Submission to the Electricity Authority on Transmission Pricing Methodology: Issues and proposals

1 March 2013

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EXECUTIVE SUMMARY

1. Vector does not support the Electricity Authority's (Authority) proposed Transmission Pricing Methodology (TPM). Specifically, Vector does not support the proposed SPD charges or removal of the current requirement for South Island generators to pay the full cost of the HVDC link. Vector does not believe the TPM proposal would improve efficiency or be to the long-term benefit of consumers.

2. Vector is not persuaded there is actually a need to review the TPM, or for fundamental changes to be made. We reiterate that "It is not clear to Vector that the current approach is failing, in a material way, to deliver efficient outcomes or that any alternative approach would produce a material improvement in efficiency."[1]

3. We are concerned about the continuing relitigation of the TPM which has fundamentally come down to rent seeking by South Island generators attempting to avoid paying for the cost of the HVDC link. While the reviews and arguments around changing the allocation of the HVDC have been masked in efficiency terms, they have largely been about wealth transfers.

4. It is commendable that the Authority has attempted to cut through this debate first by developing a principled approach for evaluating TPM proposals and then by developing a its TPM proposal.

5. Fundamentally, if the Authority is going to consider making changes to the TPM, Vector believes it should make an explicit judgement as to whether TPM should focus on recovery of sunk costs in a way that minimises distortions to nodal pricing and transmission network use (static efficiency) or on long-run (dynamically efficient) signalling of future transmission capacity costs e.g. locational-pricing. It is well documented that there is a tension between these two approaches to transmission pricing. As Castalia note "These two forms of efficiency directly conflict – static efficiency tries to avoid changes in behaviour to maximise utilisation of past investments, whereas dynamic efficiency seeks to change behaviour to minimise future investment costs."[2]

6. Vector believes the Authority's TPM proposal fails to satisfy either static or dynamic efficiency. We agree with Baringa that the proposed TPM is "likely to result in less efficient market outcomes, both in providing inefficient signals for new investments and in distorting prices and dispatch in the short-run energy market".[3] If the Authority wants to make changes to the TPM aimed at improving dynamic efficiency then Vector suggests the best approach would be to consider extending locational-pricing beyond (short-term) nodal pricing signals, connection charges and the current HVDC charge to the full transmission grid.

7. While Vector does not support the proposed TPM, there are a number of individual components to the Authority's proposed TPM we believe would reflect a logical evolution of the methodology that would enhance efficiency. These consist of:

    a. fine-tuning the definition/treatment of connection charges;

    b. Transpower retaining transmission rentals to offset their revenue requirement;

    c. corrected power factor requirements;

    d. charging retailers directly for transmission services; and

[1] Paragraph 6, Vector, Submission on Regulatory Framework for the Transmission Pricing Methodology, 11 March 2011.

[2] Paragraph 9, Castalia, Report to Genesis Energy, Review of the Electricity Authority's Cost Benefit Analysis of the Proposed Transmission Pricing Methodology, 25 February 2013.

[3] Page 6, Baringa, consultancy report for Trustpower, Evaluation of New Zealand transmission pricing review against international experience, 18 February 2013.

e. widening the tax base to generators.

Substantial problems with the SPD method

8. Vector believes the proposed SPD method is fundamentally flawed. While some of the discussion and recommendations made in this submission are aimed at reducing these flaws, we believe, even with these changes, it would not be desirable to introduce the SPD method.

9. We do not agree with the Authority that the "SPD method should provide reasonable estimates of private benefits".[4] The SPD method would result in overstatement of consumer benefits relative to generator benefits because of the scope for generator gaming and the short-term approach to calculation of benefit.

10. Any measurement of private benefits should be based on a counterfactual where the transmission asset never existed (long-term perspective) rather than the immediate impact of removing an asset (short-term perspective).

11. We also agree with Castalia that "the application of the SPD charge "will actually reduce efficiency in the wholesale and retail electricity markets."[5] The SPD method could also send distortionary pricing signals, including: (i) that new and post-2004 assets should be used rather than signalling to avoid using transmission assets that are capacity constrained; and (ii) charging market participants less where their benefits predominantly arise during peak periods. This would appear to be the opposite of dynamic efficiency signalling.

12. We are also concerned that the Authority is proposing a "beneficiary-lite" approach, which places a half-hourly cap on SPD charges at average transmission cost, on the basis that this is needed to limit "the size of the incentives on participants to act inefficiently."[6] If "beneficiaries pay" creates incentives to act inefficiently this should be avoided altogether, not limited.

13. To use the Authority's market gardener analogy, the signals sent by the SPD charges are that the truck should use old (pre-2004) roads to deliver potatoes from Oamaru to Pukekohe, even if use of newer roads would provide a more direct/quicker (more efficient) route, and that it does not matter whether the truck travels through towns during rush hour traffic.

14. If the SPD method is introduced, Vector stresses that, as considered "ideal" by the Authority, it is important "the incidence on parties would be according to their assessed benefit or exacerbation"[7] i.e. the SPD charges generators incur reduces their producer surplus rather than being passed on to consumers.

South Island generators should continue to pay for the HVDC link

15. Vector supports retention of South Island generators continuing to pay the full cost of the HVDC link. Our views on this matter have been well canvassed in previous submissions to the Authority and Electricity Commission:

    a. The HVDC link is different from the HVAC grid, in that it provides a link between two regional grids (North Island and South Island);

    b. The current HVDC charges provide a pragmatic form of partial locational pricing;

[4] Page 6, Electricity Authority, Transmission Pricing Methodology: issues and proposal, 19 October 2012.
[5] Page iii, Castalia, Report to Genesis Energy, Review of the Electricity Authority's Cost Benefit Analysis of the Proposed Transmission Pricing Methodology, 25 February 2013.

[6] Question 8, Page 7, Electricity Authority, TPM Q&A workshop submitted questions and responses 19 February 2013.

c. The benefit South Island generators receive from the HVDC (including Pole 2 and 3 combined) exceeds the costs; and

d. The current HVDC charges also recognise that the HVDC link (and upgrade) is required because of the excess of generation relative to electricity demand in the South Island i.e. South Island generators are both beneficiaries and exacebators in relation to the HVDC link.

16. Vector does not agree that the current HVDC charges give rise to the problems the Authority has assessed.

17. One of the problems with the Authority's (and the Transmission Pricing Advisory Group - TPAG's) assessment of the HVDC charges is that it took short-run perspective, where transmission is assumed to be fixed and sunk, and determined what would result in lowest generation costs, ignoring the impact of generation decisions on future transmission costs/investment requirements. What the Authority (and TPAG) should have done is taken a long-run perspective and determined what would result in lowest delivered (generation plus transmission) costs.

18. The HVDC charges will be efficient, and send efficient North versus South Island generation location signals, as long as they signal the long-run marginal cost (LRMC) of transporting electricity between the two islands.

19. In order to safely demonstrate that the locational signals provided by the current HVDC charges are inefficient the Authority would need to determine: (i) the LRMC of electricity transmission from the South to the North Island; and (ii) that the current HVDC charges exceed LRMC. Even if the Authority demonstrated this, the best solution would be to lower the HVDC charges to South Island generators to LRMC (or increase them if they were below LRMC), not remove the charges.

INTRODUCTION

20. Vector welcomes the opportunity to make a submission in response to the Electricity Authority's (Authority) consultation paper "Transmission Pricing Methodology: issues and proposal" (TPM Proposal Paper), 19 October 2012. Vector would welcome the opportunity to further meet with the Authority to discuss our submission.

21. Specific responses to the Authority's questions are provided in Appendix I of this submission.

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

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23. As part of Vector's submission please find attached a report by Marsden Jacob Associates, "Review of Transmission Pricing Methodology", 1 March 2013.

24. No part of this submission or the report by Marsden Jacob Associates is confidential and Vector is happy for them to be made publicly available.

25. Vector supports the submission of the Electricity Networks Association, "Submission on Transmission Pricing Methodology Consultation Paper", 1 March 2013.

26. Vector would also like to acknowledge and thank Transpower for the material it has provided during the consultation period. We consider this has been invaluable for informing the debate on the matter. Vector has reviewed and endorses the CEG Report, prepared on behalf of Transpower, "Transmission Pricing Method – Economic Critique", February 2012.[8]

Questions over jurisdiction

27. Part 12 of the Electricity Industry Participation Code 2010 (the Code) provides that the Authority may issue Guidelines to Transpower for the development of a TPM (clause 12.83(b)).

28. It appears to us that the process the Authority has adopted for the TPM review is not consistent with its powers under the Code.

29. This is because, under the Code, the Authority is given power to make the Guidelines and is not provided with any power to propose a transmission pricing methodology. This function is reserved for Transpower.

30. While there may be debate about the distinction between a guideline for the development of a methodology for transmission pricing and the actual methodology, in our opinion, the level of detail and prescription proposed in the Authority's draft Guidelines is such that the Authority has gone beyond the preparation of Guidelines and has sought to propose a methodology.

31. This is illustrated clearly by the statement in the proposed Guidelines, in respect of the interconnection and HVDC charge, that "Transpower should develop a charge consistent with the method set out in Appendix E (SPD method) of this issues paper". The SPD charge represents the bulk of the revenue that Transpower will collect in respect of its approved investments and thus the

[8] With the exception that Vector disagrees with CEG on the merit of imposing a tax on generators [at paragraph 133], particularly if the tax can be set in a way that inhibits pass-through. We consider that CEG's view is inconsistent with their discussion on the current HVDC charges; particularly given the comment that "[South Island generators'] expected transmission charges have little, if any bearing on their wholesale bids" [at paragraph 103].

majority of any pricing methodology to be applied by Transpower in recovering its costs.

32. If the proposed Guidelines were made in their current form, Transpower's response to the Guidelines would simply constitute an application of the methodology proposed by the Authority, rather than a proposal for a TPM of Transpower's own making.

33. We consider that the Authority has misconstrued its power and would, in making the proposed Guidelines, be acting beyond its powers.

34. The Authority would avoid these outcomes by abandoning its attempt to propose a methodology and, consistent with its statutory powers and functions, propose Guidelines and principles to be followed by Transpower in developing its proposed methodology.

35. Vector **notes** we consider the Authority's TPM Proposal breaches the requirements of the Code by prescribing a methodology, rather than being limited to Guidelines.

VECTOR UNABLE TO SUPPORT TPM PROPOSAL IN ITS ENTIRETY

36. Vector **notes** we do not support the Authority's proposed TPM. Specifically, Vector **notes** we do not support the proposed SPD charges and removal of the requirement for South Island generators to pay for the HVDC link.

37. Vector believes consumers could be made worse off under the Authority's TPM proposal for the following reasons:

    a. The proposed TPM would send perverse pricing signals and undermine, not enhance, efficiency;

    b. The way the SPD charges determine "beneficiary charges" would create an inherent bias which overstates consumer surplus and understates producer surplus;

    c. The move from South Island generators paying for the HVDC link to the costs being split between load and generators would remove the current North v South Island locational signal and result in a substantial wealth transfer from consumers to South Island generators; and

    d. Generators will attempt to pass-through their interconnection charges (particularly the SPD charges) into higher wholesale electricity prices.[9]

38. We are puzzled, given the magnitude and radical nature of the proposed changes, how it could be that "….the Authority considers that its proposed option is consistent with [Code Amendment] Principle 4 of its Code amendment principles ..."[10] Principle 4 states a preference for small-scale options with relatively low value transfers, which the Authority's proposal is anything but.

Likely adverse impact on consumers

39. Vector **notes** we do not believe the Authority has demonstrated its TPM proposal would be to the long-term benefit of consumers or that it would not have substantial adverse pricing impacts on consumers.

40. Vector does not believe the proposed TPM satisfies either of the two components of the Authority's statutory objective in section 15 of the Electricity Industry Act 2010. Vector believes consumers would be likely to be made worse off under the proposal.

41. The Authority needs to not only establish that any policy initiative will "promote competition in, reliable supply by, and the efficient operation of, the electricity industry" but also that it is to "the long-term benefit of consumers".

[9] Refer to the section of this submission "Risk of pass-through undermining beneficiaries pay".
[10] Paragraph 6.3.31, Electricity Authority, Transmission Pricing Methodology: issues and proposal, 19 October 2012.

Statutory objective (s 15)	Outcome of proposed TPM
The objective of the Authority is to:	
... promote competition in, reliable supply by, and the efficient operation of, the electricity industry ...	Vector does not believe the Authority's proposal would improve efficiency. We believe it would instead have adverse static and dynamic efficiency implications. While the Authority assumes its proposal will improve efficiency and result in a more durable TPM, it has not analysed the incentives the proposed methodology would create for market participants to alter their behaviour to try and avoid an allocation of transmission revenue.
... for the long-term benefit of consumers.	Vector believes a combination of adverse efficiency impacts and wealth transfers would result in consumers being made worse off. We do not believe the Authority's pricing impact assessment should be relied on for assurance the proposal would not result in higher prices for consumers. The price impacts hinge on a number of critical issues such as potential gaming by generators and pass-through of their transmission charges into higher wholesale prices.

42. Even if the Authority is correct that its TPM proposal would improve efficiency it is not axiomatic the proposal would be to the long-term benefit of consumers. The Authority's proposals would result in reallocation of transmission charges. This would result in wealth transfers that could readily swamp any potential efficiency impacts (positive or negative) of the changes.

43. It is entirely possible for one of either of the two parts of the Authority's statutory objective to be achieved but not the other. If the Authority only satisfies the first part of the statutory objective but not the second it will fail to meet its statutory objective and will not have established a stable and durable TPM. (A discussion of Vector's position on the correct interpretation of long-term benefit of consumers is provided in Appendix II.)

