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Invitation to have your say on whether the Commerce Commission should review or amend the cost of capital input methodologies

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Executive Summary

1. We have written this paper to seek your views on whether we should consider reviewing or amending the input methodologies for the cost of capital that apply to electricity lines services, gas pipeline services and specified airport services regulated under Part 4 of the Commerce Act.
2. We place a high value on the regulatory certainty and predictability provided by Part 4. Therefore, we are seeking your views on this question now, because:
 - 2.1 at the end of last year the High Court delivered its judgment on the merits appeals of the input methodologies (IMs) that we set in December 2010;
 - 2.2 although it dismissed all the appeals against our cost of capital IMs, the Court questioned whether empirical evidence and theoretical results justify our use of the 75th percentile estimate of the weighted average cost of capital (WACC) to set price-quality paths, and implied that use may be at odds with the section 52A(1)(d) objective of limiting the ability of regulated suppliers to earn excessive profits;
 - 2.3 in response to the Court's judgment, a number of consumer groups have requested that we urgently review our cost of capital IMs, so that any revised IMs could be applied in the November 2014 resets of the default price-quality paths (DPPs) for electricity distribution businesses (EDBs) and the individual price-quality path (IPP) for Transpower; and
 - 2.4 until investors know whether we will retain, reduce or remove the uplift from the mid-point to the 75th percentile, it is unlikely that the uplift will continue to provide the intended incentives for efficient investment.
3. We are interested in any views as to how we might best address the uncertainty created by the judgment, and have the following key questions for interested parties.
 - 3.1 Are the positive incentives provided by using the 75th percentile WACC significantly weakened until we address the concerns raised by the Court?
 - 3.2 Should we bring forward a review of the cost of capital IMs (which would otherwise not need to be completed until January 2018), to resolve the uncertainty that compromises the purpose of the uplift?
 - 3.3 Given the range of issues a comprehensive and robust review of the cost of capital IMs would need to cover, it is unlikely we could complete a review in time for any revised IMs to be applied in this year's DPP and IPP reset decisions. If that is the case, should we determine before November this year whether consideration of the Court's concerns warrants an IM amendment solely to the use of the 75th percentile?

- 3.4 Given we must reset EDBs' and Transpower's price-quality paths for five years by November this year, is there any other option that avoids the risk of locking in higher prices for electricity consumers, if we were to later conclude that the uplift should be reduced or is not warranted?
 - 3.5 What evidence is there in support of either the 75th percentile or credible alternatives?
 - 3.6 In selecting an appropriate WACC percentile, how significant is it that regulated outputs are inputs to other sectors of the economy?
4. Submissions on this paper are due by **5:00pm on Thursday, 13 March 2014**. Once we have considered those submissions, we will decide whether to issue a notice of intention to review or amend the cost of capital IMs, or to defer any consideration of changes until a later date.

Why we have written this paper

5. We have written this paper to seek your views on whether we should consider reviewing or amending the input methodologies for the cost of capital that apply to electricity lines services, gas pipeline services and specified airport services regulated under Part 4 of the Commerce Act. In this paper we:
 - 5.1 summarise the concerns about our cost of capital input methodologies (IMs) raised in the High Court's recent merits appeals judgment;
 - 5.2 acknowledge the requests we have subsequently received from a number of interested parties to urgently review our cost of capital IMs;
 - 5.3 seek the views of all interested parties, by 13 March 2014, on how we might best address the uncertainty created by the judgment; and
 - 5.4 present options for next steps once we have considered submissions.

The High Court has raised some concerns about our cost of capital IMs

The Court upheld our cost of capital IMs on appeal, but expressed some concerns

6. We set IMs for the cost of capital applying to electricity distribution businesses (EDBs), Transpower, gas pipeline businesses (GPBs) and the three main international airports in December 2010.¹ A number of parties appealed our cost of capital IMs to the High Court (as well as a number of other IMs). On 11 December 2013, the Court delivered its judgment on all the merits appeals of the IMs. The Court dismissed all the appeals against our cost of capital IMs.²
7. Given that it dismissed those appeals, the Court did not require any amendments to any aspect of our cost of capital IMs. However, the Court raised a number of concerns about those IMs in its judgment, notably:
 - 7.1 the appropriateness of using an estimate of the weighted average cost of capital (WACC) above the mid-point estimate to set price-quality paths;
 - 7.2 whether to adopt a 'split' (or 'tiered') cost of capital;
 - 7.3 our rationale for a term credit spread differential (TCSD) allowance; and
 - 7.4 whether to retain the simplified Brennan-Lally Capital Asset Pricing Model (CAPM), given the effect of the 'leverage anomaly'.

