

TRANSPower NEW ZEALAND LIMITED

Submission to the
Commerce Commission on:
Input Methodologies Transpower
Draft Reasons Paper
Part 2 – Cost of Capital Draft Decisions

August 2010



TRANSPower

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Input Methodologies (Transpower) Response to the Commerce Commission’s draft decisions

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Supporting Documents

- 1) **Professor R.R. Officer and Dr. S Bishop:** Independent Review of Commerce Commission’s WACC Proposals for Transpower.
- 2) **Professor Graeme Guthrie:** Measurement Error and Regulated Firms’ Allowed Rates of Return.
- 3) **Cameron Partners:** Report to Transpower New Zealand Limited Relating to a market based WACC assessment.

Key Point Summary

Introduction

1. This is Part 2 of Transpower's submission on the Part 4 consultation material comprising the Commission's draft decisions on Input Methodologies and the Individual Price-Quality Path for Transpower, and the accompanying draft determination ("the draft decisions").
2. Our submission on the draft decisions is in three parts:
 - Part 1: on all non-cost of capital issues (submitted on 9 August);
 - Part 2: on cost of capital issues (submitted on 16 August); and
 - Part 3: comments on the wording of the draft determination (submitted on 16 August).
3. This document (Part 2) addresses cost of capital issues and consists of:
 - our Key Point Summary;
 - submissions on specific draft decisions (in tabular form); and
 - three expert opinions¹ on various matters relevant to the correctness of the Commission's draft decisions on the cost of capital methodology:
 - Professor Graeme Guthrie: who comments on the treatment of aspects of measurement error, including estimation error, model error and intra-cycle variation, and the effects these have on deriving an appropriate estimate of the regulated rate of return;
 - Professor Bob Officer and Dr Steve Bishop: who set out their estimate of Transpower's weighted average cost of capital (WACC)² that best accords with the overall purpose of Part 4 of the Commerce Act – incorporating, inter alia, their analysis of the continuing effects of the global financial crisis on the market risk premium;
 - Cameron Partners Limited: who assess the returns which an external investor would require for Transpower to attract investment, given its asset base, activities, specific risks, leverage, etc. – reflecting the fact that, in order to be socially efficient businesses, SOEs should have WACCs and other investment criteria that mimic those of privately held firms.

¹ We also draw, in this part of the submission, on the expert opinion from Harding Katz, provided in Part 1 of our submission, in which they contrasted the regulatory regime for transmission in Australia with that proposed by the Commission

² For consistency all references to WACC in this summary are expressed in post-tax nominal terms (as distinct from a vanilla WACC.)

4. In Part 1 of our submission, provided on 9 August, we sought, to the extent practical, to separate and conclude our submissions on non cost of capital issues. However, this division of issues is artificial and there are inevitably matters raised in each Part of the submission that need to be read in conjunction with the other Parts. In particular, Part 1 set out issues that have direct implications for decisions regarding the regulatory rate of return.

Summary assessment

5. In our view, supported by our experts' analysis, the Commission's approach to estimating Transpower's real WACC does not address the well-known shortcomings of the Capital Asset Pricing Model (CAPM). If applied, the Commission's proposed methodology would result in a significant under-estimate of the appropriate regulatory rate of return for Transpower.
6. We acknowledge that, notwithstanding the shortcomings of the CAPM, it provides a conventional starting point to assess the rate of return for Transpower's regulated activities. However, in forming its final judgments, the Commission needs to explicitly address the limitations of the CAPM by considering and taking account of:
 - i. The measurement errors inherent in using a CAPM based approach, highlighted in Professor Guthrie's report.
 - ii. The specific New Zealand market risk factors highlighted by Harding Katz – including stranded asset risk and other risk factors that are likely to deliver NPV negative outcomes and which create disincentives for capital investment.
 - iii. The additional insights, information and analysis provided by the capital markets, outlined in the Cameron Partners report.
7. The regulatory rate of return is critically important, because it will be applied over the regulatory control period to produce allowable revenue and incentivise investment. The costs and benefits of getting the regulatory rate of return wrong are asymmetric. An allowed rate of return that is set lower than a firm's actual cost of capital would represent a disincentive for investment, risking a relatively large welfare loss. Setting the rate of return at a level that is correspondingly higher than the firm's actual cost of capital would result in consumers paying too much for the firm's goods and services, but create a relatively small welfare loss.
8. The relatively low WACC produced by the Commission's methodology will, by discouraging efficient investment, which would promote the long-term interests of consumers, fail to promote dynamically efficient outcomes and fail to be consistent with the outcomes produced in workably competitive markets.