44. Vector reminds the Authority of its view that "if wealth transfers seriously undermine confidence in the pricing process or in the electricity industry more generally then … these … effects should be taken into account when evaluating proposals".[11]

45. Vector reiterates the following points about consumer impacts/wealth transfers:[12]

> In normal circumstances, policy initiatives that improve efficiency ("grow the size of the pie") should benefit consumers over the long-run, and vice versa, so long as the benefits exceed the regulatory costs of implementing the policy initiative. If there is a clear efficiency gain then, as a general rule, it should mean consumers are better off.
>
> For example, where there is workable competition in a market and efficiency is improving, or an initiative improves competition, it can normally be expected that the efficiency gains will be shared with consumers; albeit that this may occur over time, without necessarily providing 100% pass-through.

[11] Paragraph A31(b), Electricity Authority, Interpretation of the Authority's statutory objective, 14 February 2011.

[12] Paragraphs 65 – 68, Vector, Submission to the Electricity Authority on the Decision-making and economic framework for transmission pricing methodology review, 24 February 2012.

However, in some circumstances the impact of wealth transfers between consumers and producers on the long-term benefit of consumers can outweigh efficiency considerations. This is well illustrated by the Commerce Commission's calculation of whether regulation of mobile termination rates, under the Telecommunications Act 2001, would be to the long-term benefit of consumers. The Commission concluded that approximately 95% of the benefits to consumers in the long-term would be from wealth transfers (reductions in economic rents). Vector believes the matter of the ETPM is another example. We illustrated the reasons why this is the case in our submission to the TPAG, and do not repeat these arguments here.

Vector does not believe that it is appropriate to simply assume wealth transfers won't have an impact on consumers in aggregate. The TPAG analysis of HVDC pricing showed that wealth transfers can be substantial relative to efficiency impacts and, if wealth transfers are ignored, consumers can be made worse off by initiatives purported to be in their long-term interests.

46. If consumers incur higher, or higher than otherwise, prices but, in return, benefit from higher than otherwise investment and maintenance and/or improved service quality then that will be to their long-term benefit. If the higher prices arise simply from wealth transfers or "functionless rents" to producers, in this case South Island generators, then it will not be to their long-term benefit. It is clear, for example, from the assessment of the current HVDC charges that any efficiency benefits from a move away from South Island generators paying the full cost, if any, would be far outweighed by wealth transfers.[13]

Authority's assessment of pricing impacts

47. Vector does not consider the Authority's "Estimation of impact of Authority TPM proposal on consumers prices by line company area", 26 November 2012, provides a sufficient basis for concluding pricing impacts should not be of concern to consumers. This is because the estimates, amongst other things:

    a. are based on a (backward looking) snapshot in time (2010-12);

    b. do not take into account how SPD charges may change over time (as usage of post-2004 assets increases);

    c. do not make any adjustment for gaming (it implicitly assumes the proposed TPM would not impact on generator offer behaviour);

    d. do not assess the extent to which pass-through would occur; and

    e. offer a range of pricing scenarios without the Authority forming a view on the most likely outcome.

Concerns about stability and durability

48. Vector supports the weight the Authority places on a stable and durable TPM.

49. If the TPM is not perceived to be stable and durable any medium/long-term pricing signals it conveys will not be effective. (Industry participants will not rationally make investment decisions on the basis of pricing signals they do not expect to remain in place.)

50. Whether the TPM is stable and durable depends squarely on the actions of the Authority. The simple fact the Authority has stated the current HVDC charge "is not durable, being subject to on-going lobbying and reviews" encourages further lobbying, and undermines the durability of the current TPM. The Authority's concern about durability could be a self-fulfilling prophecy.

51. In order to best ensure stability and durability of the TPM the Authority should:

    a. limit substantive changes to the TPM unless there are clear and large net benefits to consumers, compared to the status quo and other alternatives.

[13] Refer, for example, to Vector, Submission to the Electricity Authority on the Decision-making and economic framework for transmission pricing methodology review, 24 February 2012.

Changes to the TPM per se would signal that the TPM is not stable or durable;

The TPM would be particularly unstable if the Authority adopted Meridian's view that any positive NPV should justify a change regardless of materiality.[14]

b. undertake a robust consultation and decision making process that is not vulnerable to judicial review;

c. avoid continual and repeated reviews of the TPM;[15]

d. ensure the TPM is not seen or perceived to be rewarding the lobbying behaviour of vested interests; and

e. ensure there is a high degree of consumer buy-in to the proposal before introducing it.

52. If the Authority cannot get wide level support or buy in for its proposal it is not likely to be durable or reduce lobbying. If that is the case, the Authority should give serious consideration to retaining the status quo on the basis that it has endured for a number of years and through a number of reviews, and that change in of itself can undermine stability.

53. The most effective way for the Authority to ensure the TPM is durable and stable is simply not to (further) review it. The Authority could adopt the philosophy of Spanish explorer Hernando Cortez who burnt his boats as an effective way of preventing any thought of change in course.

54. Vector **recommends** the Authority adopt a clear and high threshold/burden of proof for major regulatory changes such as to the TPM to help ensure its regulatory decisions are stable and durable.

[14] Appendix 2, Meridian Energy, "Supplemental Submission of Dennis Carlton, Charles Augustine and Gustavo Bamberger, Compass Lexecon, March 8, 2012".

[15] As has been the case since the Electricity Commission was first established.

SUBSTANTIAL PROBLEMS WITH THE SPD METHOD

55. Vector **notes** we do not believe the Authority's SPD method provides a sound basis for determining consumer and producer surpluses for transmission pricing or investment purposes.

56. Vector believes the SPD method would:

    a. overstate consumer benefit and understate generator benefit;

    b. incentivise gaming by generators (to avoid transmission charges);

    c. send a perverse locational signal against use of post-2004 assets (and Pole 2); and

    d. result in subsidies to parties who use electricity during peak periods, creating a need for greater network capacity (exacerbators) i.e. they would not have to pay any more than the average transmission cost.

57. The SPD charges would also create a large amount of volatility in transmission charges. While we do not discuss this point in our submission in any detail we expect it will be of particular concern to gentailers and consumers.

Discriminatory treatment of pre/post 2004 assets

58. The Authority states it "considers that there are efficiency benefits from applying beneficiaries pay to assets already in place, as well as new investments. In particular, this ensures that existing and new assets are charged on a broadly comparable basis ... It should also assist in making the charge more durable since assets providing similar services in different areas and implemented at different times would be charged on the same basis."[16]

59. This statement is simply incorrect.

60. The SPD charges discriminate between pre and post 2004 assets (and Pole 2).

61. Pre-2004 assets will be socialised amongst load and generation, while post 2004 assets (and Pole 2) will be charged on a beneficiary-pays basis.

62. This would send a locational price signal against use of post-2004 assets (and Pole 2) e.g.:

    a. generators could favour generation locations less reliant on post 2004 assets to supply load; and

    b. it could also impact on offer prices (gaming) in the wholesale electricity market, with generators favouring generation assets that are less reliant on post 2004 assets.

63. We agree with Baringa that "market participants will be incentivised to cluster around existing, legacy transmission infrastructure, whether or not that is the best outcome for the system as a whole".[17]

64. To use the Authority's market gardener analogy, the signal that would be sent is that the truck should use old (pre-2004) roads to deliver the potatoes from the Oamaru to Pukekohe, even if use of newer roads would provide a more direct/quicker (more efficient) route.

65. The SPD charges may also disadvantage consumers in areas where there has been inadequate (pre-2004) transmission investment.

66. Auckland consumers would contribute to pre-2004 investments through the residual charges regardless of the extent to which they benefited from these

[16] Paragraph 5.6.28, Electricity Authority, Transmission Pricing Methodology: issues and proposal, 19 October 2012.

[17] Page 39, Baringa, consultancy report for Trustpower, Evaluation of New Zealand transmission pricing review against international experience, 18 February 2013.

investments, but would also incur the cost of the substantial investment currently required to address inadequate transmission investment for supply to Auckland.

67. Under the present postage stamp pricing there is at least a degree of electricity distribution businesses (EDBs) cross-subsidising each other. To some degree the cross-subsidisation cancels itself out. The proposed SPD charges would remove part of the subsidies e.g. subsidies to the Auckland region from elsewhere, but not other parts e.g. Auckland region to elsewhere.

Problems with calculation of benefit

68. Vector doesn't believe the proposed SPD method provides a sound or reliable basis for determining the extent to which different market participants and consumers are beneficiaries.

69. We acknowledge the Authority's point that no methodology is going to be perfect. Vector believes though that the Authority should make an assessment of how imperfect the proposed SPD method is, and whether it is sufficiently reliable (with or without modification) to be relied on to determine beneficiaries pay charges. We believe there are substantive issues with the proposed SPD method, which means it should not be introduced.[18]

70. Vector is concerned that the proposed SPD method overstates consumer surpluses and understates producer surpluses.

71. The results of calculating consumer/producer surpluses if an asset had never been built would be very different from calculating them on the basis that the asset is removed. This reflects the difference between taking a long-term and short-term perspective. The Authority should not assume that if an SPD asset did not exist consumers would be supplied by diesel generation (or generation might not meet demand). More accurately, lower cost generation would have been built if the transmission asset never existed. The Authority's assumption exaggerates the cost saving to consumers from the transmission assets and overstates the lost revenue to generators from the assets.[19]

72. The Authority's short-term approach to determining consumer surplus is akin to determining that a person should pay up to hotel rates for renting a house on the basis that if the house was removed (e.g. burnt down) they may need to stay in a hotel (equivalent to the assumption that if a transmission line was removed supply would be from a diesel generator). This grossly overstates the value of the house. If a long-term perspective was taken, the value would be determined by the best alternative available (e.g. renting another house), which would result in a substantially lower consumer surplus calculation.

73. The Authority has recognised these limitations in the statement that "It may be desirable for the shortage price determination to give some credence to the type of generation investment that would have occurred in the absence of the transmission capacity, rather than a singular assumption of diesel peaking in all circumstances."[20]

74. The Authority effectively assumes the demand curves for electricity are linear/vertical which will overstate consumer surplus. The Authority has

[18] The impact of determining what assets are covered by the SPD charges also raises a number of substantive issues which are discussed in the section of this submission "Discriminatory treatment of pre/post 2004 assets".

[19] If Transpower and the Commission used the diesel generation assumption when assessing grid investment proposals and options it would result in a substantially gold-plated network.

[20] Para 18, E5, Electricity Authority, Transmission Pricing Methodology: issues and proposal, 19 October 2012.

acknowledged that "a more accurate calculation of consumer benefit would be possible if consumer bids were included in SPD charge calculations ..." [21]

75. The Authority could attempt to address these issues by amending the SPD method, but it highlights that the method is highly sensitive to the assumptions adopted and requires a number of contentious judgements to be made.

76. Even if these issues are addressed, there still remains the problem that there would be substantial scope for gaming/tax avoidance by generators at the expense of consumers. Mighty River Power has suggested this could occur due to "the impact of incentives to avoid the SPD charge ... For example, increasing infra-marginal offer tranche prices to minimise the apparent SPD charge benefit ..."[22]

77. Vector agrees with Baringa that:[23]

> The opportunity for generators to game the market to reduce their exposure to transmission charges could result in generators behaving as though in a pay-as-bid market, because they are incentivised to bid as close to the clearing price as possible ... The price-taking nature of load means that load is therefore likely to end up paying a greater share of charges as a result of such gaming.
>
> Generators in an importing region also have the opportunity to increase the charges paid by load in the region by inflating the perceived benefit of the transmission asset to the local load. They can achieve this by increasing their supra marginal offers (in other words, the offers of units that are above the margin that they may have little intention of being dispatched) to increase the market price in the counterfactual SPD run.

Capturing capacity versus through-put services

78. The Authority's SPD method is "beneficiary-lite", which no SPD charges for benefits in excess of average transmission cost in any half-hour, even though this could result in SPD charges being less than the cost of the asset even where benefits exceed cost. The average transmission cost cap effectively means that beneficiaries would be charged for through-put services, but not for capacity services. This seems odd to Vector given the weight the Authority has put on the SPD charges improving efficiency of transmission investment.

79. Consider the following two parties, A and B:

    a. Parties A and B obtain equal benefit from an asset;

    b. Party A receives the benefit uniformly over the year. Party B receives the benefit predominantly during peak periods where the usage is greatest; and

    c. Party B's peak usage results in a need for larger transmission capacity i.e. Party B is an exacerbator.

80. The Authority has stated that "both parties should pay equal transmission charges if they receive equal benefit", though acknowledges the SPD cap would undermine this.[24]

81. In this situation, even though Party A and B receive the same benefits from an asset, and Party B is an exacerbator, the (average transmission cost) cap on SPD charges will result in Party A paying substantially more for the asset than Party B. The SPD charges work to dampen or preclude peak usage signals. Vector is of the view Party B should pay more than Party A, not the same (as the Authority has

[21] Question 29, Page 26, Electricity Authority, TPM Q&A workshop submitted questions and responses 19 February 2013.

[22] Question 48, page 45, Electricity Authority, TPM Q&A workshop submitted questions and responses 19 February 2013.

[23] Page 44 Baringa, consultancy report for Trustpower, Evaluation of New Zealand transmission pricing review against international experience, 18 February 2013.

[24] Question 8, page 8, Electricity Authority, TPM Q&A workshop submitted questions and responses 19 February 2013.

suggested) and not less (as proposed by the Authority). If the Authority wants to send dynamically efficient pricing signals they need to reflect the (long-run) costs that network usage imposes i.e. exacerbator pays rather than beneficiaries pay.