¹ The current cost of capital IMs applying to EDBs, Transpower, GPBs and the three main international airports are contained in the following determinations: Electricity Distribution Services Input Methodologies Determination, NZCC 34/12, 15 November 2012; Transpower Input Methodologies Determination, NZCC 17/12, 29 June 2012; Gas Distribution Services Input Methodologies Determination 2012, NZCC 23/13, 16 December 2013; Gas Transmission Services Input Methodologies Determination 2012, NZCC 3/13, 25 February 2013; and Commerce Act (Specified Airport Services Input Methodologies) Determination 2010, NZCC 709, 22 December 2010.

² Wellington International Airport Ltd & Ors v Commerce Commission [2013] NZHC [11 December 2013] ('HC Judgment').

The Court expressed scepticism about our use of the 75th percentile WACC

8. The current cost of capital IMs require that we must apply the 75th percentile estimate of the WACC range ('75th percentile WACC') when setting default, customised or individual price-quality paths.³ In its appeals to the Court, the Major Electricity Users' Group (MEUG) challenged our use of the 75th percentile WACC estimate in price-quality regulation. MEUG submitted that:
 - 8.1 the cost of capital IMs should be amended to use the mid-point of the WACC range (ie, the 50th percentile) in place of the 75th percentile; or
 - 8.2 alternatively, that the 75th percentile WACC be applied only to new investment and not to past investment (the 'two-tiered' proposal).
9. In considering MEUG's arguments about the use of the 75th percentile, the Court:
 - 9.1 was sceptical that the use of a WACC estimate substantially higher than the mid-point was necessary to promote incentives to invest and innovate, noting that "[i]f anything an abundance of capital is likely to lead to wasteful investment";⁴
 - 9.2 considered that the use of the 75th percentile WACC involves the likelihood that suppliers will earn excess returns, and therefore might be at odds with the section 52A(1)(d) objective of limiting the ability of regulated suppliers to earn excessive profits;⁵
 - 9.3 acknowledged that there was strong support for our choice to use the 75th percentile, including from our experts, but highlighted that there was no analysis or empirical evidence justifying that choice;⁶
 - 9.4 noted that MEUG did not present any evidence in support of using the mid-point instead;⁷ and
 - 9.5 was therefore not satisfied that applying a mid-point estimate would lead to a 'materially better' cost of capital IM.⁸

³ In addition, the IMs require us to publish 75th percentile WACC estimates, mid-point WACC estimates and 25th percentile WACC estimates for all suppliers that are subject to information disclosure regulation. The 'consumer-owned' EDBs and three main international airports are subject to information disclosure regulation only. In our recent reports on how effectively information disclosure regulation is promoting the Part 4 purpose in respect of specified airport services (under s 56G), we assessed airport profitability against a WACC range from the mid-point to the 75th percentile.

⁴ HC Judgment at [1479]-[1480]. The Court stated at [1479] that: "In our view, applying the 75th percentile estimate to the initial RAB [ie, regulated asset base] is unlikely to be necessary to promote incentives to invest and innovate. Future investment choices by suppliers must rationally be influenced by expected earnings on those future investments, not by earnings on past investments. (The experience with past investments may of course be relevant to future investments, but that is another story.)"

⁵ HC Judgment at [1460]-[1461].

⁶ HC Judgment at [1462]-[1467].

⁷ HC Judgment at [1483].

10. The Court stated that the same difficulty applied to MEUG’s two-tiered proposal. It considered that proposal to be stronger ‘in principle’, “because by providing the likelihood of higher than normal returns on new investment it overcomes any disincentives that may be claimed to exist (compared to the use of the mid-point)”. Although the Court indicated that it was not convinced as to the reality of those disincentives, it noted that MEUG had not presented it with a clear means of adopting the two-tier proposal, and that the Commission’s concerns about the proposal had not been addressed.⁹

The Court set out what we should consider when the cost of capital IMs are reviewed

11. In reaching its decision not to amend the cost of capital IMs in respect of the use of the 75th percentile WACC, the Court noted that it was mindful that the IMs will be reviewed in future. Part 4 requires us to review each IM no later than seven years after its date of publication and, after that, at intervals of no more than seven years.¹⁰
12. The Court set out its expectation that, when the IMs are reviewed, we should consider whether it is appropriate to use a WACC substantially higher than the mid-point for price setting purposes. The Court expected that consideration to include analysis (if practicable) of the type proposed by MEUG, and that we would further consider MEUG’s two-tiered WACC proposal in light of the Court’s observations.¹¹
13. The Court acknowledged that further analysis and experience might support our original position, but also noted that it might not. The Court considered the following passage from the Australian Competition Tribunal to be pertinent:¹²

... there exists as a matter of theory the potential for asymmetrical consequences should the WACC be set too low or too high. Which of these consequences will carry with it the greatest social damage is not a matter solely for theory, however, but for robust empirical examination, well-guided by theory, of the actual facts of any particular case.