9. In so doing, the draft decisions fail to give adequate weight to the changes to the Part 4 Purpose Statement³ relative to the old s.57E Purpose Statement and to the Government policy statements transmitted to it under Section 26 of the Act. In particular the “*Statement to the Commerce Commission of Economic Policy of the Government: Incentives of regulated businesses to invest in infrastructure*” which states (paragraph 7(b)):

The Government’s economic policy objective is that regulated businesses have incentives to invest in replacement, upgraded and new infrastructure and in related businesses for the long term benefit of consumers. The Government considers that this objective will be achieved by:

- a. regulatory stability, transparency and certainty giving businesses the confidence to make long-life investments;*
- b. regulated rates of return being commercially realistic and taking full account of the long-term risks to consumers of underinvestment in basic infrastructure; and*
- c. regulated businesses being confident they will not be disadvantaged in their regulated businesses if they invest in other infrastructure and services.*

10. Our expert opinions all point to a significantly higher rate of return being appropriate. While their approaches differ, their arguments are complementary and share some common themes, one of these being the Commission’s failure to give adequate weight to the ongoing impact of the global financial crisis on the market risk premium, despite substantial evidence of its continuing effects.

11. The experts’ conclusions regarding an appropriate rate of return are set out below. In summary, the draft decisions need to be modified significantly if they are to be in accord with these and generate a regulated rate of return that is consistent with the Section 52A(1) Purpose Statement:

CC view⁴	Guthrie	Cameron Partners	Officer	Est. AER view⁵
7.3%	8.4%–8.65% (1 in 10 firms has disincentive to invest)	8.2%-9.3%	8.7%	8.1%

³ Section 52A(1) of the Commerce Act 1986.

⁴ For the purposes of discussion, we have used an estimate of 7.3% to represent the Commission’s draft decision on the allowed a rate of return. This is the estimate derived by Officer and Bishop. In practice, the draft decisions provide for a methodology to calculate the rate of return rather than determining a specific value.

⁵ This is an estimate derived by Officer and Bishop based on their application of the methodology used by the Australian Energy Regulator in recent relevant regulatory determinations.

12. In making this assessment, we have utilised benchmarking against Australian transmission regulation. Our experts inform us that the proposed New Zealand regime has non-systematic risks (for example of asset stranding), which are significantly greater under the Commission's proposals than the Australian regime⁶. The figures in the table do not reflect these risks and assume that cash flows (or the draft decisions) are adjusted to compensate for the non-systematic risks in order to allow the rates of return in the Australian and New Zealand regimes to be compared directly.
13. To the extent that non-systematic risks remain, it follows that the regulated rate of return allowed for Transpower should include an additional premium (over and above an estimate of WACC) to compensate for those risks and the inevitable consequence that some investments will earn a sub-economic return⁷. Officer and Bishop note that it is a mistake to believe that because non-systematic risk is diversifiable it does not require acknowledgement and compensation⁸.

Our approach

14. The Commission has applied a version of the CAPM as a theoretical framework for estimating Transpower's true WACC and we recognise that the Commission is likely to retain this approach. We consider that the framework can and should be materially improved, and that the final framework needs to be robust against other assessments of Transpower's WACC.
15. Our approach focuses on testing the reasonableness of the expected outcomes of the draft decisions. The expert opinions of Professor Guthrie and Professor Officer do not engage in critiques of the foundations of the general CAPM model for WACC estimation. They take the model as given, but highlight various concerns about the selection of input parameters and aspects of the model's application.
16. To help assess the Commission's draft decisions, two questions are relevant:
 - How likely is it that the returns in prospect under the Commission's draft decisions will adequately compensate for the risks that Transpower faces? and,

⁶ Refer to the expert opinion of Harding Katz provided with Part 1 of Transpower's submission.

⁷ This argument is directly analogous to the allowance for "optimisation" risk required under an Optimised Deprival Valuation methodology if an economic return is to be achieved. The Commission is familiar with this argument from previous regulatory consultations.

