

**Cost of capital determination for information disclosure
year 2012 for Powerco Limited gas distribution services
[2014] NZCC 3**

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Executive summary

1. This determination specifies weighted average cost of capital (WACC) estimates to apply for information disclosure year 2012 for gas distribution services supplied by Powerco Limited (Powerco).
2. The WACCs for Powerco's 2012 disclosure year contained in this determination apply instead of the WACCs for Powerco previously published in July 2011.¹ The revised WACCs in this determination reflect the recent change in Powerco's balance date, from 30 June to 30 September.²
3. We have determined the following vanilla and post-tax WACCs for Powerco's 2012 information disclosure year. The WACCs are estimated as at 1 October 2011.
 - 3.1 A mid-point estimate of vanilla WACC³ of 7.30%, with a range from 6.49% to 8.11%.
 - 3.2 A mid-point estimate of post-tax WACC⁴ of 6.55%, with a range from 5.74% to 7.36%.

¹ Commerce Commission "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) under Party 4 of the Commerce Act 1986, pursuant to decisions 709, 711, 712 and 713" (Decision number 727) (8 July 2011).

² WACCs for Powerco's 2012 disclosure year were previously published in July 2011. At that time, Powerco had a 30 June balance date. However, Powerco's balance date recently changed from 30 June to 30 September. Commerce Commission *Gas Distribution Services Input Methodologies Determination Amendment 2013* [2013] NZCC 23 (3 December 2013).

³ The vanilla WACC is a weighted average of the pre-corporate tax cost of debt and the cost of equity.

⁴ 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 2012 (that is, the 12 months to 30 September 2012) for gas distribution services supplied by Powerco. Powerco has a disclosure year ending 30 September, while other regulated gas distribution businesses have disclosure years ending 30 June.
5. The WACCs for Powerco's 2012 disclosure year contained in this determination apply instead of the WACCs for Powerco previously published in July 2011.⁵ The revised WACCs in this determination reflect the recent change in Powerco's balance date, from 30 June to 30 September.⁶
6. The WACC estimates in this determination are set under clauses 2.4.1 to 2.4.7 of the *Gas Distribution Services Input Methodologies Determination 2012* (the GDS IM Determination).⁷
7. 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.
8. The parameter values, estimates and information sources used to estimate WACC are set out in this determination. Additional commentary on the estimation of the risk-free rate and the debt premium is also provided.
9. 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.

Background

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

10. The cost of capital input methodologies for regulated services reflect that both the risk-free rate and the debt premium on bonds change over time.⁸

⁵ Commerce Commission "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) under Party 4 of the Commerce Act 1986, pursuant to decisions 709, 711, 712 and 713" (Decision number 727) (8 July 2011).

⁶ WACCs for Powerco's 2012 disclosure year were previously published in July 2011. At that time, Powerco had a 30 June balance date. However, Powerco's balance date recently changed from 30 June to 30 September. Commerce Commission *Gas Distribution Services Input Methodologies Determination Amendment 2013* [2013] NZCC 23 (3 December 2013).

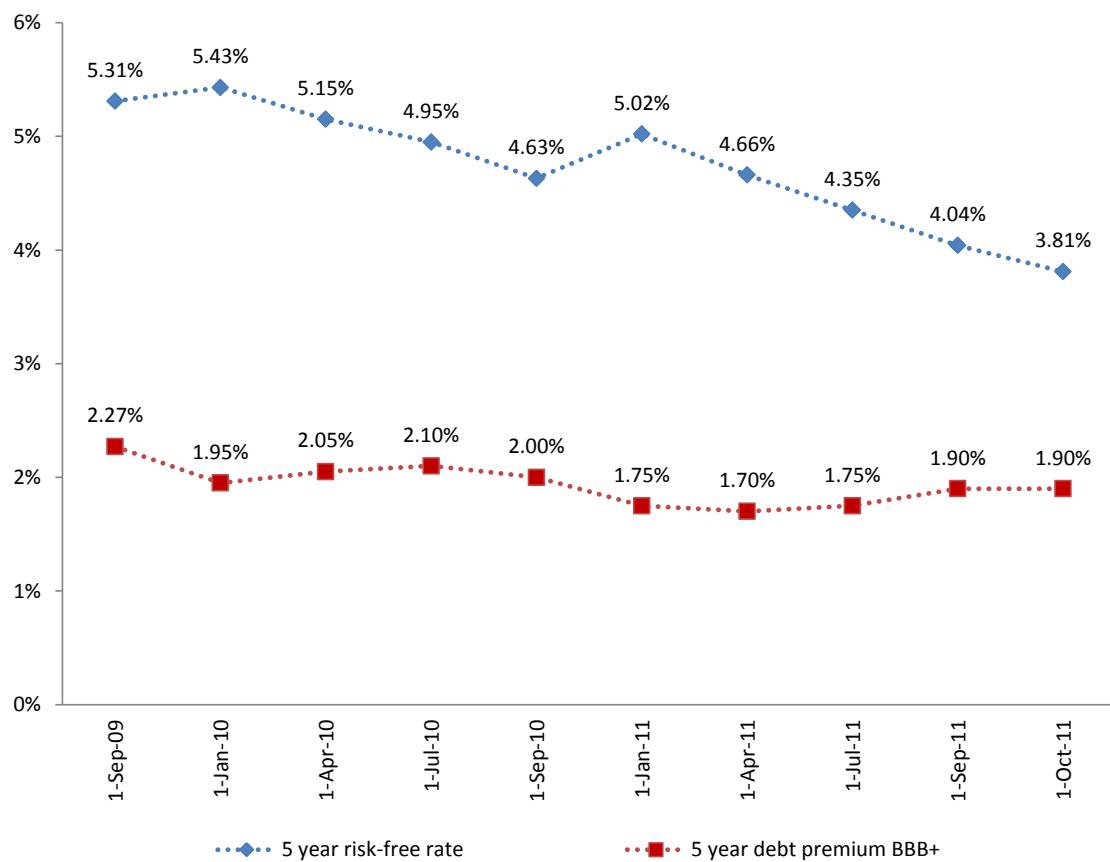
⁷ Commerce Commission, *Gas Distribution Services Input Methodologies Determination* [2012] (3 December 2013).