The Court raised two other aspects of the cost of capital IMs to consider in future

14. The Court raised two further matters for us to consider in future. First, the Court was not persuaded that the TCSD allowance provided for in the cost of capital IMs is needed.¹³ Consequently, the Court stated its expectation that we would “review

⁸ HC Judgment at [1483]. Under s 52Z(4), the Court may only allow an appeal if it is satisfied that the alternative IM would be materially better in meeting the purpose of Part 4 (in s 52A), the purpose of input methodologies (in s 52R), or both.

⁹ HC Judgment at [1484]-[1485].

¹⁰ Under s 52Y(1).

¹¹ HC Judgment at [1486].

¹² From Telstra Corporation Ltd (No 3) [2007] ACompT 3, cited in the HC Judgment at [1486].

¹³ The TCSD allowance accommodates the additional debt premium and the interest rate swap execution costs that a regulated supplier may incur if it issues debt with a term exceeding five years, irrespective of whether the supplier actually incurs those costs. The TCSD only applies to a regulated supplier with a debt portfolio, as of the date of its most recent audited financial statements, which has a weighted-average tenor greater than five years.

the structure and efficacy of the TCSD and, in doing so, undertake further empirical research on the nature and availability of swaps for regulated suppliers so that a TCSD – where necessary – may be able to be better articulated and connected with market practice.”¹⁴

15. Second, the Court stated that, given the acceptance by parties of the ‘leverage anomaly’ in the simplified Brennan-Lally CAPM, we might give consideration to alternatives to that model in future.¹⁵ Other CAPM models, such as the classic CAPM, do not suffer the leverage anomaly to anywhere near the same extent.

We have received a number of requests to review the cost of capital IMs

16. In response to the Court’s comments in the judgment on the cost of capital IMs, Consumer NZ, the Employers and Manufacturers Association Northern (EMA) and MEUG jointly requested that we urgently review those IMs. An urgent review was requested so that any revised IMs could be applied in the resets of the default price-quality paths (DPPs) for the ‘non-exempt’ EDBs, and in the reset of Transpower’s individual price-quality path (IPP), which will all apply for the five year regulatory period from 1 April 2015 to 31 March 2020.

17. Consumer NZ/EMA/MEUG argued that an urgent review would promote certainty not only for consumers, but for suppliers and investors as well.¹⁶

... we think that the perceived integrity of the regime, and the reputation of the Commission, would depend on consumers knowing that the issue has been fully explored and decided at the first available opportunity. That would be hard to achieve if delay allows the current uncertainty and likelihood of extraction of excessive profit to persist until 2020.

Though they will want to preserve an overly generous WACC for as long as possible, the regulated suppliers have a strong interest in the robustness and longevity of the regime. If the current generosity is preserved by omission to review the IM[s] now, the uncertainty as to what will emerge when the price-quality paths are reset will be mentioned repeatedly in investment analysis. Six years of uncertainty for investors in regulated suppliers, about such a material aspect of their permitted WACC, is not conducive to confidence in the regime.

18. Subsequently, the Board of Airline Representatives New Zealand (BARNZ) wrote to us in support of Consumer NZ/EMA/MEUG’s request to review the cost of capital IMs as soon as possible.¹⁷

¹⁴ HC Judgment at [1285] and [1288(b)]. Compared to the questions raised by the Court about the 75th percentile, the questions concerning the TCSD affect only a small number of regulated suppliers and are significantly less material.

¹⁵ HC Judgment at [1646]. Under the simplified Brennan-Lally CAPM, the WACC increases linearly with leverage. This implies that, if the model is correct, firms would opt for zero leverage to minimise their cost of capital, which is not consistent with the fact that firms do borrow.

¹⁶ Consumer NZ, EMA, MEUG, Energy prices and urgent review of cost of capital input methodology, Letter from Suzanne Chetwin, Kim Campbell and Ralph Matthes to Dr Mark Berry, 19 December 2013, page 2.

We want to hear and consider your views

We are seeking your views now because the judgment affects regulatory certainty

19. The comments in the judgment raise some fundamental and material questions about the current cost of capital IMs, and offset the regulatory certainty that has otherwise been promoted by the Court leaving those IMs unchanged.¹⁸ We agree with Consumer NZ/EMA/MEUG that, irrespective of the outcome of any subsequent appeals of the judgment to the Court of Appeal, a material uncertainty will remain until investors know whether our consideration of the concerns raised by the High Court about the uplift from the mid-point to the 75th percentile will result in us retaining, reducing or removing that uplift.
20. We place a high value on the regulatory certainty and predictability provided by Part 4. Therefore, we are seeking your views now on how we might best address the uncertainty created by the judgment. Specifically, we have the following key questions for interested parties.
 - 20.1 Are the positive incentives provided by using the 75th percentile WACC significantly weakened until we address the concerns raised by the Court?
 - 20.2 Should we bring forward a review of the cost of capital IMs?¹⁹
 - 20.3 If not, should we consider an amendment to the cost of capital IMs solely of the 75th percentile WACC estimate used for setting price-quality paths?²⁰
 - 20.4 Is there any other option that avoids the risk of locking in higher prices for electricity consumers, if we were to later conclude that the uplift should be reduced or is not warranted?
 - 20.5 What evidence is there in support of either the 75th percentile or credible alternatives?
 - 20.6 In selecting an appropriate WACC percentile, how significant is it that regulated outputs are inputs to other sectors of the economy?