Stylised example of the problems with beneficiary pays compared to exacerbator pays

Assumptions:

- 12 periods: 1 … 12.
- Party A benefit = Party B benefit = $12.
- Total benefit = $24.
- Party A Benefit_N = $1
- N = Periods 1 … 12
- Party B Benefit_{N-1} = $0
- Party B Benefit_{12} = $12
- Transmission Asset Cost (no peak usage) = $8
- Transmission Asset Cost (with Party B peak usage) = $18.

The pricing outcome under the Authority's SPD charges will be:

- Party A pays = $11.12[25]
- Party B pays = $1.38[26]
- Total charges = $12.50
- Revenue shortfall = $5.50

- If the Residual charge is fully recovered from Party B, Party B pays $6.88

Compare these charges to the incremental cost (IC)/stand-alone cost (SAC) of supplying Parties A and B:

- Party A IC = $0
- Party A SAC = $8
- Party A SPD charge ($11.12) > SAC ($8)
- Party B IC = $10
- Party B SAC = $18
- Party B SPD charge ($1.38) < IC ($10) < SAC ($18)
- Party B SPD + Residual charge ($6.88) < IC ($10) < SAC ($18)

Implications of SPD charges:

- Poor application of beneficiary pays: Party A and B receive equal benefit but Party A pays $11.12 and Party B pays $1.38.
- Even worse application of exacerbator pays:
  - Party A with smooth usage is penalised/charged in excess of stand-alone cost.
  - Party B (the exacerbator) is subsidised/charged substantially less then incremental cost.
- Transmission asset is economic (Benefit ($24) > Cost ($18)) but SPD charges do not recover cost.

82. The Party A and B example is broadly akin to the Authority's estimates for NIGUP, Pole 3 and the Wairekei Ring:

    a. NIGUP: Mighty River Power and Genesis Energy receive a very large proportion of the benefits in a small period of time, which would not be reflected in the SPD charges because of the average cost cap (Figure 11);

[25] $1 for periods 1 ... 11. 12c for period 12 (reflecting that Party A receives 7.7% of the benefit).

[26] $0 for periods 1 ... 11. $1.38c for period 12 (reflecting that Party B receives 92.3% of the benefit).

b. Pole 3: Similarly, Meridian Energy's benefits from Pole 2 are very volatile with a number of spikes (Figure 13); and

c. Wairekei Ring: A very high proportion of the benefits are captured by Mighty River Power and Genesis Energy within a single week (Figure 14).

83. The Authority notes "under the proposal parties may also be subject to RCPD and RCPI charges and that parties with more injection or offtake at the peaks used to calculate the charge would pay more"[27] This appears to be in conflict with the Authority's view that the residual charge "should, to the extent possible, be incentive neutral if other charges are introduced that provide incentives for more efficient investment" [28] and "It would ... be appropriate for the residual charge to incorporate a price signal only where more efficient charging methods would not be applied to new investments".[29]

84. Further, as the utilisation of the asset increases the SPD component of the charges would increase and the Residual component (the peak charge) decline. This is the opposite of what should happen to a peak charge. It would also mean that where an asset is highly utilised (high cost recovery through the SPD charges) the inherent cross-subsidy to peak-users from the SPD method will be made even worse. Consider the above stylised example but with greater network usage (reflected in higher Party A/Party B benefits).

Stylised example of the problems with beneficiary pays compared to exacerbator pays: Version II

Assumptions:

- Party A benefit = Party B benefit = \$18.
- Total benefit = \$36.
- Party A $Benefit_N$ = \$1.50
- Party B $Benefit_{N-1}$ = \$0
- Party B $Benefit_{12}$ = \$18

The pricing outcome under the Authority's SPD charges will be:

- Party A pays = \$16.62
- Party B pays = \$1.38.
- Total charges = \$18
- Revenue shortfall = \$0 (no Residual charge)

Compare these charges to the incremental cost (IC)/stand-alone cost (SAC) of supplying Parties A and B:

- Party A SPD charge (\$16.62) > SAC (\$8)
- Party B SPD charge (\$1.38) < IC (\$10) < SAC (\$18)

Implications of SPD charges:

- Poor application of beneficiary pays: Party A and B receive equal benefit but Party A pays \$16.62 and Party B pays \$1.38.
- Even worse application of exacerbator pays:
  - Party A with smooth usage is penalised/charged in excess of stand-alone cost.
  - Party B (the exacerbator) is subsidised/charged substantially less then incremental cost.

[27] Question 8, Page 7, Electricity Authority, TPM Q&A workshop submitted questions and responses 19 February 2013.

[28] Paragraph 5.6.72, Electricity Authority, Transmission Pricing Methodology: issues and proposal, 19 October 2012.

[29] Paragraph 5.6.71, Electricity Authority, Transmission Pricing Methodology: issues and proposal, 19 October 2012.

85. We recognise though that the Authority faces the problem that the higher the perspective amount of SPD charges generators face the greater the incentive they have to game the wholesale electricity market (tax avoidance). We do not think the best solution to this is to introduce a beneficiary-lite approach. It seems to us to be an inherent flaw with the proposed SPD method.

Risk of pass-through undermining beneficiaries pay

86. Vector **notes** we support the Authority's position that pass-through of SPD charges is undesirable. The Authority's claim it is "very unlikely" there would be price shock from SPD charges on generators "because the charge reflects private benefits from the generator accessing a high-price area, not from increasing prices in an area it exports to"[30] is spurious though. Whether there would be higher wholesale electricity prices depends on whether the transmission charges to generators would impact on their bidding behaviour, not on whether or not they reflect "private benefits".

87. Beneficiaries pay will only be achieved if the party that benefits ultimately bears the cost i.e. absorbs it within their consumer or producer surpluses. We agree with the Authority's statement "that the ideal would be where the parties are subject to beneficiaries pay (the SPD charge) ... the incidence on parties would be according to their assessed benefit ..."[31]

88. It is not sufficient for the beneficiary to pay the cost if they are simply able to pass-through the cost onto other parties. The scope for pass-through, consequently, has substantial implications for whether beneficiaries pay is successful or not.

89. One of the key benefits of adopting beneficiaries pay, which the Authority has not recognised in the TPM Position Paper, is that it can be used to extract producer surpluses to pay for transmission costs; thereby reducing the charges consumers will ultimately need to incur. (This could be thought of as a reverse form of price discrimination suppliers used in various markets, notably airlines, to extract consumer surpluses.) The SPD charges should simply be used to reduce generators' producer surpluses/economic rents.

90. This is what broadly happens with the current HVDC charges. The current HVDC charge has the notable advantage that the wholesale electricity prices South Island generators receive are generally capped by North Island generation, so the ability of South Island generators to pass on the HVDC charges through higher prices is significantly limited. (This was reflected in TPAG's calculation of the impact on wholesale electricity market prices if load is paid for the HVDC link rather than South Island generators. TPAG's calculation of the changes did not include any reduction in prices as a consequence of the $150 million per annum HVDC link cost saving to South Island generators.)

91. If competition in the wholesale market is not strong enough there is also a risk generators will simply be able to pass-through their transmission costs by way of higher wholesale electricity costs. Generators could receive the benefit of the transmission grid, but still avoid contributing to the cost. To this end, the Electricity Networks Association has expressed concern that the "electricity market … appears beset with concerns about generator market power".[32] The Authority's consideration of net pivotal generator scenarios also gives rise to concerns about how competitive the generation market is.

[30] Slide 27, Electricity Authority, TPM Issues and Proposal Discussion Forum, 19 October 2012.

[31] Question 59, pages 51-52, Electricity Authority, TPM Q&A workshop submitted questions and responses 19 February 2013.

[32] Paragraph 10, Electricity Networks Association, Response to TPAG's Transmission Pricing Discussion Paper, 12 July 2011.

92. Vector **recommends** the Authority assess:

a. the extent to which generators would pass-through: (i) the reduction in HVDC charges; and (ii) the increase in general (SPD and residual) transmission charges; and

b. what implications this has for its proposed TPM, including rejection of MWh transmission charges for generation.

THE AUTHORITY'S VIEWS ON HVDC CHARGES

94. Vector **recommends** the Authority: (i) retain the current HVDC charges to South Island generators; (ii) reject the TPAG majority recommendation; and (iii) not include the TPAG majority recommendation as an alternative option to its proposed TPM.

95. Vector does not agree with the Authority's assessment of supposed problems with the current HVDC charges. The Authority's assessment draws on the previous deficient work by TPAG. We draw the Authority's attention to the previous criticisms of the TPAG work, by ourselves and other parties (including the review of the TPAG consultation paper by Dr Darryl Biggar).

96. The HVDC link should be treated separately from the core interconnection (HVAC) network. The HVDC link's function is to link two regional grids, the North Island and the South Island. In many overseas jurisdictions, including Australia, the USA and India, HVDC assets are used to link regional grids. In other words, the AC regions may be treated as core grids, while HVDC is seen as a different class of asset which moves power between regions.

HVDC charges as a partial locational signal

97. A related argument is that cost causation is hard to identify in the HVAC core grid, but relatively easier to identify in the HVDC link. In the HVAC grid, power flows and upgrade requirements are complex products of load and generation decisions across the entire grid, with power able to take multiple routes and change flow direction on any part of the system. In this situation, giving incentives to grid users to encourage efficient behaviour is genuinely difficult. In contrast, the size and timing of future upgrade investments in the HVDC are clearly driven by forecast peak flows. This makes it easier to identify the behaviour which drives upgrade requirements, and to send price signals which can influence that behaviour.

98. Vector has previously observed that "the current HVDC link pricing, at least, provides a pragmatic form of partial locational pricing, with locational pricing limited to a North-South Island pricing signal".[33] Consistent with this, Mighty River Power has pointed out "the current (partial) locational price signal with the HVDC pricing … is probably the easiest locational price signal to implement".[34]

99. In order for the Authority to determine the locational signals provided by the current HVDC charges are inefficient it would need to determine: (i) the long-run marginal cost (LRMC) of electricity transmission from the South Island to the North Island; and (ii) that the current HVDC charges exceed LRMC.

100. It is not sufficient to determine that current HVDC pricing would result in higher cost (North Island) generation investment, compared to (South Island) generation than would occur absent the HVDC charges. This reflects a static efficiency perspective where transmission is treated as sunk so they can be ignored.

101. The Authority rightly points out that "new investment in generation in the South Island could require further investment in the HVDC link".[35] In Vector's view, if the Authority adopted a dynamically efficient approach to transmission pricing it would signal these future cost implications of decisions to invest in South Island generation.

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[33] Paragraph 7, Vector, Submission to the Electricity Authority on the Decision-making and economic framework for transmission pricing methodology review, 24 February 2012.
[34] Paragraph 4, Mighty River Power, Transmission Pricing Review: High-level options, 8 December 2009.
[35] Paragraph 4.3.10(a), Electricity Authority, Transmission Pricing Methodology: issues and proposal, 19 October 2012.

102. Removal of current HVDC charges could (conceivably) result in lower (short-term) cost (South Island) generation plant being built, but at the (longer-term) cost of higher transmission costs. A dynamically-efficient approach would seek to minimise generation plus transmission costs in the long-run.

103. A move from South Island generators paying for the HVDC link to the costs being split between load and generators would also result in a substantial adverse price impact for all consumers. The extent of this cost depends on the extent to which the current HVDC charges result in higher wholesale electricity costs. Expressed another way, it depends on the extent to which a reduction in HVDC charges to South Island generators would result in lower wholesale electricity costs that would offset the proposed new HVDC charges to consumers. Vector has submitted on this point to the TPAG.

104. We believe the South Island generators' ability to pass-through current HVDC charges into higher wholesale electricity prices is constrained and therefore the proposed change to HVDC charges would have substantial negative impact (major windfall gains) on consumers (South Island generators). The Authority needs to assess this impact before it can safely conclude there should be a change in HVDC pricing.

105. Vector's submission to TPAG on this matter made the following comments:[36]

> Consumers would face large, certain and immediate increases in transmission charges, but only receive small and uncertain reductions in wholesale electricity prices in the future. The purported efficiency benefits are not anywhere near being adequate to compensate consumers for this wealth transfer. According to TPAG the net effect would be an increase in prices to consumers of $0.9/MWh

106. Vector's submission to the TPAG discussed how a reduction in HVDC costs to South Island generators would not be passed-through to consumers (which accorded with TPAG's own assessment) resulting in a substantial wealth transfer from consumers to generators. The same would apply to a switch from the current HVDC pricing to recovery of HVDC charges through SPD/Residual charges.

HVDC and beneficiaries pay

107. Marsden Jacob Associates' application of beneficiaries pay, using the SPD method, shows that the benefits South Island generators receive from Pole 2 and 3 combined is approximately 7 times larger than the annualised asset cost.[37] (A similar statement could be made if the HVDC link was considered in aggregate, including Pole 3.)

108. While the analysis suggests a low value for Pole 3, in its own right, Marsden Jacob Associates make the point that "The difference in benefits between Pole 2 and Pole 3 could be considered as due to definition only. Given that both assets provide a similar service, why should commissioning date determine that one has benefits and the other does not (under the SPD methodology)."[38]

109. It should be noted that, based on our comments on the SPD charges, the SPD method may actually understate the benefit of the HVDC link to generators.[39]

110. This highlights that the current HVDC charges could be thought of as a form of beneficiaries pay (albeit a form that favours the long-term interests of consumers, rather than generators). Beneficiaries pay does not need to be symmetric.

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[36] Paragraph 6b, Vector, Submission to the Electricity Authority on the TPAG Transmission Pricing discussion paper, 14 July 2011.

