These allocation IMs are the most appropriate tool for governing EDB investment in emerging technologies.

113. The asset and cost allocation IM does not fetter the ability for EDBs to invest in assets for delivering the electricity lines service. The asset and cost allocation IMs also do not prohibit an asset from becoming a *shared asset* – where it is capable of delivering both the electricity lines service and another service. By ensuring the electricity lines service is delivered exclusive of “monopoly rents”, the asset and cost allocation IMs limit any possible cross-subsidy concern from an emerging technology asset becoming a shared asset.

114. We agree with the observation quoted by the Commission from the *Hilmer Principles* report by George Yarrow and Synergies that “scope economies between network and contestable services [from emerging technologies] are likely to be valuable for customers.”[34] Vector considers the asset and cost allocation IMs provide the appropriate vehicle for governing EDB investment in emerging technology including using an emerging technology *shared asset* that is used to deliver multiple services.

115. Given the electricity supply chain is vulnerable to significant change and heightened asset stranding risk, it would seem highly imprudent (and fraught with significant risk) to limit the types of investments EDBs can make. Emerging technologies are likely to provide more credible, cost-effective solutions for a range of electricity network requirements in the future. In the past, such needs would have been achieved by building more “poles, trenches and wires”. Were the Commission to confine EDBs to traditional investments then this will create even greater risk of partial capital recovery and constrain the genuine innovation starting to occur in the sector, both in New Zealand and globally. This would force EDBs to have a larger volume of long-life physical assets with high-undepreciated values than they otherwise would have, or risk compromising the quality of their regulated service by underinvesting over time.

[34] *Ibid* n 29

COST OF CAPITAL ISSUES

General comments

116. The Commission's WACC IM provides a methodology for estimating the WACC for suppliers regulated under Part 4. The WACC IM should ensure Part 4 suppliers are able to recover the efficient financing costs for making investments in their regulated business.

Cost of debt – trailing average for the cost of debt

117. There is an inherent volatility from the Commission's "on-the-day" approach to estimating WACC parameters. This can result in the Commission's estimate of WACC to be significantly volatile from one regulatory period to the next. The Commission's continuation of the *on-the-day* approach to estimating the cost-of-debt assumes supplier's finance their regulated business coincident to the term and commencement of the regulatory period. Any longer term debt compensated for outside of the WACC is compensated through the Commission's Term Credit Spread Differential (TCSD).

118. However, this assumption does not reflect the way Vector or the industry finances their businesses. Rather, the Commission observed at the time of the 2010 IMs as part of its benchmark survey of the energy sector that average tenor for businesses was approximately seven years. This tenor was also recently used by the Commission as part of setting the cost of debt for its estimate of WACC for Chorus's unbundled copper local loop service and unbundled bit-stream access services. We understand the Commission's most recent debt survey information requested from energy businesses[35] also highlights the weighted average tenor of debt for bond issuing firms is 9.3 years which is significantly longer than the regulatory period.

119. Given the weight of empirical evidence suggesting firms do not finance their business to the regulatory period, it is difficult for the Commission to sustain the view that supplier's raise debt to align to the regulatory period is an "efficient debt raising strategy". Rather, an efficient supplier is more likely to have a longer term financing strategy than the DPP / CPP.

120. Vector also cautions the Commission against putting any weight to the argument by the Board of Airline Representatives New Zealand that "during price setting when the prevailing cost of debt is increasing, that suppliers are only too happy to make use of the prevailing rate." This suggests the reason for advocating for a trailing average is opportunistic and only motivated by the current prevailing economic climate of low risk-free-rates.

121. For the majority of suppliers the recalibration of their regulatory period is quite some time away. Therefore, suppliers are unlikely to know whether the "on-the-day" approach will yield a higher WACC than a trailing average. However, a trailing average for the whole

[35] Supplier debt information provided to the Commerce Commission on 29 January 2016

cost of debt will deliver more certainty and less volatility and align the Commission's estimate of WACC to the debt raising strategy of suppliers.

122. A trailing average would recognise an efficient supplier would have refinanced a portion of debt portfolio in the years prior to the regulatory period. Therefore, the estimate of cost debt would retain a balance of the forward looking estimate of the cost of debt and capture the refinancing a supplier would have undertaken to maintain its debt portfolio.

123. As noted by CEPA in its report for the Commission, both the AER and Ofgem in the United Kingdom apply a trailing average for the cost of debt when establishing their cost of debt allowance.[36] In applying a trailing average AER's rate of return guideline requires the AER to have regard to minimising the difference between the return on debt and the return of debt for its benchmark efficient entity.[37]

Term credit spread differential (TCSD)

124. While Vector prefers a trailing average for the cost of debt which would largely negate the need for a TCSD, we are encouraged by the Commission's improvements to the operation of this item.