Are the positive incentives provided by using the 75th percentile now weakened?

21. Our main reason for using a WACC estimate above the mid-point for setting price-quality paths was to increase the likelihood that regulated suppliers have appropriate incentives to undertake efficient investment. The judgment creates at least some expectation that the WACC estimate used in price-quality regulation

¹⁷ BARNZ, Request for Review of Cost of Capital Input Methodology, Letter from John Beckett to Dr Mark Berry, 23 December 2013.

¹⁸ MEUG has sought leave from the High Court to appeal the Court's decision not to amend the use of the 75th percentile WACC in the cost of capital IMs, and other parties may decide to cross-appeal. The IMs continue to apply, however, until any appeal against them is fully determined (s 53(2)).

¹⁹ A review of the cost of capital IMs would be undertaken in accordance with s 52Y(1).

²⁰ Any amendments to the cost of capital IMs would be undertaken in accordance with s 52X.

will, sooner or later, be reduced closer toward the mid-point. Therefore, until we have completed our consideration of the matters raised in the judgment, any positive investment incentives provided by using the 75th percentile WACC are likely to be significantly weakened. Consequently, the justification for allowing regulated suppliers to earn, and consumers to pay for, returns expected to be consistent with the 75th percentile WACC are likely to be compromised.

22. We are interested in whether you agree that, until we decide whether to retain, reduce or remove the existing uplift to the mid-point WACC estimate, using the 75th percentile WACC is unlikely to provide the intended incentives for efficient investment.

Should we do a review of the cost of capital IMs early?

23. Both the Court, and the subsequent requests we received from consumer groups, consider that we should address the issues raised in the judgment as part of the next review of the cost of capital IMs. The consumer groups urge us to complete that review as soon as possible, whereas the Court did not express any views as to when the next review of the cost of capital IMs might (or should) occur. The latest that Part 4 allows a review of the cost of capital IMs to be completed is by January 2018.²¹
24. To be applied in time for the reset of the current DPPs applying to GPBs, the review of the IMs would need to be completed a reasonable amount of time before the end of May 2017.²² Otherwise, any changes to the IMs for GPBs would not be reflected until the following regulatory period, which begins in 2022.²³
25. One reason for reviewing the IMs earlier than May 2017 would be to allow any appeal process to be well underway (or completed) by the time the gas DPPs are reset. As well as providing certainty to suppliers and consumers as to the methodology to be used for determining the WACC estimates used in resetting price-quality paths, this would minimise the extent of any mandatory claw-back in the event the revised IMs were successfully appealed.²⁴
26. To be applied in time for the reset of the EDB DPPs and Transpower's IPP, which will take effect in April 2015, the review would need to be completed sometime before the end of November this year. As we note below, however, we think it is unlikely that a comprehensive and robust review could be completed within that time frame.

²¹ The initial IMs were determined in December 2010, but not published until the following month.

²² The current gas DPPs all end on 30 September 2017. In practice, s 53M(7) requires that the s 52P determination giving effect to the DPP reset for GPBs must be published at least 4 months earlier.

²³ DPPs (as well as CPPs and IPPs) may not be reopened within a regulatory period on the grounds of a change in an IM, unless the IM changes as a result of an appeal (s 53ZB).

²⁴ Under s 53ZB(3).

27. Information disclosure regulation provides less of a constraint. Any WACC estimates published in accordance with revised cost of capital IMs could be used by us in any subsequent analysis of relevant disclosed data.²⁵
28. A review would likely canvass some of the developments in regulatory theory and practice relating to the cost of capital that have occurred since the IMs were set, or that were not given much attention by either ourselves or interested parties during consultation on the IMs. These include:
- 28.1 further consideration by the Queensland Competition Authority (QCA)²⁶ of the two-tiered cost of capital approach advocated for many years by Professor Dieter Helm;²⁷
- 28.2 recent support for a two-tiered cost of capital from Professor Ian Dobbs,²⁸ using a different approach from Professor Dieter Helm; and
- 28.3 the theory and recent practice of indexing price-quality paths to current estimates of the WACC.²⁹
29. In practice, a review of the cost of capital IMs would not be limited to just the matters that the Court raised. We have already identified a number of issues with the current cost of capital IMs that would be appropriate to consider as part of a review (if not amended sooner). These include the following considerations.
- 29.1 Differences in WACC between DPPs and CPPs might affect suppliers' incentives to apply for a CPP.³⁰ Potentially this issue could be addressed by the indexation approach mentioned above.