[37] Table 3, Page 28, Marsden Jacob Associates, Review of Transmission Pricing Methodology, 1 March 2013.

[38] Pages 29 and 30, Marsden Jacob Associates, Review of Transmission Pricing Methodology, 1 March 2013.

[39] Refer to the section of this submission "Problems with calculation of benefit".

Authority claims about stronger incentives to make trade-offs

111. The Authority has pointed out that "new investment in generation in the South Island could require further investment in the HVDC link".[40] However, the Authority then expresses concern that "This would lead to HVDC charges for all South Island generators without any commensurate increase in their private benefit".[41]

112. This statement is a good illustration of exacerbator versus beneficiaries pay and why the Authority should prefer exacerbator pays.[42] If the benefit of investing in the South Island, presumably lower cost electricity generation, does not outweigh the cost, including the requirement for future investment in the HVDC link, then it would be inefficient for that generation to go ahead.

113. In order for market participants to have "stronger incentives to make trade-offs between the benefits and the costs of transmission investment" they need to actually bear the (full) cost of the transmission investment e.g. pay LRMC. If a market participant only pays for an asset to the extent they benefit from it, then they would have no basis for, or reason to, make trade-offs between costs and benefits. Under beneficiaries pay they would know the amount they would pay for using the asset would not exceed the benefit they receive, regardless of whether the asset is economic or total benefits exceed the total costs. This means that whether the investment is uneconomic would be irrelevant to them or their decisions.

114. The Authority's market gardener analogy is worth considering in this context.

115. If the Oamaru market gardener has to pay the full cost of transport, (s)he would only sell potatoes in Pukekohe if the higher price from selling potatoes in Pukekohe exceeds the transport cost. If, however, the Oamaru market gardener's transport costs are capped at the benefit (s)he receives from selling in Pukekohe it would be worthwhile to sell there as long as Pukekohe prices exceed Oamaru prices. It would not matter to the Oamaru market gardener whether the benefit they receive outweighs the transport cost. If it does not the transport cost would be subsidised by consumers.

116. Similarly, if South Island generators and potential South Island generators do not incur the full cost of their decisions,[43] e.g. they only pay to the extent they benefit from the upgrade, then they would have no incentive to adjust their behaviour to avoid uneconomic upgrade of the HVDC link. Generation costs may be minimised in the short-run, but generation plus transmission costs would not be minimised in the long-run.

117. This is not consistent with outcomes in workably competitive markets. As the Authority has noted "if the market is workably competitive and the market determines the allocation of the costs of transmission the likely outcome is that most of the costs of transmission above those incurred by the 'best' located generator, would be borne by generators, and not consumers."[44]

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[40] Paragraph 4.3.10(a), Electricity Authority, Transmission Pricing Methodology: issues and proposal, 19 October 2012.
[41] Ibid.
[42] Although beneficiaries pay is a more dominate feature of the Authority's proposed TPM.
[43] Vector does not make a distinction between existing and new generation in this respect as it is the aggregate level of generation that determines whether new transmission investment is required i.e. the new investment would not be required following new generation if the existing South Island generation was not already in place. Existing South Island generation has no entitlement or capacity right to pre-existing HVDC link.
[44] Paragraph 4.1.14, Electricity Authority, Consultation Paper, Decision-making and economic framework for transmission pricing methodology review, 26 January 2012.

118. Vector reiterates the following comments made to TPAG on this matter:[45]

> It can be the case, in a workably competitive market, that consumers pay directly for the transport of products they purchase. Anyone in New Zealand that buys goods from Amazon will be acutely aware that transport costs can be a very large proportion of the total cost of the goods purchased. Consumers will only purchase goods overseas or online if the cost saving on the price of the good is (more than) enough to fully compensate for the transport costs, otherwise they would be better off buying in New Zealand. Why should consumers of electricity be treated differently and be expected to pay transport costs resulting in more expensive electricity?
>
> Vector knows of no other market where the consumer is forced to subsidise the transport costs of remote suppliers in addition to paying the commodity price of the local supplier.

Authority claims about participation in decision-making

119. The Authority claims that a problem with the current HVDC charges is "consumers in both the North and South Island having an incentive to lobby for future HVDC link upgrades, even if an upgrade is uneconomic ..." [46] The discussion above shows the Authority's proposals would not change this. Given the SPD charges a market participant would incur cannot exceed the benefit they receive from the asset they may have incentives to support the investment regardless of whether it is economic or not.

120. Regardless though, if market participants perceive that the TPM is not enduring, as the Authority has suggested, then they would know there is a risk they would incur charges for assets in the future that they do not presently incur. It would be cavalier for a market participant to advocate for an uneconomic investment it would benefit from, in such circumstances.

121. Even if some market participants have incentives to support uneconomic transmission investments, for this to result in inefficiency would require: (i) Transpower to propose uneconomic investments; and (ii) for the Commerce Commission to be susceptible to making decisions based on unjustified lobbying and to approve uneconomic transmission investments/upgrades it would otherwise have rejected. If the Authority believes this is the case, it should quantitatively assess the extent to which: (i) the Electricity Commission and/or Commerce Commission approved grid upgrade proposals they should have rejected; and (ii) parties that would not incur the cost of those investments under the current TPM lobbied for them. The Authority should also discuss any concerns it has about the Commerce Commission's decision making process for approval of transmission investment directly with the Commission.

122. Vector **notes** that:

    a. we do not consider that the Authority has demonstrated the current HVDC charges result in dynamic inefficiency;

    b. the Authority's analysis of the current HVDC charges does not provide a sound basis for justifying changes to the TPM; and

    c. in order for the Authority to demonstrate whether the current HVDC charges are dynamically inefficient, it would need to determine that they exceeded the LRMC of electricity transmission from the South Island to the North Island.

Transpower's economic value accounts

123. The impact of the change in HVDC charges could be exacerbated depending on how Transpower's economic value accounts are treated. Transpower has stated

[45] Paragraphs 81 and 82, Vector, Submission to the Electricity Authority on the TPAG Transmission Pricing discussion paper, 14 July 2011.

[46] Paragraph 4.3.10(b), Electricity Authority, Transmission Pricing Methodology: issues and proposal, 19 October 2012.

that "through the application of the EV adjustment Transpower expects to reduce the revenue required from AC customers to lower the AC balance over time and increase the revenue required from HVDC customers to progressively recover the HVDC balance."[47]

124. As at 30 June 2012, the HVAC economic value account balance is NZ$52.1 million which must be returned to customers, and the present HVDC economic value account balance is NZ$104.1 million which must be recovered from customers, by the end of RCP2 (31 March 2020).[48] The Authority should avoid applying the proposed TPM retrospectively to these over/under-payments to avoid a retrospective wealth transfer from consumers to generators (particularly South Island generators). Failure to do so would clearly be detrimental to consumers, with no offsetting efficiency benefits.

125. Vector **recommends** any deficits/surpluses in Transpower's economic value accounts remain tied to existing customers (EDBs for the HVAC account and South Island generators for the HVDC account) as part of a phase in of the Authority's proposed TPM.

[47] Paragraph 33, Transpower, Commerce Act (Transpower Thresholds) Notice 2008 Compliance Statement Assessment Date (30 June 2009), September 28, 2009.

[48] https://www.transpower.co.nz/sites/default/files/publications/resources/annual-regulatory-report-2011-2012.pdf

ALTERNATIVE TPM OPTIONS

126. Vector is not persuaded there is a need to review the TPM, or for fundamental changes to be made. We reiterate our view that "the existing transmission pricing approach is now long-standing and well understood within the industry. It has been reviewed … and, broadly, found to be sound … because it is based on generally good pricing principles and in line with international best practice".[49] Further, "It is not clear to Vector that the current approach is failing, in a material way, to deliver efficient outcomes or that any alternative approach would produce a material improvement in efficiency."[50]

127. If the Authority continues its review of the TPM beyond the current consultation, Vector believes it should consider a wider range of transmission pricing options in more detail than has been apparent from the TPM Position Paper:

    a. There are a wide range of options it should consider to mitigate against some of the negative impacts of the proposal. (Refer to the table below.)

    b. There are a number of components of the TPM Proposal that the Authority could consider adopting as refinements to the status quo (enhanced status quo) which we believe would reflect a logical evolution of the methodology and that would enhance efficiency.[51]

    c. If the Authority is going to continue to consider making major changes to the TPM, the review should also include whether to extend locational-pricing beyond (short-term) nodal pricing signals, connection charges and the current HVDC charge to the full transmission grid.[52]

    d. The Authority should not consider the TPAG majority view any further. The term "TPAG majority" is somewhat of a misnomer given that the majority of the industry did not support this option, and there were few parties that supported the TPAG majority that were not on the TPAG (being MainPower, NZWEA and Vestas).

Individual components of the proposal that merit further consideration

128. Vector **recommends** that if the Authority continues its review of the TPM then it include an "enhanced status quo" option, which consists of: (i) fine-tuning the definition/treatment of connection charges; (ii) Transpower retaining transmission rentals (with the rentals being used to reduce Transpower's overall revenue requirement); (iii) corrected power factor requirements; (iv) charging retailers directly for transmission services; and (v) widening the tax base to generators by charging generators for interconnection costs (while retaining HVDC charges to South Island generators).

129. The enhanced status quo would amount to a fine-tuning of the current TPM rather than a fundamental change. As a consequence, Vector believes the threshold to justify the changes, or other changes of a similar magnitude, need not be as high as it should be for the Authority's proposed TPM.

130. The enhanced status quo is basically the Authority's TPM proposal minus the SPD charge proposal with retention of the current allocation of the HVDC cost.

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[49] Paragraph 5, Vector, Submission on Regulatory Framework for the Transmission Pricing Methodology, 11 March 2011.

[50] Paragraph 6, Vector, Submission on Regulatory Framework for the Transmission Pricing Methodology, 11 March 2011.

[51] Refer to the section below "Individual components of the proposal that merit further consideration".

[52] Refer to the section below "Locational pricing".

131. Each of the components of the Authority's TPM proposal is discrete so any one or any combination could be introduced.[53]

Fine-tuning the definition/treatment of connection charges

132. Vector has no objection to these proposed changes.

Transpower retaining transmission rentals

133. Vector supports Transpower retaining residual transmission rentals and auction income from locational hedges (transformed rentals) and netting them off its revenue requirement.

134. We believe the proposal would be improved if the transformed rentals are not tagged to individual (SPD) assets. The transformed rentals could then be used to reduce the revenue recovered from the remaining components of a pricing methodology i.e. they would reduce the Residual charges rather than the SPD charges.

135. The use of transformed rentals to reduce Transpower's revenue requirement has a number of advantages including: (i) reducing nodal price distortions through allocation of rentals; (ii) lowering the revenue Transpower needs to recover through an inevitably imperfect TPM; (iii) reducing administrative costs caused by industry participants having to pass the rentals along the supply chain; and (iv) consumers benefitting from a real reduction in transmission charges. Consumers would avoid "stickiness" issues with transmission rentals not being passed through to them by unregulated EDBs and retailers (they will instead be implicitly passed through by way of lower transmission charges).

136. Castalia also make the point that linking rentals to SPD assets will have the perverse impact of "lower[ing] transmission charges in those areas where wholesale energy prices are raised by transmission constraints"[54] which further supports our view that rentals should be tagged to the individual (SPD) assets that generated them.

137. Vector **recommends** the residual transmission rentals and auction income from locational hedges (transformed rentals) be netted off Transpower's aggregate revenue requirement and not tagged to individual (SPD) assets.

Power factor requirements

138. Amending power factor requirements from 1 to 0.95 on a lagged basis recognises that a power factor of 1 is not practicable. This is a non-controversial issue. There is no reason to wait for a final decision or implementation of the proposed TPM.

139. The change to the power factor requirements would require a change to the Connection Code (specifically clause 4.4(a)(2)(i)) not to the TPM so it does not need to be wedded to the TPM review/amendment process/time-frame. Vector **recommends** the Authority initiate the process set out in clauses 12.18 to 12.26 of the Electricity Industry Participation Code to amend the power factor to 0.95 on a lagged basis immediately following submissions on the proposed TPM, and delink the power factor amendment from proposals to amend the TPM.

Charging retailers directly for transmission services

140. When considering whether Transpower should charge retailers directly or EDBs that would then on-charge retailers, one question that should be considered is

[53] With the exception that if the SPD charges are introduced the Authority would need to also introduce direct charging of retailers, as regulated EDBs could not manage the SPD charge volatility under the existing DPP arrangements.

[54] Page 20, Castalia, Report to Genesis Energy, Review of the Electricity Authority's Cost Benefit Analysis of the Proposed Transmission Pricing Methodology, 25 February 2013.

what efficiency benefit, if any, is there from EDBs acting as an intermediary for transmission services?

141. Vector sees no advantage in EDBs repackaging transmission charges for electricity retailers. All it achieves is that transmission pricing signals get diluted or distorted by the time they reach the retailer.

142. If EDBs are able to repackage transmission charges and reflect them in line charges, as at present, there is no obvious reason why electricity retailers are not capable of doing the same. Any objection would effectively be an admission that those retailers consider EDBs more capable of managing transmission costs than they are.

