

Cost of capital determination for information disclosure year 2017 for Powerco Limited in respect of gas distribution services [2016] NZCC 22

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Date of determination: 31 October 2016

Associated documents

Publication date	Reference	Title
31 October 2015	ISSN 1178-2560	Cost of capital determination for information disclosure year 2016 for Powerco Limited in respect of gas distribution services [2015] NZCC 26
31 October 2014	ISSN 1178-2560	Cost of capital determination for information disclosure year 2015 for Powerco Limited in respect of gas distribution services [2014] NZCC 29
31 October 2013	ISBN 978-1-869453-32-9	Cost of capital determination for information disclosure year 2014 for Powerco Limited in respect of gas distribution services [2013] NZCC 18
31 October 2012	ISBN 978-1-869452-92-6	Cost of capital determination for customised price-quality proposals made by electricity businesses [2012] NZCC 31
8 July 2011	ISBN 978-1-869451-60-8	Determination of the Cost of Capital for Information Disclosure Year 2012 for Transpower New Zealand Limited, Suppliers of Gas Pipeline Services, and Suppliers of Specified Airport Services (June year-end) Decision Number 727

Executive summary

1. This determination specifies weighted average cost of capital (WACC) estimates to apply for information disclosure year 2017 for gas distribution services supplied by Powerco Limited (Powerco's GDB).
2. Vanilla and post-tax WACCs have been estimated for the five year period commencing on the first day of disclosure year 2017 (ie 1 October 2016).¹ Mid-point, 25th percentile and 75th percentile WACC estimates have been determined.
3. The WACC estimates are summarised in Table 1 below. These WACC estimates are determined as at 1 October 2016.

Table 1: Summary of WACC estimates for Powerco's GDB 2017 ID year (%)

	Mid-point	25 th percentile	75 th percentile
Vanilla WACC	5.67%	4.86%	6.48%
Post-tax WACC	5.18%	4.37%	5.99%

¹ The vanilla WACC is a weighted average of the pre-corporate tax cost of debt and the cost of equity. The post-tax WACC is a weighted average of the post-corporate tax cost of debt and the cost of equity.

Introduction

4. This determination specifies WACC estimates to apply for information disclosure year 2017 (that is, the 12 months to 30 September 2017) for gas distribution services supplied by Powerco's GDB. Powerco has a disclosure year ending September, while other regulated gas distribution businesses have June year ends for information disclosure.² Estimated WACCs for the 2017 information disclosure year for those other businesses were set in July 2016.³
5. The WACC estimates are set pursuant to clauses 2.4.1 to 2.4.7 of the Gas Distribution Services Input Methodologies Determination 2012 (the GDS IM Determination).⁴
6. We have estimated both vanilla and post-tax WACCs. The vanilla WACC is a weighted average of the pre-corporate tax cost of debt and the cost of equity. The post-tax WACC is a weighted average of the post-corporate tax cost of debt and the cost of equity.
7. The parameter values, estimates and information sources used to estimate WACC are set out in this determination.
8. Additional commentary on the estimation of the risk-free rate and the debt premium is also provided. For example, this determination identifies the issuers and bonds that were analysed (including the credit rating and remaining term to maturity) when estimating the debt premium. The commentary also explains which debt premium estimates were given greater weight than other estimates.
9. A spreadsheet showing the calculations for the WACC estimates, debt premium and risk free rate has been published on our website.⁵

Background

Changes in the risk-free rate and debt premium over time

10. The cost of capital input methodologies for the regulated services reflect that both the risk-free rate and the debt premium on bonds change over time.⁶
11. Changes in the risk-free rate and debt premium on bonds are illustrated below. Figure 1 shows, as at 1 October 2016, changes over time in the:
 - 11.1 five year risk-free rate; and
 - 11.2 debt premium on bonds rated BBB+ with a term of five years.

² Commerce Commission, *Gas Distribution Information Disclosure Determination* [2012], NZCC 23. See the definition of disclosure year, page 11.