²⁵ Under s 53B(2).

²⁶ QCA, Discussion Paper, Split Cost of Capital, April 2013; and QCA, Information Paper, The Split Cost of Capital Concept, February 2014. In that most recent paper, QCA concluded that, until implementation issues are resolved, it would be premature to adopt the split cost of capital concept, but the concept is a useful tool for better understanding the amount, allocation and pricing of risk (ibid, page i).

²⁷ For example: Dieter Helm, Infrastructure investment, the cost of capital, and regulation: an assessment, Oxford Review of Economic Policy, Vol. 25, No. 3, 2009, pages 307-326. Professor Helm's split cost of capital proposal has been the subject of some strong criticism. QCA surveys some of those criticisms: QCA, Discussion Paper, Split Cost of Capital, April 2013, Chapter 5.

²⁸ Ian Dobbs, Modelling welfare loss asymmetries arising from uncertainty in the regulatory cost of finance, Journal of Regulatory Economics, Vol. 39, 2011, pages 1-28. Professor Dobbs argues that, for past investment, there is little justification for an uplift in WACC from the mid-point, because the impact on welfare from under- or over-pricing is relatively symmetric. On the other hand, because there is a strong asymmetry in expected economic welfare for new investment, he considers there to be a strong case for an uplift (at percentile values in the high 80s or 90s).

²⁹ For example, the theory is discussed in: Richard Brealey and Julian Franks, Indexation, investment and utility prices, Oxford Review of Economic Policy, Vol. 25, No. 3, 2009, pages 435-450. Various components of WACC could potentially be indexed: either the entire WACC, the cost of debt, or the risk-free rate or debt premium. Ofgem has adopted annual cost of debt indexation as part of its most recent price determination for electricity distribution: Ofgem, Strategy decision for the RIIO-ED1 electricity distribution price control, financial issues, 4 March 2013, page 10.

³⁰ For example: Commerce Commission, Resetting the 2010-15 Default Price-Quality Paths for 16 Electricity Distributors, 30 November 2012, footnote 88.

- 29.2 Bloomberg no longer publishes the New Zealand A fair-value curve required to operationalise the TCSD allowance in respect of new qualifying debt.³¹
- 29.3 The cost of capital IM for airports uses market information as at the first day of the disclosure year. Therefore, our published WACC estimates do not necessarily align with the WACC values used by airports when setting their prices, which are likely to be determined as at different dates.³²
30. Whether or not a review could be completed by November 2014, we seek your views on the pros and cons of bringing forward the review of the cost of capital IMs. In particular, we are interested in:
- 30.1 what a realistic timeframe for doing a comprehensive and robust review would be, and when such a review should start;
- 30.2 what the likely impact of doing a review early would be on regulatory certainty, incentives for efficient investment, and confidence in the Part 4 regime; and
- 30.3 whether it would be appropriate to review the cost of capital IMs in isolation from the other IMs, given that this might mean any inter-dependencies would not be able to be appropriately considered.

Should we consider an amendment solely to the 75th percentile?

31. Given the range of issues a review of the cost of capital IMs would need to cover, we consider it would be unlikely that we could complete such a review in time for any revised IMs to be applied in the November 2014 resets of the EDB DPPs or Transpower's IPP. Nonetheless, we acknowledge Consumer NZ/EMA/MEUG's point that, if the 75th percentile provides an estimate for WACC that is "too high", it might be costing consumers millions of dollars per annum.³³
32. We are interested in your views on whether it would be possible and desirable to consult solely on a potential amendment to the level of the WACC percentile used for price setting purposes. Consulting solely on a potential amendment to the 75th

³¹ Our TCSD methodology requires data from the Bloomberg New Zealand A fair value curve to determine the amount of additional credit spread for long tenor debt. Bloomberg has now stopped publishing the New Zealand A fair-value curve. As a result, the methodology cannot fully be used to estimate the TCSD on new debt, although firms could still be given the minimum allowance (15 basis points) specified in the IM on qualifying debt. Alternatively, consideration could be given as to the suitability of other means to operationalise the TCSD, such as the US BBB+ Utilities fair value curve, or Australian fair value curves, to replace the reference to the NZ A fair value curve.

³² For example: Commerce Commission, Final report to the Ministers of Commerce and Transport on how effectively information disclosure regulation is promoting the purpose of Part 4 for Auckland Airport, 31 July 2013, paragraphs F51-F53.