125. Vector notes CEG, on behalf of the ENA recommended improvements to the Commission's estimate of the premium for longer term debt from its linear regression model including recognising the impact of bonds issued by 100% government owned businesses.

Cost of equity

Estimate of the electricity asset beta

126. We support the Commission broadly following its approach from 2010 to estimate the asset beta for electricity businesses. We also acknowledge the improvements it has made to ensure the sampling of asset beta observations are more robust by incorporating weekly asset beta information and four-weekly estimates for the electricity asset beta. We also support the Commission's retention of the larger sample of comparator firms to ensure its estimate of beta is not subject to biases from a small sample.

127. Vector also notes the Commission's observation to Contact Energy on the AER's use of a small comparator sample of nine companies for determining its asset beta estimate. Indeed, the AER was reluctant to apply the outcome of its estimate of the asset beta for deriving its equity beta. Instead the Commission noted the AER relied on additional material such as empirical estimates from international energy networks and the Black CAPM as relevant considerations for its equity beta estimate. Should the Commission adopt a narrow sample for its estimate of the asset beta then we expect the Commission to also have regard to such factors when estimating the equity beta.

[36] CEPA, *International Comparison of Regulatory Precedent on the Weighted Average Cost of Capital*, p. 23, published December 2015
[37] AER, *Better Regulation Rate of Return Guideline*, p. 18, published December 2013

Estimate of the asset beta and interaction with form of control

128. Vector supports the Commission adopting a consistent view on the impact of changing the form of control and its impact on WACC. The Commission has acknowledged that "we are not aware of any empirical evidence that demonstrated what adjustment should be made for regulatory differences, or of any overseas regulators making an adjustment."[38] We support the transparent evidenced based approach by the Commission in its deliberation on this particular issue.

CPP REQUIREMENTS

129. Vector supports the review of the CPP IMs and improvements that reduce cost, compliance and complexity for potential CPP applications. The costs of preparing a CPP proposal is significant irrespective of the size of a supplier and – depending on any modifications or exemptions – can be disproportionate to the application sought. The proportionate scrutiny principle should be the overarching consideration when considering changes to CPP requirements.

130. In particular, we support changes that are flexible, better align information requirements with existing disclosures (such as information disclosures and the AMP), avoid duplication or unnecessary compliance and improves supplier certainty. Such changes are in the long-term interest of consumers and better promote the purpose of sections 52A and 52R. However, in our view the CPP proposals do not materially achieve this. Vector recommends the Commission consider the proposals in the ENA submission on this topic.

131. On balance the CPP proposals do not materially alleviate the burdensome nature of the CPP application process, particularly with respect to supplier certainty. For instance, at a minimum, the CPP process requires *at least* a year of work by suppliers while suppliers continue to operate their businesses and comply with other compliance requirements - with little to no guarantee that the final CPP will deliver the desired customised outcome sought.

[38] Commerce Commission, *Input Methodologies Review Draft Decision:* Topic 4 Cost of Capital Issues, paragraph 322, p. 38, published 22 June 2016

APPENDIX A: EXAMPLES OF REGULATORY UNCERTAINTY

Consultation material and regulatory certainty

132. We are concerned with the excessive amount of consultation material. As part of this review the Commission published several lengthy documents outlining its decisions for interested parties to submit feedback. We appreciate the Commission's effort to be comprehensive in sharing their reasons for the draft decisions. Nonetheless, given the sheer number of documents we are required to review within a short number of weeks (approximately 6 weeks), the Commission's approach has created an excessive and unnecessary burden for stakeholders, risking certain issues or proposals to be overlooked by interested parties.[39]

133. This means digesting and providing comment on approximately 1,500 pages of complex and intricate IM issues at the same time Vector (and other suppliers) work towards meeting its Part 4 regulatory compliance obligations (i.e. electricity distribution information disclosures and gas distribution asset management plan), and the Commission's additional information requests - not to mention other regulatory work for other regulators and government departments.

134. In our view, this is excessive. At a minimum, if a supplier was unable to review all of the IM review papers it should be able to expect consistency between the papers, i.e. any proposed changes should be consistently reflected in the draft decisions paper, IM report and the relevant draft determination.