143. The comments Vector made in relation to EDB use of GXP pricing are equally valid in relation to electricity retailers directly facing transmission charges:[55]

> No firm in any market faces costs conveniently packaged in a way that could be directly passed on, without any rebundling, to their own customers. Converting a series of costs, which include estimated and uncertain costs, into prices is a normal task and firms who are not capable of doing this should not be in business.
>
> Air New Zealand and Jetstar, for example, incur fees for landing in New Zealand domestic airports which are based on the number of their airplanes that land at an airport. The landing fees are not based on the number of passengers in the airplane. The airlines, when setting their ticket prices, need to make judgments about how many seats they will full on flights and, therefore, what cost needs to be added to their ticket prices in order to recover these costs. This does not create a barrier to Air New Zealand or Jetstar, or any other airline for that matter, competing against each other, or result in less competition.
>
> Likewise, electricity retailers set their end-user tariffs on the basis of a combination of fixed and variable pricing. This requires their commercial customers to estimate what they expect their electricity bill will be and how many customers or sales they will have in the same period to work out what prices would be needed to recover these costs.

144. As with the matter of GXP pricing, EDBs are actually able to unbundle transmission costs from their prices and instead pass the transmission costs to retailers directly through a cost allocation mechanism. Vector has considered such an option and has consulted with electricity retailers on the proposal.[56] (Following submissions from gentailers this proposal is on hold.)

145. Vector **notes** we consider it more efficient for electricity retailers to incur transmission charges directly, rather than EDBs acting as an intermediary/billing agent for Transpower.

146. We have sympathy though for retailer concerns about the inconsistency of pricing approaches that could arise from EDBs choosing to opt in or opt out of the residual charge (and some, potentially, changing their approach over time or opting in for some nodes but not for others). Vector would support mandating that all EDBs opt out.

Impact of Part 4 of the Commerce Act

147. The Commerce Commission's default price path (DPP) requires regulated EDBs to forecast transmission costs and set prices ex-ante to recover these forecast costs. Regulated EDBs must then demonstrate to the Commission ex-post that their revenues, including pass-through of transmission costs, did not exceed those allowed under the DPP. This puts regulated EDBs in a position where they risk regulatory non-compliance due to the requirement to forecast transmission costs.

148. Vector breached the price path once as a result of variances between actual and forecast transmission costs.

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[55] Paragraphs 75 - 77, Vector, Submission to Electricity Commission on More standardisation of distribution arrangements: Proposed amendments to the Code, 22 June 2011.

[56] Vector, letter to All Electricity Retailers, Consultation on Electricity Price Changes: 1 April 2013, 12 November 2012.

149. EDBs must recover fixed transmission costs through predominantly variable prices (for example, as a result of the Low Fixed Charge Regulations). If, for example, variable consumption volumes are less than expected in a year, EDBs will under-recover the fixed costs that they face. Standard EDB contracts and the DPP effectively restrict EDBs to making a single price change no more than once per year or once in any 12 month period; therefore EDBs are unable to adjust their prices part way through a pricing period to ensure they will recover their costs. Furthermore, the DPP regime is such that regulated EDBs cannot recover any revenue shortfall in future pricing periods.

150. Vector recognises that one of the benefits of the Authority's proposal is that it largely eliminates this risk; at least for regulated EDBs selecting to opt out. It would also be necessary to charge retailers directly if the Authority introduces the proposed TPM as:

    a. Electricity retailers and generators have experience with SPD through the operation of the wholesale electricity market. EDBs do not.

    b. The proposed SPD and Residual charges would, if borne by EDBs, create revenue volatility that could not reasonably be managed by regulated EDBs within the Commerce Commission's price caps under Part 4 of the Commerce Act 1986.

151. Electricity retailers (subject to competitive pressures) have greater freedom to change prices during the year and are able to ensure revenues reflect the underlying risks.

Widening the tax base to include all generators

152. Vector supports charging generators for interconnection costs, as well as the cost of the HVDC, but the allocation to them needs to be as predictable as possible and unavoidable so they do not change behaviour.

153. Vector's submissions on the Decision Making and Economic (DM&E) Framework advocated that even if market based or locational pricing were rejected, or were not fully adopted, the Authority should consider applying charges to both load and generators.[57]

154. Vector also noted that "Unless consumers are the sole (100%) beneficiaries of the AC network, and generators impose no costs (exacerbation) on the AC network, charging consumers for the entire AC network is likely to fail the exacerbator and beneficiary pays tests".[58]

155. Applying a postage stamp for residual revenue to both load and generation recognises that: (i) even an arbitrary (50/50) allocation of transmission costs between generation and load would improve alignment of the TPM with exacerbator/beneficiaries pay; and (ii) it is generally the case that the broader the tax base the less distortionary the tax will be.

156. Vector **notes** we agree with the Authority that "in order to achieve the objective of broadening the base across which the charge is levied and lowering the rate it would be desirable for generators to fully absorb the residual charge".[59]

[57] For example, see paragraph 19, Vector, Cross-Submission to the Electricity Authority on the Decision-Making and Economic Framework for Transmission Pricing Methodology Review, 12 March 2012.

[58] Paragraph 10, Vector, Submission to the Electricity Authority on the Decision-making and economic framework for transmission pricing methodology review, 24 February 2012.

[59] Question 59, pages 51 - 52, Electricity Authority, TPM Q&A workshop submitted questions and responses, 19 February 2013.

Locational pricing

157. We were surprised and disappointed the TPM Proposal Paper made no mention of locational pricing.

158. Vector reiterates the statement we made in response to the Authority's consultation on its decision making and economic framework that "full locational-pricing would best satisfy the Authority's … decision-making framework, and would align with a market-based approach, as well as the exacerbator/beneficiaries pay principles."[60] This is clearly demonstrated by the Authority's market gardener analogy.

159. It is notable that the Authority has stated it "does not consider that reliance on the spot market is sufficient to promote efficient transmission investment ... loss and constraint rentals are insufficient to fully fund grid investment, and the locational signals are therefore also insufficient."[61]

160. Mighty River Power alluded to the matter of locational pricing in their pertinent question as to "What analysis has been undertaken that gives the Authority confidence that the signals that will be sent by the combined SPD / Residual charge would approximate LRMC charge for transmission?" [62]

161. The assessment Vector has made of the SPD charges is that they would send the wrong type of pricing signals (i.e. to use pre-2004 assets and assets during peak periods), rather than signalling (the long-run) implications of location and capacity constraints.

162. We do not agree with the Authority's claim its TPM proposal "promotes efficient investment by generation and load, as allocating charges to beneficiaries means they will face the transmission cost implications of their investment decisions".[63] This statement would be more accurate in relation to locational pricing, under which generators and load would incur the full cost of their decisions without a cap at the level of their benefit.[64]

163. Vector reiterates that the merit of locational pricing of the transmission grid is a matter that should be tested empirically and depends, critically, on the extent to which generation investment decisions can impact on transmission investment needs over the long term. The analysis that has been conducted previously by the Authority (e.g. under the auspices of TPAG) was flawed and should not be relied on.

164. Vector agrees with Mighty River Power that the merit of locational pricing depends on factors including:[65]

    a. "If the transmission system was gold-plated (over-capacity) and little transmission investment was likely to be needed in the foreseeable future there would be little benefit in sending dynamic signals."

    b. "What are the potential benefits from locational pricing signals, in terms of improved investment and consumption decisions? ... The greater the range

[60] Paragraph 6, Vector, Submission to the Electricity Authority on the Decision-making and economic framework for transmission pricing methodology review, 24 February 2012.

[61] Question 5, page 6, Electricity Authority, TPM Q&A workshop submitted questions and responses 19 February 2013.

[62] Question 35, page 31, Electricity Authority, TPM Q&A workshop submitted questions and responses 19 February 2013.

[63] Paragraph 5.6.55(b), Electricity Authority, Transmission Pricing Methodology: issues and proposal, 19 October 2012.

[64] As previously noted, the cap means that a generator or load may benefit from transmission investment even it if is uneconomic.

[65] Paragraph 9, Mighty River Power, Transmission Pricing Review: High-level options, 8 December 2009.

of generation options (and locations) the greater the benefits of sending dynamic signals may be."

c. "How much of the potential benefits of a move away from postage stamp pricing to locational pricing are already captured by the HVDC's North Island-South Island locational signal?"

165. Castalia made similar observations stating that "Dynamic efficiency is important in areas where there is growth in electricity usage and new investment required in transmission capacity" and "... dynamic efficiency considerations should prevail – but only if the transmission prices charged influence that new investment ..."[66]

Alternatives the Authority should consider

166. Vector **recommends** the Authority give consideration to alternative transmission pricing options including, but not necessarily limited to: (i) an enhanced status quo; and (ii) variations on the TPM proposal;[67] and (iii) locational pricing/Tilted Post Stamp. As previously noted, the Authority should not give further consideration to the TPAG majority recommendation.[68]

Alternative TPM options	
Enhanced Status Quo	Fine-tuning the definition/treatment of connection charges.
	Transpower retention of transmission rentals i.e. that the residual transmission rentals and auction income from locational hedges (transformed rentals) be netted off Transpower's aggregate revenue requirement and not tagged to individual (SPD) assets.
	Charging retailers directly for transmission services.
	Introducing a power factor of 0.95 lagged.
	Maintain HVDC/widen postage stamp for interconnection to include generation (as per the Authority's Residual charge proposals).
Variations on the Authority's proposed TPM	Adopt a lagged/weighted average calculation of consumer/producer surplus for allocation of SPD charges.
	When calculating consumer/producer surplus take a long-run approach that considers what would happen if the asset was never built rather than a short-run approach that determines what would happen if the asset was removed e.g. the Authority should assume if a transmission asset was not in place any shortfall in transmission capacity would be made up by the lowest viable cost generation option in the region and not diesel generation.
	Set the SPD charges for load and generation in an asymmetric manner e.g. extracting full producer surplus from the SPD charges and only charging load where the SPD charges to generators are not sufficient to recover the full cost of the SPD assets or where private benefits of assets covered by SPD charges exceed cost, reducing retailer (consumer) share of the SPD charges but not the generator share.

[66] Page 9, Castalia, Report to Genesis Energy, Review of the Electricity Authority's Cost Benefit Analysis of the Proposed Transmission Pricing Methodology, 25 February 2013.

[67] See table below.

[68] Refer to the section of this submission "The Authority's views on HVDC charges". Refer also to Vector, Submission to the Electricity Authority on the TPAG Transmission Pricing discussion paper, 14 July 2011.

Alternative TPM options	
	Recover Transpower's economic value account surpluses/deficits, as at 1 April 2015, using the existing TPM/from parties that would be entitled/liable under the existing TPM.[69]
	Mandatory EDB opt out of residual charges.
Locational pricing	e.g. Tilted Postage Stamp

[69] Strictly speaking, this is not a variation on the Authority's TPM Proposal as it is a matter the Authority is entirely silent on.

NEXT STEPS

167. Vector believes the Authority should address the following policy development steps to determine whether it should change the TPM:

Issue	Suggested work items	
Pricing impacts	Undertake a broader (full) assessment of the proposed TPM, and alternative options, including the financial impact of wealth transfers and price changes on consumers	• Assess the extent to which generators could game the proposed TPM[70] and would be able to pass-through any increases in transmission charges. • Assess the impact on prices of HVDC charges being shifted from South Island generators only to generators and load. • Assess the potential for year on year transmission price volatility e.g. due to weather conditions.
Transmission pricing options	Evaluate the Authority's proposed TPM against a wider set of alternatives	• Consider whether to continue with the review of the TPM. • Make an explicit judgement as to whether the focus of the TPM should be on recovery of sunk costs in a way that minimises distortions to nodal pricing and transmission network use (static efficiency) or on long-run (dynamically efficient) signalling of future transmission capacity costs e.g. locational pricing. • Expand the options being considered, including: o Removal of the TPAG majority recommendation. o Addition of an enhanced status quo option. o Consider adoption of locational pricing. o Consider variations to the Authority's proposal that would mitigate against its adverse affects. o Consider options for phase-in/mitigating adverse price shocks.
Policy development	• Clarify what aspect(s) of the changes to the regulatory environment have impacted on the optimal TPM. • Undertake a new cost benefit analysis to replace the analysis conducted as part of the TPM Proposal Paper.[71] • Assess how reliable the SPD charge proposals will match actual beneficiaries to payment, and incidence,[72] of transmission charges[73]	

[70] Refer, for example, to Castalia, Report to Genesis Energy, Review of the Electricity Authority's Cost Benefit Analysis of the Proposed Transmission Pricing Methodology, 25 February 2013.

[71] Ibid.

[72] Who ultimately bears the cost.

[73] Including an assessment of the difference between calculation of consumer/producer surplus based on a (short-term) "but for" analysis where an existing transmission asset is removed and a (long-term) "but for" analysis where the asset was never built (including, in relation to HVDC assets).

Issue	Suggested work items
	e.g. how accurately would the SPD charges determine consumer and producer surplus against a counterfactual where the SPD asset(s) had never been built. • Test the Authority's claim that the TPM proposal would result in more efficient grid investment decisions. The extent to which the current TPM's variation from beneficiaries pay impacted on incentives of parties submitting on Grid Upgrade Proposals and how this, in turn, impacted on the Commerce Commission and/or Electricity Commission's approval decisions can be analysed. • Examine the extent to which current transmission investment approval results in inefficient outcomes. This would set a cap on any benefits from changes to the TPM improving efficiency of transmission investment. • Consider the impact of the Authority's own actions on stability and durability of decisions. • Consider what would be an appropriate threshold/burden of proof to warrant a change to, or replacement of, the existing TPM.

Consequential implementation issues

168. One of the major changes in the proposed TPM is a requirement for electricity retailers to pay Transpower directly for transmission services rather than indirectly via EDBs.