³³ Consumer NZ/EMA/MEUG argue that the use of the 75th percentile could be costing consumers over \$150 million per annum: Consumer NZ, EMA, MEUG, Energy Prices and Urgent Review of Cost of Capital Input Methodology, Letter from Suzanne Chetwin, Kim Campbell and Ralph Matthes to Dr Mark Berry, 19 December 2013, page 1.

percentile WACC at this time would be unlikely to be optimal, given it would not be part of a comprehensive review. However, this approach might better promote the long-term benefit of consumers than the current cost of capital IMs. We also note that the Court considered the question about the 75th percentile to be separable from the question whether the rest of the WACC calculations were “right” (ie, “free from bias”).³⁴ Most importantly, because the scope of the change would be focused, any amendment could potentially take effect in time for the November 2014 resets.

33. Consideration of the two-tiered WACC and indexation proposals would need to be deferred until the comprehensive review of the IMs. We note, however, that the rationale for the two-tiered WACC proposal is intended to avoid disincentives for new investment. Therefore, deferring consideration of that proposal is of less concern than delaying our consideration of the appropriate uplift from the mid-point WACC, given that uncertainty concerning the uplift may be having an effect on investment incentives already.
34. The uncertainty created by the judgment about the appropriate WACC percentile to use for price-quality regulation is somewhat different from that created by any regular review of the cost of capital IM. Incremental (as well as more significant) changes to the IMs that might result from a regular review probably involve both downside and upside revenue risk for suppliers. By contrast, the questions raised by the Court about the use of the 75th percentile WACC might imply that the (probability-weighted) risk to suppliers is more likely to be a downside one.³⁵ That would suggest it is appropriate to try and resolve the question concerning an appropriate WACC percentile sooner rather than later.
35. To ensure consistency of our approach between sectors it would also be prudent to consult at the same time on possible changes to the WACC percentile values published for information disclosure purposes. However, we recognise there would be a greater urgency to complete any amendments that would be able to be given effect in the November 2014 DPP and IPP resets.
36. Interested parties now have an opportunity to put to us any factors they consider might outweigh the benefit of resolving the questions raised by the Court, about the appropriateness of the 75th percentile WACC, before the November 2014 resets. One objection to consulting solely on the appropriate WACC percentile might be that it could be more difficult for relevant inter-dependencies with other aspects of the cost of capital IMs (or other IMs) to be fully taken into account. We consider that one way to address such a concern would be to undertake reasonableness checks of the WACC estimates produced by any change to the WACC percentile, as we did for our original decision on the 75th percentile.

³⁴ HC Judgment at [1458]-[1459].

³⁵ Since we signalled earlier this month that we would consult on the questions raised by the Court, at least one market analyst has factored in at least a 50% chance that we will remove or change the existing uplift to the 75th percentile (ie, Macquarie Private Wealth, Vector, ComCom swerves off piste, 7 February 2014, page 1).

Are there any other options for addressing the Court's concerns?

37. As noted above, we must reset EDBs' and Transpower's price-quality paths for the forthcoming five year regulatory period by November this year. If we do not resolve the questions raised by the Court by then, we cannot subsequently reopen a price-quality path within a regulatory period on the grounds of a change in an IM.³⁶
38. Nevertheless, we are interested in whether you think there are any other options for addressing the Court's concerns that would avoid the risk of locking in higher prices for electricity consumers for another five years (ie, in the event we did not amend the cost of capital IMs before the resets, and were later to conclude the uplift should be reduced or is not warranted).

What evidence is there in support of either the 75th percentile or credible alternatives?

39. As noted above, the Court criticised the lack of empirical evidence in support of the use of the 75th percentile WACC, but it also decided not to amend the cost of capital IMs given the lack of evidence in support of a credible alternative.
40. The Court also noted that, during consultation on the IMs, there was widespread agreement that a "loss function approach was appropriate, but no flesh was put on the idea." A loss function would estimate the social harm incurred by over-estimating and under-estimating the WACC and provide guidance as to where the expected harm would be minimised.³⁷
41. When we set the IMs, there appeared to have been little experience with developing a robust loss function approach to assist in choosing an appropriate percentile for the WACC estimate. For example, although not referenced in our final IM reasons papers, in 2008 Professor Dobbs made the following remarks.³⁸

The principle weakness in this literature concerns the 'extent of adjustment'. Clearly, an asymmetry in welfare losses associated with over- versus under-estimation motivates the choice of a percentile value above the 50th, but it says little about how far above the median constitutes an 'appropriate' adjustment. That is, no special 'significance' can be attached to a particular percentile, such as the 90th or 95th, without the specification of a welfare loss function.

Although there is considerable literature bearing on information asymmetries in regulatory economics, the only contribution that attempts to explicitly model the extent of welfare loss in the context of errors in WACC estimation is Wright et al (2003). However, the Wright et al analysis did not embed the loss function in a Monte Carlo simulation and the model used to 'determine' the extent of the welfare loss is rather limited in other ways. There is clearly more work that might be beneficially made concerning the determinants of the welfare loss function, given that, if a loss function can be determined, this then defines the extent of uplift that is appropriate.