135. However, we found inconsistencies between papers and proposals that introduce risk of regulatory uncertainty and regulatory overreach. We consider a need for ongoing stakeholder involvement in the next development stages of the IM review to help ensure unintended inconsistencies between policy decisions and rules are identified and avoided.[40] We provide specific examples of inconsistencies and uncertainties below. We recommend the Commission note these concerns and make the appropriate changes where relevant.

Optional IMs

136. As discussed above in the "Process and Framework" section, the underlying purpose of the IMs is to provide upfront rules giving suppliers and consumers certainty about how the Commission will set a price path or information disclosure determination. However, the Commission has proposed a number of "optional" IMs giving it the ability to apply them, if

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[39] For example, to obtain a comprehensive understanding of the Commission's proposals all stakeholders are required to review the following IM reviews papers: the consolidated draft decision, 792 pages; the report on the IM review, 194 pages; the gas pipelines implementation paper, 29 pages; the draft electricity determination, 242 pages; and the draft gas distribution determination, 196 pages.

[40] *Ibid* n 1, sections 52T and 52A

and when it chooses to do so, in future. We do not consider this approach consistent with the underlying purpose of Part 4 – and particularly, section 52R.

137. To illustrate, the Commission has added the following new IMs to mitigate potential risk that, under a 'pure' revenue cap (i.e. EDBs and GTBs), consumers face greater price volatility: a wash up account cap, a wash up amount cap and collar, a cap on the accumulation of the voluntarily undercharging amount, and a constraint on the weighted-average price increase. These are all mechanisms intended to limit revenue recovery, thereby limiting the amount prices can change year-on-year.

138. However, these mechanisms are "optional" because while each mechanism will be a price-specification IM (if progressed), suppliers will not know which ones will apply to the way they can recover revenue until the Commission develops the DPP determination. This is because each IM is drafted in a manner that provides that the Commission *may* use it *"if specified by the Commission in a section 52P determination".*[41]

139. In our view the IMs cannot be created with such a level of uncertainty and are not intended to afford the Commission with this degree of regulatory flexibility and overreach. Moreover, depending on which "optional" IM the Commission uses it is likely that some will become superfluous or redundant.

140. Even if the IMs can cater for such flexibility we do not consider the Commission has made a compelling case to the extent it requires each of the four price specification mechanisms. We consider that Part 4 requires the Commission to determine the rules and processes it considers necessary for achieving the desired policy intent. Sections 52R and 52T require the IMs to provide certainty around the processes and rules for the specification of prices – with sufficient detail that each supplier can estimate the material effects of the IM and how the Commission intends to apply the IM. An "optional IM" does not achieve this.

141. Furthermore if the Commission considers that optional IMs are consistent with the purpose of sections 52R and 52T, we question why it did not consider implementing an optional IM to allow accelerated depreciation for gas distribution businesses (GDBs).

142. In the draft decision paper on the implications of emerging technology for GDBs, the Commission provides several reasons why a GDB is at risk of partial capital recovery and how it may be closer to the "death spiral tipping point".[42] Despite acknowledging the possible increase in gas disconnections, the Commission quickly dismisses the need to provide for accelerated depreciation and at the same time notes that it is "open to considering it for GDBs as a way of partially mitigating the risk of partial capital recovery".[43]

143. Given the Commission is aware of this risk, but still considers optional IMs are consistent with the purposes of sections 52R and 52T, we consider it more appropriate to include an IM to allow GDBs the opportunity to apply for an alternative accelerated depreciate rate (as is the case for EDBs). Particularly as there is a greater case for this single GDB IM

[41] Section 3.1.3(13)(a) and (f)-(h), *[DRAFT] Electricity distribution services Input Methodologies Determination 2012*
[42] *Ibid* n 14, p. 36-37
[43] *Ibid* n 42

(that requires the Commission's prior approval) compared to the four the Commission proposes to introduce and *may apply* to limit EDB and GTB revenue recovery.

Commission initiated DPP reconsideration

144. A DPP may be reconsidered (i.e. amended) where certain events occur, including supplier initiated events and events that occur in fact.[44] This includes a new quality standard variation DPP reopener suppliers may apply for. Vector supports this and considers it a better alternative to the quality-only CPP.

145. The Commission is also proposing a new mechanism whereby a supplier may propose to use an alternative IM, the "next closest alternative" (NCA), when an existing IM becomes unworkable. Where the application of a supplier initiated NCA results in a "non-equivalent" effect on a DPP, the DPP will be reopened to the extent it is necessary to adopt the NCA approach.[45] We support the NCA proposal in so far as it is supplier driven.