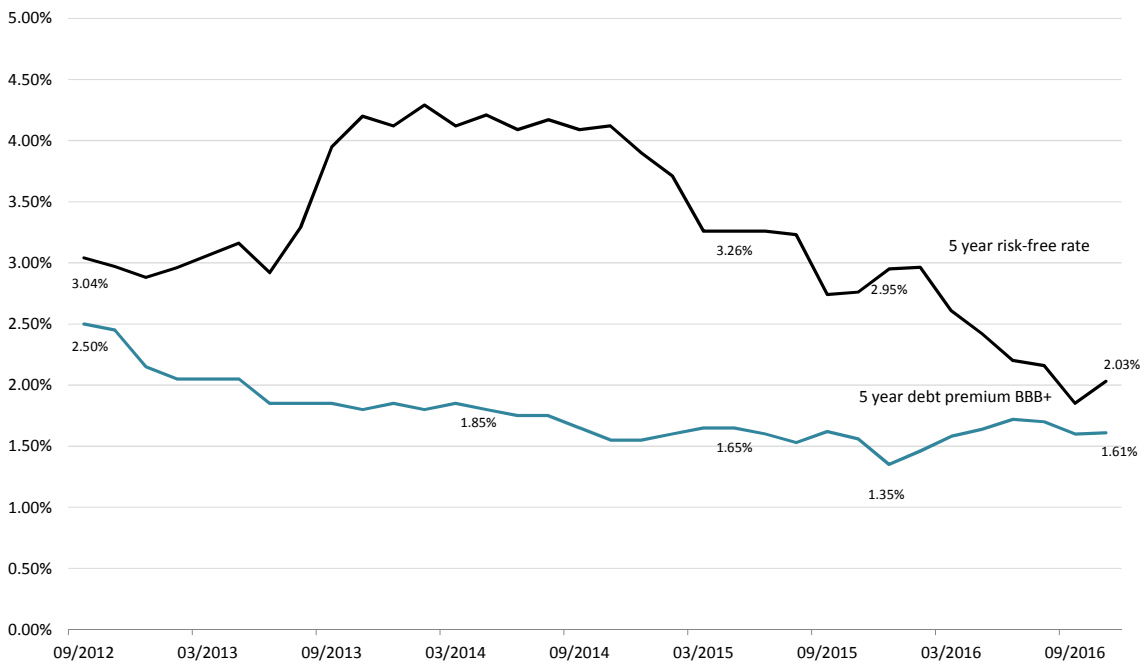
³ Commerce Commission, *Cost of capital determination for information disclosure year 2017 for Transpower, gas pipeline businesses and specified airport services* [2016] NZCC 15 .

⁴ Commerce Commission, *Gas Distribution Services Input Methodologies Determination* [2012] NZCC 27.

⁵ See www.comcom.govt.nz/cost-of-capital.

⁶ The risk-free rate is estimated based on an interpolation of bid yields on New Zealand Government stock of a term to maturity of five years. The debt premium is estimated on publicly traded corporate bonds according to the methodology specified in the GDS IM Determination.

Figure 1: Changes in the five year risk-free rate and debt premium over time



Reasons for differences in WACC under the various cost of capital input methodologies determinations

12. Differences in the WACCs estimated under the various cost of capital input methodologies reflect differences in the:
 - 12.1 date of estimation for the WACCs, which results in different estimates of the risk-free rate and debt premium;
 - 12.2 periods in which the WACCs will apply;
 - 12.3 context in which the WACCs will be used (67th percentile WACC estimates are used for the purposes of default and individual price-quality paths, while a mid-point and range is determined for information disclosure);
 - 12.4 assessed risk of the various regulated services (electricity distribution businesses (EDBs) and Transpower have an asset beta of 0.34, gas pipeline businesses (GPBs) have an asset beta of 0.44 and airports have an asset beta of 0.60); and
 - 12.5 value of leverage for airports (17%) and for EDBs, GPBs, and Transpower (44%).

WACC for information disclosure year 2017 for Powerco's GDB

13. Under clause 2.4.1 of the GDS IM Determination, we have determined the following vanilla and post-tax WACCs for Powerco's GDB information disclosure year 2017.

- 13.1 A mid-point estimate of vanilla WACC of 5.67% for the five year period commencing on the first day of disclosure year 2017 (ie 1 October 2016). Under clause 2.4.7, we have also determined a vanilla WACC range from 4.86% to 6.48%, where the endpoints are the 25th and 75th percentile estimates respectively.
- 13.2 A mid-point estimate of post-tax WACC of 5.18% for the five year period commencing on the first day of disclosure year 2017 (ie 1 October 2016). Under clause 2.4.7, we have also determined a post-tax range from 4.37% to 5.99%, where the endpoints are the 25th and 75th percentile estimates respectively.

