



MAJOR ELECTRICITY USERS' GROUP

25th August 2016

Keston Ruxton
Manager, IM Review
Commerce Commission
By email to regulation.branch@comcom.govt.nz

Dear Keston

Second cross-submission on Input methodologies draft review decisions

1. This is the second cross-submission by the Major Electricity Users' Group (MEUG) on the submissions of 34 other parties that closed 4th August 2016 on the Commerce Commission's Input Methodologies (IM) review draft decision published 16th June 2016 and related materials.¹ The first cross-submission on all topics other than cost of capital was lodged last week.
2. Attached is a spreadsheet, "MEUG estimates of impact of changes in WACC 25-Aug-16", used to estimate the values referred to in this cross-submission. This is an internal MEUG working spreadsheet to test the effects of changes in cost of capital variables. It may be of benefit to other interested parties. Parties using the spreadsheet should do so at their own risk because it has many assumptions and caveats and is continuously revised as errors are corrected and improved formula used.
3. MEUG members have been consulted in the preparation of this submission. This submission is not confidential. Some members may make separate submissions.
4. This cross-submission has 5 sections:
 - a) Asset beta;
 - b) Debt issuance costs;
 - c) WACC percentile;
 - d) Leverage anomaly; and
 - e) Concluding comments.

¹ Refer <http://www.comcom.govt.nz/regulated-industries/input-methodologies-2/input-methodologies-review/>

Asset beta

5. Three expert views from the submission phase are considered below.
6. First, TDB for Contact Energy. TDB analysed the 74 firms used by the Commission to estimate asset beta etc. for regulated electricity and gas services. TDB analysed the difference in results for electricity and gas companies. TDB demonstrated many of the 74 firms in the Commission's comparator set did not have comparable risk profiles. An alternative three step filtering approach (along with a sensitivity analysis) to select firms with comparable risk profiles was considered by TDB. The robustness of their analysis was tested by classifying firms by country.² The latter could be considered a surrogate for different types of regulatory regime. TDB concluded:

“Our assessment of the Commission's compco set is that the Commission may have adopted too large a set at the expense of a loss in accuracy in the appropriate asset beta.”³

7. Second, Oxera for First Gas. Oxera analysed the difference between gas and electricity companies and the Commission's rationale for using the same asset beta for both gas and electricity whereas the current IM has a 0.1 difference (gas over electricity). Oxera, like TDB, then consider “a smaller sample of relatively closely matched comparator companies”⁴ A point of difference between Oxera and TDB is Oxera focus on comparable gas companies whereas TDB consider how their filtering approach would apply to gas and electricity companies. Oxera consider the conceptual and qualitative factors of whether in theory there should be and in practice if there is any observed difference between the asset beta for gas and electricity line services.⁵ Oxera then considers regulatory precedents.⁶ Oxera conclude:

“... the Commission's proposal to remove the existing uplift of 0.1 on the asset betas for gas pipeline businesses runs counter to how the market evidence on asset betas has evolved.”⁷

8. Third, Mr Duignan. Mr Duignan noted an error by the Commission and its advisor in an earlier analysis on the relative importance of growth options compared to customer types when considering a beta differential between gas and electricity.⁸ Mr Duignan submitted:

“In these circumstances, where the key issues are data analysis, possible measurement errors or instabilities relating to international data and multiple possible interpretations of results, obtaining a new opinion from international expert consultants with in-depth knowledge of the relevant companies and beta data would be very valuable in terms of confidence in the regulatory process. The Commission used international consultants in regard to the beta for the telecommunications pricing decisions and for the cost of capital uplift review. It would be consistent with those precedents for the Commission to engage such consultants now on this beta issue.

² TDB, 4th August 2016, section 2.2.

³ Ibid, Executive Summary.

⁴ Oxera, 4th August 2016, section 2.3.1.

⁵ Ibid, section 3.

⁶ Ibid, section 4.

⁷ Ibid, Executive summary, p1.