³⁶ Under s 53ZB(1).

³⁷ HC Judgment at [1438] and [1465].

³⁸ Ian Dobbs, Setting the regulatory allowed rate of return using simulation and loss functions – the case for standardising procedures, Competition and Regulation in Network Industries, Vol. 9, No. 3, 2008, pages 229-246.

... explicit modelling of the structure of welfare loss arising out of WACC misestimation has thus far been extremely limited. Perhaps this is because a range of factors are likely to affect welfare loss, and the devil lies in the detail.

42. It was of course not possible to observe whether, in practice, the numeric results of our cost of capital IMs would provide sufficient incentives for efficient investment until we had set price-quality paths on the basis of those IMs. Since we set the IMs, there have been a number of observations that might suggest the use of the 75th percentile WACC is higher than is needed to promote efficient investment. These are:
- 42.1 *2013 valuation of Transpower.* In its November 2013 valuation assessment of Transpower, Northington Partners assess the return required by potential investors (ie, 7.00%) to be lower than our 75th percentile WACC estimate (ie, 7.19%).³⁹
- 42.2 *2013 Powerco transaction.* In the same assessment, Northington Partners refer to the recent transaction involving the acquisition of a 42% equity stake in Powerco. They state that: “Our analysis suggests that the EV of Powerco implied by this transaction is well in excess of book value, a result which suggests that the new investor’s required rate of return is lower than Powerco’s regulated rate of return.”⁴⁰ Commentators on overseas transactions involving regulated entities make the same point: the obvious implication of transactions that exhibit a significant premium to the regulatory asset base (RAB) value is that investors’ behaviour indicates the relevant company’s cost of capital is lower than the regulator’s assumption.⁴¹
43. We are interested in your views on the significance of these observations. More generally, we seek evidence from interested parties in support of either our

³⁹ Northington Partners, Transpower New Zealand Limited, Valuation Assessment, 15 November 2013, page 5. We acknowledge, however, that in earlier assessments closer to the GFC, other analysts described the outcome of our approach in somewhat less generous terms. For example: “The Commerce Commission has decided to apply a post tax WACC of 7.19% for Transpower from FY12 to its FY15 (4 years inclusive). This is in contrast to Transpower’s estimate of its WACC of 7.8% and our estimate of Transpower’s WACC of 7.6%. ... This means Transpower is earning less on its regulated assets than we think the listed market would require out to 30 June 2015” (First NZ Capital, Transpower, a valuation perspective, 31 October 2011, pages 3 and 8); and “we believe the 2011/12 – 2014/15 regulatory period mid-point estimate of WACC is understated. It is only the ComCom’s adoption of the 75th percentile that brings the WACC up to 7.19% and a level that almost adequately compensates investors. Our observation is that investors are currently still seeking greater returns for the risks they are being exposed to as the after effect of the ... GFC runs its course” (Forsyth Barr, Transpower, Capex coming to fruition, 8 November 2011, page 5). On the other hand, in comments on the longer term, Forsyth Barr stated that: “Our estimated long-term WACC for Transpower is 7.24%, 67bp below our estimate of the ComCom’s long-term WACC of 7.91%. The key difference is that the ComCom adds a premium onto its base WACC estimate to counter the regulatory risk of underinvestment” (ibid, page 1).

⁴⁰ Northington Partners, Transpower New Zealand Limited, Valuation Assessment, 15 November 2013, page 5.

⁴¹ For example: CEPA, RIIO-T1 & RIIO-GD1: Financial issues, a report for Centrica, February 2011, pages 14-17.

existing decision on the 75th percentile WACC, or in support of credible alternatives. We are also interested in exploring whether it is possible to undertake robust loss function analysis in support of the chosen percentile.

44. We think it is useful to start collecting evidence and exploring analytical approaches now, irrespective of whether any changes to the cost of capital IMs are considered ahead of the November 2014 resets.

How significant is it that regulated outputs are inputs to other sectors of the economy?

45. One ‘in-principle argument’ that the Court presented against the use of the 75th percentile was that, as well as being used by final consumers, the outputs of regulated suppliers are inputs to numerous other sectors of the economy. If the prices paid by user industries are higher than the resource cost of producing the regulated outputs, then inefficiency is promulgated throughout the economy. The Court noted that this is what is implied by higher than normal expected returns. Therefore, the Court considered that, at the very least, we should consider (and if possible estimate) the inter-sectoral effects of our WACC decision.⁴²
46. In the past we have taken the view that we need only consider the costs and benefits of using the 75th percentile WACC in the relevant regulated market because the flow on effects in other markets are, under certain assumptions, fully reflected in that market.
47. We considered a similar issue (ie, the impact of Transpower’s investment on other sectors of the economy) when we determined the capital expenditure IM for Transpower. That IM sets out the rules and processes which Transpower and the Commission must apply when Transpower proposes a major capital investment. The capital expenditure IM reasons paper explains the role of wider economic effects in the investment test that Transpower has to apply.⁴³