⁸ Officer, R.R. and Bishop, S. *Independent Review of Commerce Commission's WACC Proposals for Transpower*, p. 26

- How likely is it that the returns will be sufficient to incentivise efficient investment that will promote the long-term interests of consumers and attract new investors to risk their capital in Transpower?
17. The answers under the Commission’s proposals are, on both counts, not very likely at all. In fact, the various elements of the draft decisions that act to restrict the return that Transpower may earn on its investments make it very likely that many investments made by Transpower will return less than its actual cost of capital. This is clearly not acceptable and, we would argue, not what the Commission is required to deliver in terms of the s.52A(1) Purpose Statement, the relevant Government policy statements and the State-Owned Enterprises Act 1986, which requires that every SOE should operate as a successful business and be as profitable and efficient as comparable businesses that are not owned by the Crown.
18. Our analysis makes significant use of comparisons with Australia. There are various reasons why Australia’s arrangements form a useful benchmark. First, the regulatory returns for transmission companies in Australia are earned in a setting which makes them closely comparable businesses to Transpower, operating in a relatively mature regulatory regime, with similar competition and regulatory law frameworks. Second, the capital markets in Australia and New Zealand are highly integrated such that we can readily draw inference and parallels relevant to New Zealand based on Australian capital market experience.

Regulatory comparison with Australia

19. We first summarise the expert advice from Harding Katz, provided in Part 1 of our submission, in which they contrasted the regulatory regime for transmission in Australia with that proposed by the Commission. Harding Katz concluded that the risks in the Commission’s proposed regime are materially greater than those experienced by Australian transmission companies subject to Australian Energy Regulator (AER) regulation.
20. In summary, Harding Katz comment (inter alia) that:
- Transpower is exposed to substantially greater stranded asset risk than its peers in Australia, which will produce NPV negative outcomes compared to the Australian arrangements;
 - in a number of areas, Transpower will face negative cash flow outcomes compared to the Australian arrangements (with the one exception of the positive cash flow outcome from applying a depreciated rather than indexed historical cost asset valuation methodology); and
 - arrangements for recovering unforeseen cost increases are more risky for Transpower than those in Australia.

21. These risks are strongly asymmetric. The outcomes are overwhelmingly skewed toward delivering a return on investment below the Commission's estimate of WACC, with the best (but unlikely) outcome being a return equal to that estimate.
22. A comparable return for an Australian transmission company, to the estimate of ca. 7.3% that the Commission's draft decisions would produce, is currently around 8.1%⁹. In light of the observations from Harding Katz, we consider that the appropriate rate of return for Transpower should be materially above the Australian value. The amount which it should be above the Australian WACC depends on the extent to which the Commission modifies other aspects of the draft decisions to remove the asymmetric investment risks identified by Harding Katz.
23. We asked Professor Officer and Dr Bishop to express an opinion as to the reasonableness and appropriateness of the Commission's proposals regarding the estimation of Transpower's WACC and to set out an estimate of Transpower's WACC that accords with the overall purpose of Part 4. They derived an estimate of 8.7%, without including any explicit increment for residual asymmetric risk.

Capital markets view

24. Cameron Partners Limited has assessed the returns that an informed professional investor would expect Transpower to generate, given the nature of its activities and assets. Their analysis does not draw on the CAPM but derives a capital markets' view. They derive a mid-point estimate of an implied WACC for Transpower of 8.7%.
25. The purpose of this work is to assess reasonable, allowable rates of return for Transpower from a perspective other than the CAPM, but nevertheless one that is very relevant to the providers of capital.
26. The Capital Markets Development Taskforce, chaired by Rob Cameron, provided the Government with a range of recommendations on the capital markets in New Zealand, aimed at enhancing the investment environment for retail investors and enabling New Zealand's capital markets to be a more efficient engine of economic growth.
27. To act as socially efficient businesses, SOEs should have rates of return and investment criteria that mimic those of other investor held firms. Cameron Partners Limited highlight the fact that the opportunity

⁹ This is the estimate from Officer and Bishop in seeking to apply the approach of the AER, as indicated by its more recent regulatory decisions or determinations.

cost of investing in Transpower’s regulated activities needs to meet (risk adjusted) return criteria that investors could obtain from alternative investments.

28. To attract investment capital, New Zealand must offer returns that are attractive relative to alternative investment locations, in particular Australia, given our highly integrated capital markets. Ultimately, an investor faced with a choice between providing capital to either Transpower or its Australian counterparts will, on the basis of the draft decisions, clearly favour investment in Australian infrastructure.