⁸ Network growth options for gas lines businesses as a factor for considering asset beta were also considered by Oxera (section 3.3). Box 3.1 of Oxera's report notes academic evidence by Bernardo, Chowdry and Goyal (2007) and their estimate of approximately 2% higher cost of capital from high growth option firms using asset beta for computer companies as an example. MEUG submission of 24th March 2016 (paragraph 9 and appendix 1) also referred to Bernardo et al. and a more recent analysis of firms from 1977 to 2009 that included a “Utilities” group. MEUG noted “The ratio of asset beta to project beta for “Utilities” is close to 1 reflecting the absence of growth options.”

The draft decision states the Commission is willing to convene a workshop on the gas beta issue. Such a workshop would be far more satisfactory as a mechanism for ensuring the issue has been addressed in a way appropriate to the issue's significance, if an independent report by international consultants was available rather than a format in which the Commission's own data analysis and Dr Lally's analysis is the central focus of the discussion"⁹

9. MEUG's responses to the above follow:

- a) MEUG agrees with the submissions of TDB, Oxera and Mr Duignan that the grand averaging of the 74 companies used by the Commission should be reviewed, the review should include an assessment of whether firms in the comparator set have comparable risk profiles and a re-assessment of the draft decision to use the same asset beta for electricity and gas line services.¹⁰

The appendix to this cross-submission illustrates that changes in asset beta can result in material changes in charges paid by consumers. For example Table 1 in the appendix estimates that every 0.01 change in asset beta for Transpower and EDB would, relative to the Base case (the June 2016 draft decision), change charges paid by consumers by \$18 million per annum. Table 2 in the appendix illustrates scenarios using different asset beta for electricity and gas from the TDB analysis.

- b) We look forward to attending the Commission workshop on 7th September 2016 where asset beta is to be considered. One approach for the workshop would be to use the TDB filtering approach as a pivot point for discussion. The analysis by TDB is preferred as a strawman to assist discussion rather than the analysis by Oxera because the latter considered gas companies in detail whereas TDB applied their filtering approach to both electricity and gas companies.

Debt issuance costs

10. MEUG submitted that debt issuance should be 0.10%. We have read the submissions of other parties. Nothing has changed our view.
11. Table 2 in the appendix illustrates the materiality of a change in debt issuance costs from 0.20% to 0.10%. As can be observed the change in charges paid by consumers is not as great as changes that could occur with a change in asset beta discussed above or WACC percentile discussed in the next section. Nevertheless the difference between choosing 0.20% or 0.10% for debt issuance is material being approximately \$7 million per annum difference in charges paid by consumers.
12. MEUG's submission of 4th August 2016 discussed our concern that the Commission may decide in effect to "aim up" in favour of regulated suppliers without considering the cost of shifting away from market evidence of debt issuance costs. In this cross-submission we have put a value of "aiming up", i.e. \$7 million per annum.

⁹ Mr Duignan, 30th June 2016, pp2-3.

¹⁰ To that extent we are now open to considering a difference in asset beta between electricity and gas contrary to MEUG submissions of 24th March 2016 (paragraphs 5 to 9).

WACC percentile

13. MEUG submitted:

“Given the materiality of this asymmetric risk uplift we suggest the Commission should continue work on improving methods to estimate the optimal percentile.”¹¹

14. Contact Energy submitted:

“In earlier submissions we have also explained our concern with the 67th percentile adjustment. While we acknowledge the significant work in 2014 to reassess this parameter, we believe it unnecessarily creates excess returns, and therefore should not be excluded from any cost of capital review. This parameter creates a clear incentive for EDBs and GDBs to favour capital expenditure over operating expenditure, and disincentives them to contract alternate distribution solutions from third parties. This is concerning in a world where new technologies and business models will provide alternates to poles and wires investment. We recommend the use of the 67th percentile adjustment be reviewed by the Commission, including assessment of other quality mechanisms within its power to address the concern around potential network underinvestment.”¹²