Transmission investments may also produce market costs or benefits that accrue to consumers outside the electricity market. To the extent that the markets in which such impacts arise are competitive, an analysis that focuses solely on the electricity market will give the same end result as an analysis that explicitly accounts for the cost and benefits that arise in other markets.⁴⁴ This means that an analysis focusing on the electricity market can be regarded as including the relevant impacts in all other markets that are workably competitive. This is the analytical basis of the standard practice in cost benefit analysis of focusing on the costs and benefits arising in the market directly affected by an intervention, in this context, a proposed transmission investment.

48. If the assumptions outlined in the quote above (and in the referenced text book) hold, then the wider effects on the economy will already be taken into account.

⁴² HC Judgment at [1475]-[1476].

⁴³ Commerce Commission, Transpower Capital Expenditure Input Methodology, Reasons Paper, 31 January 2012, paragraph 7.2.9.

⁴⁴ Footnote in quote: For an explanation of the relevant microeconomic theory applied to cost benefit analysis refer to Boardman A., Greenberg D.H., Vining A. R., Weimer D. L., Cost-Benefit Analysis: Concepts and Practice, Prentice Hall, 4th Edition, 2011.

This means that if we undertake a cost-benefit assessment to assist in the choice of WACC percentile, we would not have to undertake the analysis referred to above in paragraph 45.

49. We are interested in your views on whether our previous approach to dealing with wider economic effects is appropriate, and whether we should consider further how a cost-benefit assessment that takes into account wider economic effects could inform the choice of the WACC percentile. We are also interested in evidence that may help us trade-off the direct impact of any WACC percentile choice on the services subject to economic regulation and the wider economic impacts on other sectors.⁴⁵

Our next step will be to decide whether to issue a ‘notice of intention’

50. Submissions on this paper are due by **5.00pm on Thursday, 13 March 2014**. Please address responses to: Brett Woods (Senior Analyst, Regulation Branch), c/o regulation.branch@comcom.govt.nz.
51. Once we have considered submissions on this paper, we will decide whether to:
- 51.1 defer further consultation on the issues raised by the Court on the cost of capital IMs until such time as we initiate a review of those IMs (which might form part of a review of all the IMs);
 - 51.2 bring forward the review of the cost of capital IMs, and begin that review by issuing our process and proposed time frames as part of a ‘notice of intention’;⁴⁶
 - 51.3 proceed with consulting only on amending the WACC percentile to be used in price-quality regulation, with the aim of completing that work prior to the end of November this year—the option we currently favour; or
 - 51.4 implement some other option arising out of this consultation process.
52. If we decide to consult on amending the WACC percentile only, our first step would be to issue a ‘notice of intention’ to amend the cost of capital IMs.⁴⁷ We intend to make that decision by the end of next month. Table 1 on the next page sets out an indicative timeline for the process that would be needed to amend the relevant cost of capital IMs in time for the November 2014 DPP and IPP resets.

⁴⁵ The information from a cost-benefit assessment could be applied in the context of a loss function analysis (referred to in paragraph 40 above). Different WACC estimates would be expected to have different effects on investment in regulated services and the wider economy. Making further relevant assumptions (such as the uncertainty in the estimates of the costs and benefits of getting the WACC wrong), would allow a loss function approach to be used to choose a WACC percentile that minimises the expected cost of getting the WACC wrong. However, if the wider economy effects are already taken into account, to avoid double counting the loss function analysis should focus only on investment in the sectors directly affected by the WACC percentile decision.

⁴⁶ As would be required by s 52V(1).

⁴⁷ An amendment to an IM that involves a “material change” must also follow the process set out in s 52V.

Table 1: Possible process steps and indicative dates if we were to amend the cost of capital IMs

Process step	Indicative date
This invitation (and request for evidence) published	20 February 2014
Submissions due on this paper	13 March 2014
Notice of intention to amend the cost of capital IMs	By the end of March 2014
Draft amendments to the cost of capital IMs	23 June 2014
Submissions due on draft amendments	4 August 2014
Cross-submissions due on draft amendments	18 August 2014
Final amendments to IM determinations	30 September 2014

53. Table 1 indicates that we would aim to complete consultation on the IM amendments by the end of September this year. This is because the current cost of capital IMs for EDBs and Transpower require us to determine the WACC estimate used in DPPs and the IPP at least 6 months before the start of the relevant regulatory period (ie, 6 months before 1 April 2015). However, should this time frame prove too challenging, we could also consult on whether to shift the date for determining the WACC estimates for the forthcoming regulatory period.