Parameters used to estimate the WACC

14. These vanilla and post-tax WACC estimates reflect the parameters specified in the GDS IM Determination. The risk-free rate and debt premium are also estimated in accordance with the GDS IM Determination.

Summary of parameters

15. The parameters used to estimate the vanilla and post-tax WACCs are summarised in Table 2 below.

Table 2: Parameters used to calculate WACC for Powerco's GDB 2017 ID year

Parameter	Estimate
Risk-free rate	2.03%
Debt premium	1.61%
Leverage	44%
Equity beta	0.79
Tax adjusted market risk premium	7.0%
Average corporate tax rate	28%
Average investor tax rate	28%
Debt issuance costs	0.35%
Cost of debt	3.99%
Cost of equity	6.99%
Standard error of debt premium	0.0015
Standard error of WACC	0.012
Mid-point vanilla WACC	5.67%
Mid-point post-tax WACC	5.18%

Note: The cost of debt is calculated as the risk-free rate + debt premium + debt issuance costs. The cost of equity is calculated as the risk-free rate \times (1- investor tax rate) + the equity beta \times the tax adjustment market risk premium. The mid-point vanilla WACC is calculated as the cost of equity \times (1 - leverage) + the cost of debt \times leverage.

Risk-free rate

- The risk-free rate reflects the linearly interpolated, annualised, bid yield to maturity on New Zealand Government bonds with a term to maturity of five years. The estimates use data reported by Bloomberg for the month of September 2016 in respect of 15 May 2021 and April 2023 maturity bonds. The May 2021 and April 2023 bonds have simple average annualised bid yields to maturity of 2% and 2.13% respectively.

17. The daily data reported by Bloomberg is annualised (to reflect the six monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 2.03% interest rate on a NZ government bond with a five year term to maturity as at 1 October 2016.

Tax rates

18. The average corporate tax rate is the corporate tax rate of 28% for all years. The average investor tax rate is the investor tax rate of 28% for all years.

Standard error of the WACC

19. The standard error of the WACC is determined in accordance with the formula in the GDS IM Determination, and is shown to three decimal places only in Table 1 above.

Debt premium

20. The methodology for determining the debt premium is set out in clause 2.4.4 of the GDS IM Determination.
21. Clause 2.4.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ\$ denominated bond that:
- 21.1 is issued by a GPB or an EDB that is neither majority owned by the Crown nor a local authority;
 - 21.2 is publicly traded;
 - 21.3 has a qualifying rating of grade BBB+; and
 - 21.4 has a remaining term to maturity of five years.
22. In estimating the debt premium, clause 2.4.4(4) of the GDS IM Determination provides that the Commission will have regard to:
- 22.1 bonds issued by a GPB or an EDB (that is neither majority owned by the Crown nor a local authority) with a rating of BBB+;
 - 22.2 bonds issued by another entity (that is neither majority owned by the Crown nor a local authority) with a rating of BBB+;
 - 22.3 bonds issued by a GPB or an EDB (that is neither majority owned by the Crown nor a local authority) with a rating other than BBB+;
 - 22.4 bonds issued by another entity (that is neither majority owned by the Crown nor a local authority) with a rating other than BBB+; and
 - 22.5 bonds issued by entities that are majority owned by the Crown or a local authority.

23. Clause 2.4.4(5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses 2.4.4(4)(a) to (e).
24. Table 3 below shows the debt premium we have determined as at 1 October 2016. This table include a summary of information on the investment grade rated bonds we considered in determining the debt premium.
25. A spreadsheet showing the calculations for the debt premium and the risk-free rate is published on our website.⁷

⁷ See www.comcom.govt.nz/cost-of-capital

Table 3: Debt premium on a GPB/EDB-issued bond rated BBB+ with a remaining term of 5 years, as at 1 October 2016⁸