Measurement error

29. Professor Guthrie was asked to review and comment on the various sources of measurement error that arise when calculating the allowed rate of return and the effect that these have on the appropriate point estimate of the WACC. Professor Guthrie explains that, while the WACC is set for the regulatory period, its level should recognise that investment decisions are taken over the regulatory period and economic conditions fluctuate relative to the date the WACC is set. Hence, there is more than parameter measurement error to be accounted for.
30. Professor Guthrie identifies three distinct sources of measurement error, viz.:
- estimation error due to errors in estimating WACC using the CAPM (at the start of the regulatory cycle);
 - model error due to differences between the firm’s actual cost of capital and the theoretical prediction generated by the CAPM, as a result of omission from the CAPM of factors that affect the real cost of capital such as liquidity premia and allowance for non-systematic risk; and
 - intra-cycle variation due to changes in the actual cost of capital during the regulatory cycle.
31. Professor Guthrie concludes (inter alia) that the Commission has significantly under-estimated the increment to the point estimate of WACC needed to adjust for estimation error. He has made no allowance for intra-cycle variation. His analysis also recognises, but does not quantify, the further inherent under-estimate as a result of the Commission ignoring the presence of model error.

Aggregated cash implications for Transpower

32. In conjunction with the issues set out in Part 1 of our submission, we have identified a number of significant adverse cash flow impacts from the draft decisions, viz.: the low rate of return, delay in capex recovery for approved upgrade projects and asymmetric treatment of historical customer EV balances.

33. For illustrative purposes, the combined impact of these draft decisions would be to reduce Transpower's cash flow by \$105m over the course of RCP1 – assuming a 50 basis point under-estimate of the regulated rate of return. Every further 10 basis point under-estimate would increase the cash flow impact in RCP1 by another \$15m.
34. These are material sums which, if the Commission confirms its draft decisions, would adversely affect Transpower's future financial flexibility (for example, in relation to balance sheet gearing and future dividend payments) and compromise its ability to innovate and to invest, contrary to the Purpose Statement.

Specific Draft Decisions for the Cost of Capital (Chapter 6)		
Topic	Draft decision	Transpower comment
Leverage	<p>As a result of adopting the simplified Brennan-Lally model to estimate the cost of equity, the Commission needs to adopt a single leverage assumption.</p> <p>The Commission's draft decision is that it will use a service-wide notional leverage of 40% when estimating the cost of capital for Transpower.</p> <p>The Commission's reasons for adopting this level of leverage for Transpower are as outlined in Section 6.5 of the EDB Draft Reasons Paper.</p>	<p>Refer to pp. 7-9 of the Officer and Bishop report. The Commission's draft decisions on leverage are inappropriate.</p> <p>Transpower is subject to individual price-quality path regulation, so there is no need to apply an industry-wide approach to Transpower. As noted by Officer and Bishop, the Commission's argument that notional leverage is necessary to compensate for problems with the simplified Brennan-Lally model is inappropriate and perverse. A better approach would be to adjust the CAPM used to better reflect reality.</p> <p>Transpower's actual leverage is currently above 50 per cent and is forecast to move towards 60 per cent over the next several years. A leverage of 60 per cent is also more typically used by Australian transmission companies. Transpower submits that the leverage assumption used should approximate Transpower's actual leverage, and this would support the use of 60 per cent.</p>
	<p>The term of the risk-free rate will be five years in the case of information disclosure regulation for Transpower and estimates of the five-year risk-free rate will be done on an annual basis.</p> <p>The term of the risk-free rate will be five years in the case of the IPP and the estimate will be updated prior to the commencement of each regulatory period.</p>	<p>See pp. 9-11 of the Officer and Bishop report. Transpower disagrees with the use of five year duration bonds to determine the risk free rate. Transpower's planning horizon and the lives of its assets are much longer than five years (or ten years for that matter) and the average length of its actual debt maturities exceeds five years. (It is currently around seven years.) Consequently, Transpower submits that the basis for estimating the risk free rate should be ten year government bonds, this being the most liquid government debt instrument that reasonably approximates Transpower's planning horizon, the lives of its assets and the average length of its actual debt maturities.</p>
Debt Premium & Debt Issuance Costs	<p>The Commission's draft decision is to estimate the debt premium as the difference between the corporate borrowing rate and the risk-free rate. The term of the debt premium will match the term of the risk-free rate. As with the risk-free rate, the Commission proposes to update this five-year estimate of the debt premium for each cost of capital estimation.</p>	<p>Transpower submits that the term of the debt premium should match the term of the risk-free rate, which should be ten years (see the discussion above).</p>
	<p>The term of the debt premium will be the same as the term used for the risk-free rate.</p>	<p>Transpower agrees, with the proviso that the term should be ten years (see the discussion above).</p>
	<p>For information disclosure regulation, as was the case for the risk-free rate, the five-year estimate of the debt premium will be updated annually.</p>	<p>Transpower disagrees. The debt premium should be a ten-year estimate (see discussion above). Further, Transpower can see no good reason for using a different approach for information disclosure to that used for determining the individual price-quality path.</p>