146. However, this proposal also allows the Commission itself to apply the NCA and amend a DPP when the application of the NCA results in a "non-equivalent effect". The Commission also proposes to include an IM that appears to give effect to section 52Q of the Act, where the Commission may amend a section 52P determination (e.g. DPP or ID determination).

147. We are concerned that these proposals circumvent the Commission's process for amending an IM and DPP set out in the Act, which does not provide for alternative processes under special circumstances. Therefore, we do not support these Commission driven processes to change an IM and potentially reopen the DPP / CPP. We also question whether these proposals are consistent with the Act.

148. Section 52Q allows the Commission to amend a price-path or information disclosure determination, but requires the Commission to consult when material amendments are made. The proposed IM seems to be intended for immaterial amendments only. However this is unclear as the IM will allow a DPP amendment without consultation, regardless of the materiality.

149. Sections 52X and 52V sets the process the Commission must follow to amend an IM – including giving stakeholders notice of such work, and an opportunity to give views and to consult. The NCA approach will allow the Commission to apply an alternative IM without a requirement to consult or an obligation to demonstrate that is in fact more "workable".

150. Allowing the Commission to reconsider an IM that has an effect on the supplier's DPP without stakeholder notice and input introduces material regulatory uncertainty to the detriment of suppliers and consumers. It undermines the regulatory decision-making processes and certainty required for suppliers to have the confidence to invest and innovate, and share the benefits of efficiency gains with consumers. Furthermore, both the NCA and section 52Q proposals lack a materiality threshold, a requirement to consult and a definition of "non-equivalent effect". Therefore, in our view these proposals risk

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[44] Such as a change event, an error event, a major transaction, a quality standard variation or false or misleading information has been relied on. See section 4.5.6, *ibid* n 36, p. 115.
[45] *Ibid* n 41, section 4.5.7

going beyond the decision-making powers parliament provided under Part 4 and are therefore potentially inconsistent with the Act.

151. While we agree there may be instances where an existing IM is no longer workable and an alternative is required, we do not consider there a real need for the Commission to unilaterally apply an NCA. That is, if a bona fide reason to apply for an NCA exists, it is more than likely the supplier would initiate an NCA. Alternatively, if the Commission became aware of an unworkable IM we would expect the Commission would communicate this to stakeholders who would then apply for an NCA. Therefore, we do not see a compelling need for the Commission to have further reach and discretion beyond Part 4.

152. Nonetheless, if the Commission progresses this proposal we recommend it should be required to demonstrate that the alternative IM is "materially more workable" and that it must be subject to consultation. For example, "materially better" is the standard the court must use in assessing an appeal of an IM under section 52Z.

Finance lease

153. In the IM report the Commission proposes an IM amendment with respect to "the application of the term 'finance lease' for the purposes of the RAB rules in the IMs to have the effect of excluding from the RAB any value associated with amounts treated under the IMs as finance lease recoverable costs."[46]

154. However, the actual amendment in the electricity IM draft determination does not appear to fix this issue. That is, it does not appear to exclude from the RAB the value of any finance leases for which annual payments are included as a recoverable cost. Instead, the draft IM amendment excludes payments made in association with a finance lease from the definition of "operating cost". This is not the Commission's intent as described in the IM report.

155. While we were able to identify this, any reader who has only read the IM report and not the draft determination would not have known. In other words, from reading one document alone a reader should be able to expect that the appropriate policy intent was given effect to.

Cost allocation

156. As part of its decision on emerging technology the Commission has reviewed its previous IM decisions around cost allocation in relation to allocating not directly attributable revenue, and the use of proxy allocators. The Commission introduces three significant changes:

    (1) Changing the revenue threshold for the application of ACAM;

    (2) An ID requirement to report unregulated revenues; and

    (3) Require a rationale for the use of proxy allocators with a CFO declaration.

157. We are concerned with the way these proposals are presented in the consultation material and consider these significant changes deserve greater attention.

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[46] *Ibid* n 17, p 24

158. In its draft decisions paper the Commission proposes to reduce the revenue materiality threshold from 20% to 10%, but it does not discuss whether compliance issues exist. However, the IM review report signals an intention to require suppliers to report its unregulated revenue to allow it to "better assess" whether parties fall under the revenue threshold.[47]

159. We are concerned that this proposal creates a significant and disproportionate compliance burden, particularly in the absence of evidence of non-compliance risk. Suppliers that currently use the 20% ACAM revenue threshold have provided audited and certified cost allocation disclosures since the 2012 ID determinations took effect. Introducing new reporting requirements where there is no compliance issue, and reducing the revenue threshold at the same time, creates unnecessary additional work that does not seem warranted for compliance.