15. And later:

“We do not think waiting for a review of this parameter in the next IM review (potentially 2022) is appropriate given the available evidence, concerns raised earlier by the High Court and other regulatory processes underway regarding pricing, incentive and future market design (for example, the Authority’s Distribution Pricing consultation. This parameter is costly for consumers and its impact on incentives for regulated companies could be damaging for the set-up of our future energy markets.”¹³

16. Contact Energy’s submission is a reminder that the question on the percentile is important and sufficiently so that waiting up to seven years could result in distorted incentives and sub-optimal investment by both regulated service providers and their customers. MEUG agrees with Contact Energy. Accordingly MEUG cross-submit a change in our prior submission whereby MEUG now recommends the WACC percentile should be considered in the current review.

17. The materiality of a change in the WACC percentile is illustrated in the appendix. For example in Table 1, every 1% percentile change (i.e. change from 67th to 66th percentile) would change charges paid by consumers of Part 4 regulated energy services by up to \$7 million per annum. Table 2 in the appendix illustrates the outcome if the mid-point rather than 67th percentile were used.

¹¹ MEUG, 4th August 2016, paragraph 36.

¹² Contact Energy, 4th August 2016, p4.

¹³ Ibid, p38.

Leverage anomaly

18. As far as MEUG is aware there is no disagreement by any interested party that in using the Simplified Brennan-Lally Capital Asset Pricing Model (SBL-CAPM) there still exists a leverage anomaly. The Commission acknowledge there is a leverage anomaly in using SBL-CAPM and this can lead to a bias in favour of regulated businesses when estimating WACC.¹⁴
19. PwC on behalf of 17 EDB submitted:

“We remain of the view that there is little evidence, of a substantive nature, which suggests that the rationale for the 2010 decision to use the SBL-CAPM no longer applies.”¹⁵
20. The context of PwC’s comment was in relation to alternative models such as Black CAPM or the Fama-French model. MEUG agrees with PwC that SBL-CAPM is superior to those other models though PwC make no mention of the leverage anomaly by using SBL-CAPM. While a solution is not at hand to fix the leverage anomaly we suggest the Commission recognise that the anomaly may be materially distorting the cost of capital and further research is needed.
21. Table 2 in the appendix illustrates the materiality of the potential SBL-CAPM leverage anomaly effects.

Concluding comments

22. This cross-submission has focussed on material and topical cost of capital issues in the submissions of other parties. Topics that few submitters commented on included dual till effects and split WACC. An absence of MEUG cross-submissions on those topics reflects MEUG’s scarce resources not MEUG’s acceptance of the draft decision or the submissions of other parties.
23. In this cross-submission we have considered asset beta, debt issuance costs, WACC percentile and the leverage anomaly separately. Each on their own are material issues as illustrated in the estimates of Present Value (PV) changes in charges over 5 years in Table 2 of the appendix. To the extent there is either aiming up and or doubling-up to account for asymmetric risk and or risk accounted for in the asset beta assumed for multiple parameters then the compounding effect on higher than necessary charges paid by consumers will be large.

Yours sincerely



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Executive Director

¹⁴ MEUG, 4th August 2016, paragraphs 30 to32 and paragraph 37.

¹⁵ PwC, 4th August 2016, paragraph 240.

Appendix:**Illustration of materiality of changes in WACC assumptions**

24. The two tables in this appendix summarise various estimates of the scope and materiality of changes in WACC assumptions. The tables are copied from the spreadsheet "MEUG estimates of impact of changes in WACC 25-Aug-16" as part of this submission.
25. As noted at the start of this cross-submission (paragraph 2) the spreadsheet is an internal MEUG working spreadsheet to test the effects of changes in cost of capital variables. It may be of benefit to other interested parties. Parties using the spreadsheet should do so at their own risk because it has many assumptions and caveats and is continuously revised as errors are corrected and improved formula used.
26. The values in the summary output tables are estimates based on the assumptions and caveats set out in the spreadsheet. Different assumptions will lead to different results for any given case – though the relative order of magnitude of the results and change relative to the Base case (the WACC calculated by the Commission in June 2016 based on the draft IM decisions) are likely to be reasonably illustrative. An example of an important caveat is the assumption all Part 4 regulated energy services will charge at the maximum possible WACC in the Base case and any given scenario. In practice some regulated services are not charged at the maximum allowable WACC and to that extent the values estimated are a maximum bound.
27. Table 1 illustrates the June 2016 draft decision Base case capital charges component (and the Regulated asset base and post-tax WACC that determine those charges) paid by consumers of Part 4 regulated energy services. The columns on the right hand side of the table illustrate two examples of how those charges change with incremental changes in WACC parameters.