169. This will require changes to Part 12 of the Electricity Industry Participation Code 2010 (the Code).

170. Clause 12.77 of the Code, for example, states that "The costs incurred by **Transpower** (irrespective of when they are incurred) in relation to an **approved investment** are recoverable by **Transpower** from **designated transmission customers** on the basis of **the transmission pricing methodology** and must be paid by **designated transmission customers** accordingly." The definition of designated transmission customers is presently limited to parties that are directly and physically connected to the transmission grid and, consequently, excludes electricity retailers. (Designated transmission customers are limited to (a) **direct consumers** that have a **point of connection** to the **grid**; and (b) **distributors**; and (c) **generators** that are directly connected to the **grid**. The current Part 12/Benchmark Agreement arrangements are also based on designated transmission customers being directly connected to the transmission grid which would not be applicable to electricity retailers.)

171. It follows also that the change may necessitate that electricity retailers have direct contractual relationships with Transpower. For example, the Authority could consider making changes to Part 12 of the Code and the Benchmark Agreement between Transpower and designated transmission customers.

172. The distribution use-of-system agreement and distributor tariff provisions in Part 12A of the Code and the Model Use of System Agreement between EDBs and electricity retailers may also be relevant to the arrangements that should be in place between Transpower and electricity retailers e.g. should Transpower be subject to the same prudential limits as EDBs?

173. There would also be consequences for the distributed generation arrangements in Part 6 of the Code. Under the current Part 6 arrangements a distributed generator would receive the benefit of any avoided transmission through the connection price it pays the EDB i.e. distributed generation connection charges are net of any avoided distribution and transmission costs. Under the proposed TPM, particularly

if the EDB chooses to opt out, the avoided transmission costs would not sit with the EDB.

174. If the transmission charges EDBs incur are limited to connection charges or connection and residual charges, where the EDB chooses not to opt out, the extent of transmission costs EDBs might avoid because of distributed generation would be strictly limited. The Authority should give consideration to how distributed generators could obtain the benefits of avoided transmission cost e.g. should the payments be directly from Transpower or electricity retailers?

175. Any such review of distributed generation regulation would be desirable, regardless of any changes to the TPM, as we consider they need a substantial overhaul anyway. For example, we do not believe that distributed generators should use networks on an incremental cost basis, without contributing to any of the fixed and common costs.

176. Clause 12.89(2) of Part 12 of the Electricity Industry Participation Code 2010 requires that "**Transpower's** proposed **transmission methodology** must include indicative prices to allow the **Authority** and interested parties to understand the impact of the methodology on **designated transmission customers**." This would be too late in the process if the Authority has already decided on a new methodology and issued Transpower guidelines to be used to operationalise the methodology. It would also not necessarily be very meaningful given the Authority proposes that electricity retailers would pay directly for transmission services and they are not, yet, designated transmission customers.

CONCLUDING REMARKS AND RECOMMENDATIONS

177. Even though the Authority's proposed TPM would have substantial benefit to Vector directly, in that it would reduce our transmission charges to minimal amounts only, we do not support the proposal.

178. We are concerned the proposed TPM would have adverse efficiency impacts, consumers would be made worse off, and practical problems with its operation and lack of industry support would mean it would not be durable.

179. The Authority's failure to consider the pricing impacts, including wealth transfers between suppliers and consumers, as part of its proposal[74] means it could conclude a policy change is to the long-term benefit of consumers even if consumers would be worse off. Vector submits this is wrong and illogical. The Authority's subsequent price impact assessment does not allay our concerns. The assessment is deficient, amongst other things, because it implicitly assumed generator behaviour would not change.

180. The proposed TPM is likely to simply shift the losers from the TPM from South Island generators to consumers.

181. The main problems of the Authority's TPM proposal relate to the SPD charges and the socialisation of HVDC charges.

Problems with the SPD method and beneficiaries pay

182. The proposed SPD charges have a large number of problems, including but not limited to:

    a. creating unnecessary volatility in transmission charges;

    b. overstating consumer benefits and understating generator benefits (regardless of whether generators game the charges or not);

    c. interfering with the wholesale electricity market (distorting generators' incentives, as they try and avoid transmission costs);

    d. perverse outcomes such as lower charges for market participants if their benefits arise predominantly during peak periods (and is a contributor to the need for larger capacity); and

    e. creating perverse locational signals for generators to avoid post-2004 assets. The pricing signal the SPD method would send is to invest in generation, and utilise generation plant, which depends more on pre-2004 than post-2004 transmission assets.

183. In summary, and by way of analogy, the TPM proposal (specifically the SPD method):

    a. If applied to the residential rental property market would result in house rentals being set at up to nightly hotel rates where there isn't a surplus of housing;

    b. If applied to the potato market would result in potatoes from Oamaru being transported to Pukekohe by old back roads. Transmission gully, when built, would be avoided; and

    c. Would result in Oamaru potato growers shipping potatoes to Pukekohe, regardless of transport costs, as long as Pukekohe prices exceeded Oamaru prices. This is because the Oamaru potato growers' transport cost would be capped at (or less than) the amount the benefit from selling potatoes in Auckland. They could be better off shipping potatoes to Auckland even if the

[74] The Authority only provided an estimate of the impact of the proposed TPM on prices following requests from Vector and other parties.

price difference is less than transport costs (consumer would subsidise the difference).

South Island generators should continue to pay for the HVDC link

184. Marsden Jacob Associates' application of beneficiaries pay, using the SPD method, shows that the benefits South Island generators receive from Pole 2 and 3 is 7 times larger than the annualised asset cost.[75] This highlights that the current HVDC charges could be thought of as a form of beneficiaries pay (albeit a form that favours the long-term interests of consumers, rather than generators.)

185. Vector has previously observed that "the current HVDC link pricing, at least, provides a pragmatic form of partial locational pricing, with locational pricing limited to a North-South Island pricing signal".[76] In order for the Authority to determine the locational signals provided by the current HVDC charges are inefficient it would need to determine: (i) the LRMC of electricity transmission from the South Island to the North Island; and (ii) that the current HVDC charges exceed LRMC.

186. It is not sufficient to determine that current HVDC pricing would result in higher cost (North Island) generation investment, compared to (South Island) generation that would occur absent the HVDC charges. This reflects a static efficiency perspective where transmission costs are treated as sunk so they can be ignored. Removal of current HVDC charges could result in lower (short-term) cost (South Island) generation plant being built, but at the (longer-term) cost of greater transmission costs.

187. The move from South Island generators paying for the HVDC link to the costs being split between retailers and generators would also result in a substantial adverse price impact for all consumers.

Components of the TPM proposal we are able to support

188. Despite our opposition to the TPM proposal, it contains components the Authority should consider adopting regardless of whether it introduces its proposal. Vector does not believe the Authority should take an all or nothing approach to its proposal.

189. Fine-tuning the definition/treatment of connection charges, requiring Transpower to retain transmission rentals, charging retailers directly for transmission services, adopting a power factor of 0.95 and widening postage stamp pricing to include electricity generation could all be adopted as part of an "enhanced status quo".

Recommendations

190. For the convenience of the reader, Vector's recommendations are repeated in full below.

191. **Questions over jurisdiction:** Vector **notes** we consider the Authority's TPM Proposal breaches the requirements of the Code by prescribing methodology, rather than being limited to Guidelines.

192. **Unable to support proposal:** Vector **notes** we do not support the Authority's proposed TPM. Specifically, Vector **notes** we do not support the proposed SPD charges and removal of the requirement for South Island generators to pay for the HVDC link.

193. **Our concerns about impact on consumers:** Vector **notes** we do not believe the Authority has demonstrated its TPM proposal would be to the long-term

[75] Table 3, Page 28, Marsden Jacob Associates, Review of Transmission Pricing Methodology, 1 March 2013.

[76] Paragraph 7, Vector, Submission to the Electricity Authority on the Decision-making and economic framework for transmission pricing methodology review, 24 February 2012.

benefit of consumers or that it would not have substantial adverse pricing impacts on consumers.

194. **Negative impact on stability and durability:** Vector **recommends** the Authority adopt a clear and high threshold/burden of proof for major regulatory changes such as to the TPM to help ensure its regulatory decisions are stable and durable.

195. **Substantial problems with SPD charges:** Vector **notes** we do not believe the Authority's SPD method provides a sound basis for determining consumer and producer surpluses for transmission pricing or investment purposes and it should not be adopted.

196. **Risk of pass-through undermining beneficiaries pay:** Vector **notes** we support the Authority's position that pass-through of SPD charges is undesirable.

197. Vector **recommends** the Authority assess:

    a. the extent to which generators would pass-through: (i) the reduction in HVDC charges; and (ii) the increase in general (SPD and residual) transmission charges; and

    b. what implications this has for its proposed TPM, including rejection of MWh transmission charges for generation.

198. **HVDC Charges:** Vector **recommends** the Authority: (i) retain the current HVDC charges to South Island generators; (ii) reject the TPAG majority recommendation; and (iii) not include the TPAG majority recommendation as an alternative option to its proposed TPM.

199. Vector **notes** that:

    a. we do not consider that the Authority has demonstrated the current HVDC charges result in dynamic inefficiency;

    b. the Authority's analysis of the current HVDC charges does not provide a sound basis for justifying changes to the TPM; and

    c. in order for the Authority to demonstrate whether the current HVDC charges are dynamically inefficient, it would need to determine that they exceeded the LRMC of electricity transmission from the South Island to the North Island.

200. Vector **recommends** the Authority: (i) retain the current HVDC charges to South Island generators; (ii) reject the TPAG majority recommendation; and (iii) not include the TPAG majority as alternative option to its proposed TPM.

201. **Transpower's economic value accounts:** Vector **recommends** that any deficits/surpluses in Transpower's economic value accounts remain tied to existing customers (EDBs for the HVAC account and South Island generators for the HVDC account) as part of a phase in of the Authority's proposed TPM.

202. **Support limited to particular components of the proposed TPM:** Vector **recommends** that if the Authority continues its review of the TPM then it include an "enhanced status quo" option, which consists of: (i) fine-tuning the definition/treatment of connection charges; (ii) Transpower retaining transmission rentals (with the rentals being used to reduce Transpower's overall revenue requirement); (iii) corrected power factor requirements; (iv) charging retailers directly for transmission services; and (v) widening the tax base to generators by charging generators for interconnection costs (while retaining HVDC charges to South Island generators).

203. Vector **recommends** the residual transmission rentals and auction income from locational hedges (transformed rentals) be netted off Transpower's aggregate revenue requirement and not tagged to individual (SPD) assets.

204. Vector **recommends** the Authority initiate the process set out in clauses 12.18 to 12.26 of the Electricity Industry Participation Code to amend the power factor to 0.95 on a lagged basis immediately following submissions on the proposed TPM, and delink the power factor amendment from proposals to amend the TPM.

205. Vector **notes** we consider it more efficient for electricity retailers to incur transmission charges directly, rather than EDBs acting as an intermediary/billing agent for Transpower.

206. Vector **notes** we agree with the Authority that a critical design feature is that "in order to achieve the objective of broadening the base across which the charge is levied and lowering the rate it would be desirable for generators to fully absorb the residual charge".

207. **Alternative options:** Vector **recommends** the Authority give consideration to alternative transmission pricing options including, but not necessarily limited to: (i) an "enhanced status quo"; and (ii) variations on the TPM proposal;[77] and (iii) locational pricing/Tilted Post Stamp.

Alternative TPM options	
Enhanced Status Quo	Fine-tuning the definition/treatment of connection charges.
	Transpower retention of transmission rentals i.e. that the residual transmission rentals and auction income from locational hedges (transformed rentals) be netted off Transpower's aggregate revenue requirement and not tagged to individual (SPD) assets.
	Charging retailers directly for transmission services.
	Introducing a power factor of 0.95 lagged.
	Maintain HVDC/widen postage stamp for interconnection to include generation (as per the Authority's Residual charge proposals).
Variations on the Authority's proposed TPM	Adopt a lagged/weighted average calculation of consumer/producer surplus for allocation of SPD charges.
	When calculating consumer/producer surplus take a long-run approach that considers what would happen if the asset was never built rather than a short-run approach that determines what would happen if the asset was removed e.g. the Authority should assume if a transmission asset was not in place any shortfall in transmission capacity would be made up by the lowest viable cost generation option in the region and not diesel generation.
	Set the SPD charges for load and generation in an asymmetric manner e.g. extracting full producer surplus from the SPD charges and only charging load where the SPD charges to generators are not sufficient to recover the full cost of the SPD assets or where private benefits of assets covered by SPD charges exceed cost, reducing retailer (consumer) share of the SPD charges but not the generator share.

[77] See table below.

Alternative TPM options	
	Recover Transpower's economic value account surpluses/deficits, as at 1 April 2015, using the existing TPM/from parties that would be entitled/liable under the existing TPM.[78]
	Mandatory EDB opt out of residual charges.
Locational pricing	e.g. Tilted Postage Stamp

[78] Strictly speaking, this is not a variation on the Authority's TPM Proposal as it is a matter the Authority is entirely silent on.