160. There is also an element of regulatory risk associated with changing the ACAM revenue threshold. At the time of setting the IMs the government was also in the process of undertaking its Ultra-Fast Broadband (UFB) which has sought to accelerate the deployment of fibre-to-the-home networks. With the assurance provided by section 52T(3) of the Act and the ACAM threshold in the IMs many EDBs have partnered with UFB service providers to assist with the rollout of their networks. We are now reaching a point in time where such networks have been rolled out to a significant part of the country so lowering the ACAM threshold will have a material bearing for some EDBs where they have shared infrastructure with UFB partners with the ACAM threshold in mind.

161. We also note the Commission's unbundled copper local loop (UCLL) service final pricing principle also presumes its hypothetical efficient operator will have a significant level of asset sharing with local EDBs.[48] Therefore, if the Commission revises the ACAM threshold it will need to consider if the extent of asset sharing, with local EDBs presumed in its UCLL access prices, is reasonable.

162. Similarly, the Commission's draft decision paper proposes to introduce new ID requirements for the use of proxy allocators – despite the fact that proxy allocators have been used, audited and certified in all disclosures to date. This is because it considers there is "limited reasoning" and "rigor" provided when suppliers use proxy allocators. However the Commission also states that "none of this necessarily indicates that EDBs are applying the IMs incorrectly, we are concerned that proxy allocators are being used so heavily".

163. Therefore, the Commission "intends to give more attention to these compliance issues in future" by introducing IMs that require suppliers to justify their use and rationale for selecting the particular proxy allocator. Additionally, the Commission proposes to require suppliers' Chief Financial Officer to provide a declaration that no causal allocator was available. This proposal is only discussed in the draft decisions paper.

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[47] *Ibid* n 17*,* p. 115

[48] Commerce Commission, *Final pricing review determination for Chorus' unbundled copper local loop service final determination,* p. 325, published 15 December 2015

164. In our view, the Commission has not presented a sound case for these proposals. Therefore, we consider imposing these proposals where in fact there is no indication of non-compliance introduces onerous and disproportionate regulation. Lastly, a supplier that did not read page 341 of 790 of the draft decisions paper would not know of the proposal to require a declaration, as it was not mentioned elsewhere.

165. We recommend the Commission reconsider the proportionality of its cost allocation proposals. We encourage the Commission to introduce new compliance requirements only when it has in fact established a real compliance issue exists, and to ensure it is proportionate to the issue identified.

Expanded reporting on new connections

166. The Commission is concerned that moving to a revenue cap will affect suppliers' motivation to establish new connections for consumers. However, it does not propose to introduce a connection incentive because electricity distribution connections are "very likely to still occur". Despite this statement, the Commission nevertheless proposes to increase EDB's ID reporting requirements on new connections, such as the number of connection proposals and timeliness of connections.

167. Similar to the section above, we consider the Commission is introducing disproportionate compliance requirements to address an unsubstantiated concern. Additionally, we are concerned with how suppliers are required to measure "timeliness" given the iterative stages of a new customer connection and when "the clock starts".

168. We recommend the Commission only introduce such an ID requirement once there is evidence indicating a real issue that exists.

Constant price revenue growth (CPRG) reopener

169. The Commission's CPRG forecast is a key input in setting the DPP (under a WAPC form of control) and is effectively the demand forecast used to determine the maximum allowable revenue for the first year of a DPP (and therefore starting prices). When the Commission's CPRG significantly differs from *actual* demand, suppliers face significant under- or over-recovery of revenue.

170. In its draft decisions paper, the Commission considered implementing a CPRG IM as a DPP reopener for EDBs and GDBs. However the Commission quickly dismissed this because EDBs would no longer face this risk under a pure revenue cap, and it was not aware that CPRG was a significant issue for GDB.

171. While to date GDBs may not have experienced any significant issues stemming from CPRG forecasts, there is still a real risk that the Commission's CPRG forecasts in future may materially differ from actual demand – resulting in the potential for significant under- or over-recovery of revenue. We recommend the Commission should act prudently and include a CPRG reopener IM for GDBs to ameliorate against the inherent forecasting risk

embedded in future DPPs - as there is no indication that GDBs may move to a pure revenue cap.[49]

[49] Vector discusses this in its submission to the Commerce Commission on the *Default price quality paths for gas pipeline services from 1 October 2017 – implementing matters arising from proposed Input Methodologies changes,* dated 4 August 2016