Table 1: Base case capital charges and examples of incremental changes					
	Regulated Asset Base	Base case post-tax WACC at 67 th percentile	Capital charges paid by consumers		
			Draft decision June 2016, the Base case	Change relative to Base case	
				A 0.01 change in electricity beta from 0.34 to 0.33	A 1% change in WACC from 67 th to 66 th percentile
Base case	Base case	Base case			
	\$m	%	\$m pa	\$m pa	\$m pa
Electricity Transmission	4,609	5.31%	340	-6	-2
Electricity Distribution	10,253	5.31%	756	-12	-5
Gas Transmission	787	5.31%	58	0	-0
Gas Distribution	834	5.31%	61	0	-0
Total	16,482		1,216	-18	-7

Appendix continued:**Illustration of materiality of changes in WACC assumptions**

28. Table 1 on the prior page illustrates small incremental changes to two WACC parameters. The plausible range of those parameters could be larger than these small increments.
29. Table 2 illustrates plausible scenarios for a range of WACC parameter assumptions. The two cases testing asset beta uses, for illustrative purposes, estimates from the TDB report. The debt issuance case assumes 0.10% as submitted as preferable by MEUG and other parties instead of 0.10% in the draft decision. The mid-point WACC case assumes the 50th percentile instead of the 67th percentile in the draft decision. A test of the possible impact of the leverage anomaly is the last case using zero leverage.

Table 2: Changes in charges with a range of scenarios in WACC assumptions						
	Capital charges paid by consumers					
	Capital charges for June 2016 draft decision	Change compared to Base case				
		Electricity asset beta 0.24 and gas beta 0.36	Electricity asset beta 0.28 and gas beta 0.46	Debt issuance at 0.10% not 0.20%	Mid-point WACC not 67th percentile	Remove leverage anomaly, eg L=0
Base case	Case 1	Case 2	Case 3	Case 4	Case 5	
	\$m pa	\$m pa	\$m pa	\$m pa	\$m pa	\$m pa
Electricity Transmission	340	-46	-37	-2	-32	-36
Electricity Distribution	756	-103	-83	-4	-71	-81
Gas Transmission	58	1	10	-0	-5	-6
Gas Distribution	61	1	11	-0	-6	-7
Total	1,216	-148	-99	-7	-114	-130
% change compared to Base case						
		% pa	% pa	% pa	% pa	% pa
Electricity Transmission		-13.7%	-10.9%	-0.6%	-9.4%	-10.7%
Electricity Distribution		-13.7%	-10.9%	-0.6%	-9.4%	-10.7%
Gas Transmission		1.5%	17.1%	-0.6%	-9.4%	-10.7%
Gas Distribution		1.5%	17.1%	-0.6%	-9.4%	-10.7%
Total		-12.2%	-8.2%	-0.6%	-9.4%	-10.7%
PV change compared to Base case						
	Base case	PV change compared to Base case				
	PV (\$m)	PV (\$m)	PV (\$m)	PV (\$m)	PV (\$m)	PV (\$m)
Electricity Transmission	1,459	-174	-138	-7	-118	-135
Electricity Distribution	3,246	-387	-308	-15	-263	-300
Gas Transmission	249	3	35	-1	-20	-23
Gas Distribution	264	3	38	-1	-21	-24
Total	5,219	-554	-373	-25	-423	-483

30. While the estimates are illustrative this is helpful for MEUG identifying the relative value impacts within the cost of capital IM.