APPENDIX I: RESPONSES TO CONSULTATION QUESTIONS

	General comments in regards to the following questions:	Response
1	What are your views about the materiality of changes in circumstances since the current TPM came into force in 2008?	Vector questions whether there has been a material change in circumstances. The Authority cites approval of over $2 billion of transmission assets since the TPM came into force in 2008, but this was well anticipated at the time the TPM was previously reviewed. The Authority will not achieve stability and durability if significant transmission investment is used to justify review of the TPM. This would suggest periodic or ongoing reviews could continue to occur. The Authority also states that significant changes to the regulatory framework with the Authority replacing the Electricity Commission and the function of approving grid investments being transferred to the Commerce Commission, amounts to a material change. The Authority, however, does not explain how these changes would impact on the optimal TPM. Even if there was a material change of circumstances, it appears that the Authority's TPM proposals are driven by a change in its views on transmission pricing since the Electricity Commission was converted into the Authority.
2	What comments do you have on the process that the Authority has outlined for developing and approving a new TPM? Describe and explain any variations to the process that you consider desirable.	Vector is very concerned that, despite the considerable effort on behalf of the Authority and its staff, the current process will fall well short of meeting good regulatory practice: • The Authority has not demonstrated that there has been a material change in circumstances; • Vector believes that greater consideration is needed of alternative TPM options; • The Authority has not fully assessed the impact of its proposals on consumers (including pricing and price shock risks); • The Authority has not (explicitly) established an appropriate threshold for determining whether a change in the TPM would be warranted; • The cost benefit analysis is not fit for purpose; and • The Authority appears to have overstepped the Code requirements by

	General comments in regards to the following questions:	Response
		proposing a methodology rather than genuine Guidelines
7	What comments do you have about the Authority's analysis of the private benefits deriving from the HDVC link?	This question presupposes that the HVDC should be charged on a beneficiaries pay basis. The current HVDC charge amounts to a locational signal, which matches market like/exacerbator pays. The Authority's market gardener analogy is worth considering in this context. If the Oamaru market gardener had to pay the full cost of transport (i.e. exacerbator pays), (s)he would only sell potatoes in Pukekohe if the higher price from selling potatoes in Pukekohe exceeds the transport cost. If, however, the Oamaru market gardener's transport costs are capped at the benefit (s)he receives from selling in Pukekohe it would be worthwhile to sell there as long as Pukekohe prices exceed Oamaru prices. It would not matter to the Oamaru market gardener whether the benefit they receive exceeds the transport cost. If it doesn't the transport cost would be subsidised by consumers. If South Island generators and potential South Island generators did not incur the full cost of their decisions, e.g. they only pay to the extent they benefit from the upgrade of the HVDC, they would have no incentive to adjust their behaviour to avoid uneconomic or inefficient upgrade of the HVDC link.
8	What comments do you have about the consequences of the material differences between private benefits from the HVDC link and HVDC charges?	Vector disagrees with the Authority's analysis of the impact of the current HVDC pricing.[79] Vector believes the current HVDC prices satisfy the Authority's DM&E Framework criteria of market like and exacerbator pays by providing North-South Island locational signals. In order for the Authority to determine the locational signals provided by the current HVDC charges are inefficient it would need to determine: (i) the long-run marginal cost (LRMC) of electricity transmission from the South Island to the
9	What comments do you have about the Authority's analysis of the costs of inefficient generation investment resulting from the HVDC charge?	
10	What comments do you have about the Authority's analysis of the costs of inefficient operation of	

[79] Refer to the section of this submission "The Authority's views on HVDC charges" for Vector's full views on this question.

	General comments in regards to the following questions:	Response
	South Island generation resulting from the HVDC charge?	North Island; and (ii) that the current HVDC charges exceed LRMC. If the current HVDC prices do exceed LRMC the best solution would be to lower them, not remove them and replace them with an approach which is a poorer match to the Authority's Framework.
11	Do you consider that there are any other inefficiencies arising from the HVDC charging arrangements under the current TPM? Provide a detailed explanation of the nature and materiality of the inefficiencies.	
12	What comments do you have about a) the differences (including their materiality) between private benefits from interconnection assets and interconnection charges; and b) the consequences of those material differences?	Vector has the following comments: • The current TPM does not recognise that generators benefit from the interconnection assets. • If an administrative/incentive-free/postage stamp approach is adopted to interconnection it should be on as broad a tax base as possible i.e. include each generation plant.
13	What comments do you have about the Authority's analysis of the problems with interconnection charges?	
14	Do you consider that there are any other problems with the interconnection charging arrangements under the current TPM? Provide a detailed explanation of the nature and materiality of the problem.	
22	What is your position on the Authority's proposal to codify that LCE or residual LCE received by Transpower from the clearing manager is to be used to offset the components of Transpower's transmission charges that correspond to the origination of the rentals?	Vector supports Transpower retaining residual transmission rentals and auction income from locational hedges (transformed rentals), regardless of which TPM option is adopted. We believe the proposal would be improved if the transformed rentals are not tagged to individual (SPD) assets. The transformed rentals could then be used to reduce the revenue recovered from the remaining components of a pricing methodology i.e. they would reduce the Residual charges rather than the SPD charges.
23	What is your view of the Authority's assessment	Vector does not agree with the Authority's assessment of the costs and benefits

	General comments in regards to the following questions:	Response
	and conclusions about using the SPD or vSPD model to establish a beneficiaries-pay charge for recovering some or all HVDC and interconnection costs?	of the SPD method. Vector believes the SPD method would: (i) overstate consumer benefit and understate generator benefit; (ii) incentivise gaming by generators (to avoid transmission charges); (iii) send a perverse locational signal against use of post-2004 assets (and Pole 2); and (iv) result in subsidies to exacebators i.e. parties that use and benefit from the transmission network during peak periods. This would give rise to parties having greater network capacity needs being subsidised as they would not have to pay any more than the average transmission cost. The SPD charges would also create a large amount of volatility in transmission charges. In addition: • The SPD method does not need to be part of the TPM to increase transparency of the benefits parties obtain from transmission assets. The SPD method could be used for this purpose, if the Commerce Commission wishes, without it being applied to transmission pricing. The information from the SPD method would actually be more useful if it was not part of the TPM because the results would not be prone to generator gaming to avoid transmission charges. Moreover, the information that the SPD method produces would be of limited use for transmission investment decision making because it calculates benefits on a short-term rather than long-term basis. • It would not promote efficient investment by generation and load, because generation and load only have to pay to the extent they benefit, regardless of whether the investment is economic. If the Authority wants to encourage efficient investment it needs to set prices on the basis of LRMC/adopt an exacerbator pays approach. Refer also to the stylised example at pages 15 and 16 of this submission for an illustration of the flaws in the SPD method.
24	Do you agree with the Authority's conclusion that	The Authority has provided no analysis to indicate how accurate its proposals

	General comments in regards to the following questions:	Response
	the most efficient beneficiaries-pay charging option for applying to HVDC and interconnection costs is likely to be the SPD method? Please provide an explanation for your answer.	would be at determining beneficiaries pay. Vector considers that there are fatal problems with the Authority's proposed adoption of beneficiaries pay through SPD charges. Vector believes it would result in a substantial overstatement of consumer surplus and understatement of producer surplus.
25	Do you consider that there are beneficiaries-pay options that the Authority has not identified that are practicable, would deliver greater net benefits and would recover HVDC and interconnection costs? Explain your proposal.	Vector believes it is likely that the best approach, from a consumer perspective, would be to not introduce beneficiaries pay charges. Vector believes the beneficiaries pay approach is fundamentally flawed. If the Authority perseveres with its proposal to introduce beneficiaries pay, there are likely to be any number of potential alternative options, given the limitations of the Authority's current identification of alternative approaches, including: • Taking a long-term approach to calculation of surpluses rather than short-term i.e. what would the surpluses be if the asset never existed rather than if it was removed. • Adopting a weighted lagged approach to calculating beneficiaries pay, which would reduce uncertainty/volatility in SPD charge. • Adopting an alternative approach to determining what assets are included in the SPD charges e.g. only including assets approved after 2015 or selecting a broader range of assets regardless of age. • Softening the ½ hour cap. • Setting the SPD charges for load and generation in an asymmetric manner e.g. extracting full producer surplus from the SPD charges and only charging load where the SPD charges to generators were not sufficient to recover the full cost of the SPD assets.
26	Do you agree with the proposal to apply the residual charge to: a) generators and direct-connect major users; b) distributors, except where they opt out from the charge; and	Yes. Vector supports generators contributing to interconnection costs. The proposals have the advantages of: • Removing EDBs as intermediaries for transmission services. This would avoid EDB interference with transmission pricing signals; for example, by way of rebundling/repackaging into ICP/kWh charges. It would

	General comments in regards to the following questions:	Response
	c) retailers, were distributors elect to opt out from the charge?	also reduce administrative costs by removing one party from the pass-through process. • Broadening the tax base. The broader the tax base the less distortionary the tax would be.
27	Do you agree with the proposal that distributors may opt out from the residual charge: a) to the extent that they do not benefit from offering interruptible load on the wholesale electricity market; and b) provided they consult with retailers that may be affected before they opt out?	Vector believes the Authority should require that Residual charges are applied to generators and retailers and remove the opt out/in option for EDBs. Vector believes it would be best to have a consistent approach across New Zealand rather than the potential for some EDBs to opt out, some to opt in, some to do a mix node by node, and some to change their approach over time. This would be detrimental to consistency of distribution pricing. If the opt-out option is retained then EDBs should, subject to consultation, be able to opt out on any grounds. There is no need to specify that it would depend on the extent that EDBs benefit from offering interruptible load. If EDBs benefit from this they would take it into account.
28	Do you consider that the proposed RCPD/RCPI charge, designed to encourage efficient avoidance of peak regional use of the grid, with half of the residual revenue recovered from load and half from generators, would best complement a beneficiaries-pay charge that calculates charges every trading period using the SPD model? Explain your response.	The key criteria for SPD charges should be that they ensure the beneficiary ultimately bears their share of the SPD charges. If generators are able to pass-through SPD charges the Authority would fail to satisfy its beneficiary-pays criteria. RCPD/RCPI charges are likely to be less readily passed through by generators than MWh charges and therefore better meet the Authority's criteria.
32	Do you agree with the assessment of the economic costs and benefits of the Authority's TPM proposal versus the counterfactual? Explain your answer.	No. Vector does not believe the Authority's proposed TPM would improve efficiency or would be to the long-term benefit of consumers.[80] Vector does not believe the proposals would deliver positive benefits to consumers, let alone $173.7 million (NPV) of economic benefits. The Cost Benefit Analysis is no more than an elaborate assumption that there

[80] Refer to the discussion in the submission generally and, in particular, the sections "Likely adverse impact on consumers", "Substantial problems with SPD charges" and "The Authority's views on HVDC charges".

	General comments in regards to the following questions:	Response
		would be positive benefits from the proposal. As CEG note "The efficiency factor that has been applied ... is not estimated; it is *assumed*"[81] and "The 0.3% value simply reflects the EA's belief that its proposal would deliver significant economic benefits".[82] The Authority has confirmed this stating "The efficiency factor of 0.3% is actually an assumed amount ..." [83] The sources of data the Authority used to come up with the 0.3% efficiency factor, such as the Commerce Commission calculation of total factor productivity in distribution, have nothing whatsoever to do with transmission pricing. The Cost Benefit Analysis is so far removed from the Authority's TPM proposal that it could be equally applied to any other TPM proposal purporting to promote dynamic efficiency. It would be no less valid for Vector to claim that introduction of locational pricing would result in net benefits several magnitudes larger than the Authority's proposal simply by adopting an efficiency factor that is higher in the range the Authority references. Vector also notes that we have reviewed Castalia's assessment of the Authority's Cost Benefit Analysis and agree with their criticisms.[84] We believe the Castalia alternative Cost Benefit Analysis is a substantial improvement on the Authority's but believe it also overstates the benefits of the proposed TPM.
33	Do you agree with the assessment of the costs and benefits of the TPAG majority proposal against the counterfactual? Explain your answer.	No. Vector believes the TPAG majority proposal would result in: (i) over-investment in South Island generation (generators would not need to take into account the long-run transmission cost implications of investing in generation in the South Island); and (ii) substantial wealth transfers from consumers to South Island generators, contrary to both the efficiency and long-term benefit tests in the purpose statement in section 15 of the Electricity Industry Act 2010. Refer to the response to questions 7 – 11.[85]

[81] Paragraph 54, CEG Report, prepared on behalf of Transpower, "Transmission Pricing Method – Economic Critique", February 2012

[82] Paragraph 57, CEG Report, prepared on behalf of Transpower, "Transmission Pricing Method – Economic Critique", February 2012

[83] Question 26, page 23, Electricity Authority, TPM Q&A workshop submitted questions and responses 19 February 2013.

[84] Castalia, Report to Genesis Energy, Review of the Electricity Authority's Cost Benefit Analysis of the Proposed Transmission Pricing Methodology, 25 February 2013.

[85] Refer to the section of this submission "The Authority's views on HVDC charges" and "Submission to the Electricity Authority on the

	General comments in regards to the following questions:	Response
34	Do you agree that the Authority's TPM proposal meets the Authority's objective? Explain your answer.	No. Vector does not believe the TPM proposal would satisfy either the efficiency or the long-term benefit tests in the purpose statement in section 15 of the Electricity Industry Act 2010. In Vector's view the Authority's proposed SPD charges, including shifting the current HVDC charges into the SPD charges, would have a detrimental impact on both short and long-run pricing signals by: • interfering with the wholesale electricity market (distorting generators' incentives, as they try and avoid transmission costs); • removing or distorting the current North Island/South Island locational signal; and • dampening peak capacity signals (through the SPD average transmission cost cap) and signalling that usage of post-2004 (and Pole 2) assets should be avoided. We are also concerned that the SPD method (the way it calculates private benefits and its susceptibility to gaming) would result in load being overcharged relative to generation, and that the socialisation of the HVDC costs would result in substantial wealth transfers from consumers to South Island generators.
35	What comments do you have about the Authority's evaluation of alternative market-based and market-like approaches for the recovery of transmission costs?	Vector reiterates the statement we made in response to the Authority's consultation on its decision making and economic framework that "full locational-pricing would best satisfy the Authority's draft decision-making framework, and would align with a market-based approach, as well as the exacerbator/beneficiary pays principles."[86] This is clearly demonstrated by the Authority's market gardener analogy.
38	Do you consider that the draft guidelines provide the guidance necessary for Transpower to develop	Vector is concerned that the Authority may have gone beyond the requirements of Part 12 of the Electricity Industry Participation Code 2010, which provides that

TPAG Transmission Pricing discussion paper" (14 July 2011) for Vector's full views on this question.