			Industry	Rating	Remaining term to maturity	Debt premium	Comment
Determined debt premium			EDB/GPB	BBB+	5.0	1.61	Regard to results 4(b) and 4(d) Generally consistent with 4(e)
Subclause	Issuer	Note ref.	Industry	Rating	Remaining term to maturity	Debt premium	Comment
4(a)	-	-	-	-	-	-	No data on applicable bonds
4(b)	WIAL	1	Other	BBB+	5.0	1.61	Credit rating and term are an exact match
4(c)	-	-	-	-	-	-	No data on applicable bonds
4(d)	Spark	2	Other	A-	5.0	1.35	BBB+ debt premium would be higher
	AIAL	3	Other	A-	5.0	1.20	BBB+ debt premium would be higher
	Contact	4	Other	BBB	5.0	1.56	BBB+ debt premium would be generally lower
	Fonterra	5	Other	A-	5.0	1.53	BBB+ debt premium would be higher
	Chorus	6	Other	BBB	4.6	1.68	BBB+ debt premium would be lower
	4(e)	Meridian	7	Other	BBB+	5.0	1.69
Genesis Energy		8	Other	BBB+	5.0	1.52	
MRP		9	Other	BBB+	5.0	1.61	
CIAL		10	Other	BBB+	5.0	1.62	
Transpower		11	Other	AA-	5.0	1.06	

Notes on bonds analysed:

- 1 WIAL 6.25% bond maturing 15/05/2021; 4.25% bond maturing 12/05/2023.
- 2 Spark 5.25% bond maturing 25/10/2019; 4.5% bond maturing 25/03/2022.
- 3 AIAL 5.52% bond maturing 28/05/2021; 4.28% bond maturing 9/11/2022.
- 4 Contact Energy 5.28% bond maturing 27/05/2020; 4.40% bond maturing 15/11/2021.
- 5 Fonterra 5.52% bond maturing 25/02/2020; 4.33% bond maturing 20/10/2021.
- 6 Chorus 4.12% bond maturing 6/05/2021.
- 7 Meridian 7.55% bond maturing 16/03/2017; 4.53% bond maturing 14/03/2023.
- 8 Genesis Energy 8.3% bond maturing 23/06/2020; 4.14% bond maturing 18/03/2022.
- 9 MRP 8.21% bond maturing 11/02/2020; 5.79% bond maturing 6/03/2023.
- 10 CIAL 5.15% bond maturing 6/12/2019; 6.25% bond maturing 4/10/2021.
- 11 Transpower 6.95% bond maturing 10/06/2020; 4.3% bond maturing 30/06/2022.

⁸ The five-year debt premiums on the Wellington International Airport Limited (WIAL), Spark, Auckland International Airport Limited (AIAL), Contact Energy, Fonterra, Genesis Energy, Mighty River Power (MRP), Christchurch International Airport Limited (CIAL), and Transpower bonds are calculated by linear interpolation with respect to maturity.

26. As at 1 October 2016, the debt premium on the WIAL bonds was estimated at 1.61% with a remaining term to maturity of five years. These bonds are issued by an entity other than an EDB/GPB, are publicly traded and have a rating of BBB+. As the credit rating and remaining term to maturity are an exact match, we consider 1.61% to be the appropriate starting point in estimating the debt premium (noting that WIAL is not an EDB/GPB).⁹
27. We have also considered the estimated debt premium on bonds from a range of other issuers. The bonds outlined under 4(d) in Table 3 above have issuers which are not majority government owned, and a rating other than BBB+.¹⁰ Although consistent with the starting point of 1.61%, these debt premiums were given less consideration due to their ownership and different credit rating to the BBB+ specified in clause 2.4.4(5)(a).¹¹
28. Contact's BBB bond suggests that a BBB+ bond would have a debt premium lower than 1.56%. The government owned gentailers' BBB+ bonds, see below, are more consistent with 1.61% despite their government ownership and, as a result, we consider that the debt premium should not be reduced in light of Contact's bond.
29. The bonds listed under 4(e) of Table 3 above, are majority government owned issuer bonds. These debt premiums were given less consideration than the bonds outlined under 4(d) in Table 3 as the issuers are majority government owned. Even so, we consider that the premium on these bonds generally supports the view that the estimate of the debt premium should be around 1.61%.
30. Placing primary weight on the estimated debt premium on the WIAL bonds, while considering the debt premium on a range of other bonds, we have determined the debt premium on publicly traded, EDB/GPB-issued bond, rated BBB+ with a remaining term of five years to be 1.61% as at 1 October 2016.

⁹ Consistent with clauses 2.4.4(4) and 2.4.4(5) of the GDS IM Determination.

¹⁰ In this determination government owned means owned by the Crown or a local authority as defined in the GDS IM Determination.

¹¹ Consistent with clause 2.4.4(5)(a) of the GDS IM Determination.