	For the IPP, as with the risk-free rate, the debt premium will be estimated prior to each regulatory period and will not be updated once Transpower is on an IPP.	Transpower agrees, with the proviso that the period used should be ten years and there should be no distinction between the approach used information disclosure to that used for determining the individual price-quality path.
TAMRP	The Commission's draft decision is that the long-term TAMRP should be set at 7%.	This would reasonable for normal conditions, but not for the period of the global financial crisis, which seems likely to be an extended period.
	Due to the impact that the GFC has had on the equity markets, the Commission's draft decision in the context of Part 4 of the Act is that it is appropriate for the TAMRP to be temporarily increased to 7.5%. This temporary increase will apply for the financial year ends falling in the calendar years 2010 and 2011, before the TAMRP reverts to its long-term level of 7%.	Transpower disagrees. The period of the crisis appears likely to be extended and expert analysis of the appropriate adjustment to the market risk premium indicates that upward adjustment to the Commission's TAMRP estimate of about 2 per cent would be warranted (see pp. 14-22 of the Officer and Bishop report). See also p. 15 and Appendix 5 of the Cameron Partners Ltd report.
	Following this approach in the context of information disclosure, the TAMRP for 2009/10 would be 7.2% and for 2010/11 it would be 7.1%. In the context of the IPP, the TAMRP for the regulatory period 2011/12-2014/15 (inclusive) would be 7.0%.	Transpower disagrees. The TAMRP should be adjusted upward by about 2 per cent (see pp. 14-22 of the Officer and Bishop report).
Assets and Equity Betas	The Commission's draft decision in the context of Part 4 of the Act is that it will use an asset beta for Transpower of 0.34. Combining this estimate with a notional leverage of 40% equates to an equity beta for Transpower of 0.57.	Transpower disagrees (see pp. 22-14 and Attachment 2, pp. 36-41 of the Officer and Bishop report). The asset beta should be 0.4, leverage should be 60 per cent, approximating Transpower's actual leverage, and the equity beta should therefore be about 0.7. (This includes a beta for debt of 0.2.)
	In reaching this draft decision, as discussed in the EDB Draft Reasons Paper, the Commission uses comparable entity analysis as its primary approach to estimating the regulated service wide equity beta, and performs a sense check of the resulting equity beta estimate against other New Zealand market equity betas.	The Officer and Bishop report provides a sense check and reaches different conclusions.
Debt Data	The debt beta should be set at zero.	Transpower disagrees. The debt beta should be set at 0.2 (see pp. 22-24 of the Officer and Bishop report).

The Cost of Capital Range	The Commission's draft decision is to calculate a cost of capital range by estimating and combining individual parameters' standard error.	See the attached report by Professor Graeme Guthrie which extensively explores the appropriate treatment of estimation error and changes in the actual cost of capital over the regulatory cycle.
	For the purpose of information disclosure for Transpower, the Commission considers it appropriate to take a range between the 25th to 75th percentiles. For the purposes of the individual price-quality regulation, Commission considers that it is appropriate to apply a cost of capital estimate for Transpower based on the 75th percentile.	Transpower disagrees. The attached Guthrie report sets out a strong argument for using the 90 th percentile, particularly during the current period of economic uncertainty.
Possible Adjustments to the Cost of Capital	The Commission's draft decision is not to make any adjustments to the cost of capital for asymmetric risk.	Transpower disagrees. See pp. 25-27 of the Officer and Bishop report.
	For the purposes of the individual price-quality regulation, Commission considers that it is appropriate to apply a cost of capital estimate for Transpower based on the 75th percentile.	Transpower disagrees. There is a strong argument to support basing Transpower's cost of capital estimate on the 90 th percentile, particularly during the current period of economic uncertainty (see the Guthrie report attached).