[86] Paragraph 6, Vector, Submission to the Electricity Authority on the Decision-making and economic framework for transmission pricing methodology review, 24 February 2012.

	General comments in regards to the following questions:	Response
	a TPM that reflects the Authority's preferred option? Explain your answer.	the Authority may issue Guidelines for the development of a TPM (clause 12.83(b)). The Authority has instead developed a pricing methodology. Under the Code, the Authority is given power to make the Guidelines and is not provided with any power to propose a transmission pricing methodology. This function is reserved for Transpower. While there may be debate about the distinction between a guideline for the development of a methodology for transmission pricing and the actual methodology in our opinion the level of detail and prescription proposed in the Authority's proposed Guidelines is such that the Authority has gone beyond the preparation of Guidelines and have sought to determine a methodology. This is illustrated clearly by the statement in the proposed Guidelines, in respect of the interconnection and HVDC charge, that "Transpower should develop a charge consistent with the method set out in Appendix E (SPD method) of this issues paper". The HVDC charge represents the bulk of the revenue that Transpower would collect in respect of its approved investments and thus the majority of any pricing methodology to be applied by Transpower in recovering its costs. If the proposed Guidelines were made in their current form, Transpower's response to the Guidelines would constitute simply an application of the methodology proposed by the Authority, rather than a proposal for a transmission pricing methodology of Transpower's own making. At its highest the Authority has power to issue guidelines for the development of a TPM. In our view the material released by the Authority is not in the nature of "guidelines", rather the material suggests that the Authority is seeking to prescribe the methodology for the determination of transmission prices. We consider that the Authority has misconstrued its power and would, in making the proposed Guidelines, be acting beyond its powers. The Authority would avoid these outcomes by abandoning its attempt to propose a methodology and, consistent with its statutory powers and functions, propose Guidelines and principles to be followed by Transpower in developing its proposed methodology.
39	Do you have any suggestions for amendments to the draft guidelines to ensure that they provide the guidance necessary for Transpower to develop a TPM that reflects the Authority's preferred option?	
40	Do you agree with the Authority's proposed process that Transpower should follow in developing the TPM? Explain your answer.	

	General comments in regards to the following questions:	Response
41	Do you agree that the Authority does not need to require Transpower to propose how costs related to revenue not subject to regulatory review by the Authority or the Commerce Commission would be determined and allocated? Explain your answer.	This question appears tautological. If revenue is not subject to regulatory review then, by definition, Transpower does not need to explain how it is determined and allocated.
42	Do you have any suggestions for amendments to the Authority's proposed process that Transpower should follow in its development of the TPM?	Vector considers it premature to consider the appropriate process for Transpower until it has been determined: • whether a change in TPM will be adopted; and • which pricing methodology which best meet the Authority's statutory objective.
43	Do you have any comments about the Authority's proposal that Transpower should propose a timeframe to the Authority that would achieve the Authority's objective of having the amended TPM in place in time for the April 2015 pricing year?	
44	Do you agree with the Authority's proposal to decide on the consultation period after the proposed TPM has been received from Transpower?	

APPENDIX II: INTERPRETATION OF STATUTORY OBJECTIVE

209. Section 15 of the Electricity Industry Act 2010 states that "The objective of the Authority is to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers."

210. Vector interprets this objective statement as having two tests that need to be satisfied:

    a. A policy initiative must either promote competition, reliability, efficiency or some combination of the three; and

    b. The policy initiative must also be to the long-term benefit of consumers.

211. Vector does not consider that it is sufficient for the Authority to demonstrate that one of these tests has been satisfied but not the other. It will not always be the case, for example, that initiatives that improve efficiency will necessarily be in the long-term interests of consumers. If it was axiomatic that a policy initiative that promoted competition, reliability, efficiency or some combination of the three is to the long-term benefit of consumers, the words "for the long-term benefit of consumers" would be superfluous.

212. Very similarly, the purpose in section 18 of the Telecommunications Act 2001 "is to promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand by regulating, and providing for the regulation of, the supply of certain telecommunications services between service providers." The Telecommunications Commissioner has, correctly in Vector's view, interpreted this to mean that it must establish that:

    a. Competition in the relevant market is limited;

    b. Designation or specification of an access service would promote competition; and

    c. Designation or specification would be to the long-term benefit of consumers.

213. The Telecommunications Commissioner does not automatically assume that something that promotes competition will be to the long-term benefit of consumers. This is demonstrated, for example, in the Telecommunications Commissioner's recommendation to the Minister of Communications against designation of local loop unbundling (LLU) in 2003. The Telecommunications Commissioner formed the view competition in the relevant market was limited; regulation of LLU would promote competition, but that regulation would nevertheless not be to the long-term benefit of consumers.

214. The Authority has interpreted its objective statement narrowly such that "…only the efficiency gains of an initiative should be treated as benefiting consumers, with wealth transfers excluded because they 'net off' among all electricity consumers once indirect wealth effects are taken into account."[87]

215. Vector considers that the correct legal interpretation is that wealth transfers from producers to consumers, and vice versa, are a relevant benefit. This means that the proper test for determining long-term benefits of consumers is a consumer benefits tests rather than a public benefits test.

216. The Authority should, of course, consider the implications of policy options in terms of growing or "shrinking" the "size of the economic pie"[88] but it does not follow that these considerations mean wealth transfers should be ignored. Rather they need to be weighed up against each other. Any policy initiative will inevitably have efficiency and wealth redistribution implications, sometimes in conflict with each other and sometimes not, which need to be considered and balanced.

[87] Electricity Authority "Interpretation of the Authority's statutory objective", 14 February 2011.
[88] Paragraph A.7, Electricity Authority, Interpretation of the Authority's statutory objective, 14 February 2011.

217. In the context of electricity transmission pricing, Vector is of the view that wealth transfers have the potential to swamp any efficiency impacts from the perspective of consumers. Consumers will not be better off if a change in TPM improves efficiency (which we do not believe would the case anyway with the proposed TPM), but wealth transfers mean consumers pay more to the benefit of generators or gentailers. The purpose is the long-term benefit of consumers, not the public, not industry and certainly not generators or gentailers. For some policy matters consumer and industry participant interests/benefits will be aligned (win-win situations) and for other matters they will not be.

Powerco v Commerce Commission

218. The Authority, in its interpretation of its statutory objective, has stated:[89]

> The Authority is aware of the legal position established in Powerco v. Commerce Commission, heard in the High Court in 2006 and upheld by the Court of Appeal in 2008. That case ruled in favour of including wealth transfers in the Commerce Commission's cost-benefit analysis in respect of imposing price control on the gas networks of Powerco and Vector. However, the Powerco judgments are specific to the then Part 4 of the Commerce Act and, in particular, are specific to decisions about whether price control should be imposed on firms operating in non-competitive markets.
>
> As the Powerco judgments are based on the specific legislative scheme and purpose of the then Part 4 of the Commerce Act, they do not apply to other Acts of Parliament for which the purpose is other than determining whether price control should be imposed. This interpretation is consistent with the fact that the Powerco judgment does not apply to Parts 2 and 3 of the Commerce Act.

219. Vector is of the view that neither the assertion that "the Powerco judgments are specific to the then Part 4 of the Commerce Act" or that they "are specific to decisions about whether price control should be imposed" are valid. The Authority has not substantiated this assertion.

220. Vector does not believe there is anything in the Powerco judgment which means it would not apply to other objective statements which are similar or materially the same as the Commerce Act's purpose statement. Although there are differences between s 15 of the Electricity Industry Act 2010 and Part 4 of the Commerce Act 1986 these differences are not material to the issue of whether the Authority should take wealth transfers into account.

221. Vector discusses the legal precedent provided by other statute below.

Statutory precedent for "long-term benefit of consumers"

222. Vector does not consider that an interpretation of long-term benefit of consumers which excludes wealth transfers to be the correct legal interpretation.

223. The statutory objective in s 15 of the Electricity Industry Act is analogous to those contained in the Commerce Act (s 1A and s 52A) and the Telecommunications Act (s 52A) 2001.

Section, Act	Objective (emphasis added)
Section 15, Electricity Industry Act 2010	To promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers
Section 1A, Commerce Act 1986[90]	The purpose of this Act is to promote competition in markets for the long-term benefit of consumers within New Zealand.
Section 52A, Part 4 of	(1) The purpose of this Part is to promote the long-term

[89] Paragraphs A.8 and A.9 of the Electricity Authority's "Interpretation of the Authority's statutory objective", 14 February 2011.
[90] Introduced in May 2001.

Section, Act	Objective (emphasis added)
the Commerce Act 1986	benefit of consumers in markets referred to in section 52 by promoting outcomes that are consistent with outcomes produced in competitive markets such that suppliers of regulated goods or services— (a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and (b) have incentives to improve efficiency and provide services at a quality that reflects consumer demands; and (c) share with consumers the benefits of efficiency gains in the supply of the regulated goods or services, including through lower prices; and (d) are limited in their ability to extract excessive profits.
Section 18, Telecommunications Act 2001	(1) The purpose of this Part and Schedules 1 to 3 is to promote competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand by regulating, and providing for the regulation of, the supply of certain telecommunications services between service providers. (2) In determining whether or not, or the extent to which, any act or omission will result, or will be likely to result, in competition in telecommunications markets for the long-term benefit of end-users of telecommunications services within New Zealand, the efficiencies that will result, or will be likely to result, from that act or omission must be considered.

224. The Commerce Commission has adopted a consumer surplus test rather than a public benefit (total surplus) test in relation to its responsibilities under both Part 4 of the Commerce Act and under the Telecommunications Act.

225. Vector is of the view that the wording of section 52A of the Commerce Act and section 18 of the Telecommunications Act gives weight to the interpretation that "long-term benefit of consumers" should be interpreted to include wealth transfers.

226. Section 52A of the Commerce Act differs from section 15 of the Electricity Industry Act in that it:

    a. uses the words "promoting outcomes that are consistent with outcomes produced in competitive markets" rather than "promot[ing] competition", reflecting that regulation under Part 4 of the Commerce Act is only used where competition is not possible; and

    b. expands on the meaning of "long-term benefit" and outcomes consistent with those produced in competitive markets by adding parts (a) – (d). Sections 52A(c) and (d) make it clear that the long-term benefit of consumers can be achieved through wealth transfers. It is not sufficient that regulated utilities improve efficiency and these are simply added to the regulated utilities' profits. It is also necessary that these efficiency gains be shared with consumers.

227. Section 15 of the Electricity Industry Act and section 18(2) of the Telecommunications Act make explicit reference to efficiency. If long-term benefit

of consumers simply translated into pure efficiency this additional wording would be superfluous.

Part 5 of the Commerce Act

228. Part 5 of the Commerce Act differs from Sections 1A and 52A of the Commerce Act in that it includes a public benefit (as opposed to consumer surplus) test. It requires the Commerce Commission to grant an authorisation for restricted trade practices and business acquisitions "if it is satisfied that the acquisition will result, or will be likely to result, in such a benefit to the public that it should be permitted" (emphasis added).

229. The Commerce Commission and the Courts both interpret the "benefit to the public" to exclude wealth transfers (within New Zealand). This reflects that the term "public" means New Zealand as a whole, not just a subset such as consumers. Wealth transfers between various parts of the New Zealand economy do not increase or decrease New Zealand's welfare, although this can differ in relation to foreign-owned producers such as Telecom.

230. The Court was faced with a potential inconsistency between the consumer benefit test under section 1A, which was introduced in 2001, and the public benefit test in section 61 (Part 5) and had to interpreted the Act in a manner that reconciled that inconsistency, in Air New Zealand & Others v Commerce Commission & Others.[91] The Court determined that:

> … had Parliament intended to change the established meaning of the public benefit test it would have done so explicitly … Rather, the words "benefit to the public" remain intact the term 'public' is intentionally broader than 'consumers'; and an efficiency gain that benefits producers is still a benefit to the public".[92]

and concluded that it was:

> … satisfied that the introduction of s 1A should not disturb the Commission's established practice of treating as neutral any wealth transfers between New Zealand consumers and producers.[93]

231. It is significant that the High Court considered Parts 4 and 5 of the Commerce Act and did not conclude that the Commerce Commission was required to disregard wealth transfers when applying the long-term benefit of consumers under Part 4 of the Commerce Act.

232. It is also significant that the Court made a distinction between "benefit to the public" and "benefit to consumers" with the former being a wider concept including both consumers and producers, but the latter excluding producers. Under a "benefit to the public" test the Commission is required to assess costs and benefits from the perspective of the whole of the New Zealand economy, not just consumers.

233. Had Parliament intended that the Authority should take a public benefit test rather than a consumer benefit test it would have used the term "long-term benefit to the public", consistent with Part 5 of the Commerce Act, rather than "long-term benefit of consumers" consistent with sections 1A and 52A of the Commerce Act and section 18 of the Telecommunications Act.

234. The Authority has effectively interpreted "long-term benefits of consumers" incorrectly as "benefit to the public".

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[91] Air New Zealand & Others v Commerce Commission & Others, unreported, 17 September 2004.
[92] Paragraph 240, Air New Zealand & Others v Commerce Commission & Others, Unreported, 17 September 2004.
[93] Paragraph 241, Air New Zealand & Others v Commerce Commission & Others, Unreported, 17 September 2004.