⁸ The risk-free rate is estimated based on an interpolation of bid yields on New Zealand government stock to 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.

11. Changes in the risk-free rate and debt premium on bonds are illustrated below. Figure 1 shows the changes over time in:

- 11.1 the five year risk-free rate; and
- 11.2 the debt premium on bonds rated BBB+ with a term of five years.

Figure 1: Changes in the five year risk-free rate and debt premium over the period to October 2011



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

12. There are differences in the WACCs estimated over time and between services under the various cost of capital input methodologies. This is due to differences in:

- 12.1 the date of estimation for the WACCs, which results in different estimates of the risk-free rate and debt premium;
- 12.2 the periods in which the WACCs will apply;
- 12.3 the context in which the WACCs will be used (75th percentile estimates of the WACC are used when considering default and customised price-quality paths, while a mid-point and range is determined for information disclosure);

12.4 the 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 the value of leverage for airports (17%) and for EDBs, GPBs, and Transpower (44%).

WACC for Powerco GDB information disclosure year 2012

13. Under clause 2.4.1 of the GDS IM Determination, we have determined the following vanilla and post-tax WACCs for Powerco's 2012 information disclosure year.

13.1 A mid-point estimate of vanilla WACC of 7.30% for the five year period commencing on the first day of Powerco's 2012 disclosure year (ie 1 October 2011). Under clause 2.4.7, we have also determined a vanilla WACC range from 6.49% to 8.11%, where the endpoints are the 25th and 75th percentile estimates respectively.

13.2 A mid-point estimate of post-tax WACC of 6.55% for the five year period commencing on the first day of Powerco's 2012 disclosure year (ie 1 October 2011). Under clause 2.4.7, we have also determined a post-tax WACC range from 5.74% to 7.36%, where the endpoints are the 25th and 75th percentile estimates respectively.

Parameters used to estimate the WACC

14. These estimates of WACC 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 WACCs are summarised in Table 1 below.

Table 1: Parameters used to calculate WACC

Risk-free rate (5 years)	3.81%	Debt premium (5 years)	1.90%
Equity beta	0.79	TAMRP	7.0%
Average corporate tax rate	28%	Average investor tax rate	28%
Debt issuance costs (5 years)	0.35%	Leverage	44%
Standard error of debt premium	0.0015	Standard error of WACC	0.012
Cost of debt (5 year)	6.06%	Cost of equity (5 years)	8.27%
Vanilla WACC (5 year, mid-point)	$6.06\% \times 0.44 + 8.27\% \times (1-0.44) = 7.30\%$		
Post-tax WACC (5 year, mid-point)	$6.06\% \times 0.44 \times (1-0.28) + 8.27\% \times (1-0.44) = 6.55\%$		

Risk-free rate

16. 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 2011 in respect of the April 2015 and December 2017 maturity bonds. The April 2015 and December 2017 bonds have simple average annualised bid yields to maturity of 3.50% and 4.08% 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 3.81% interest rate on a NZ government bond with a five year term to maturity as at 1 October 2011.

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 government-owned entities.

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 2 below shows the debt premium determined by the Commission as at 1 October 2011. 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.⁹

⁹ See www.comcom.govt.nz/cost-of-capital

Table 2: Five year debt premium on a GDB/EPB-issued bond rated BBB+¹⁰

Determined debt premium on an EDB/GPB-issued bond rated BBB+ with a remaining term of 5 years as at 1 October 2011						
		Industry	Rating	Remaining Term to Maturity	Debt premium	Comment
<i>Determined Debt Premium</i>		EDB / GPB	BBB+	5.0	1.90	<i>Vector debt premium provides floor.</i> <i>Regard to results 4(c) and 4(d).</i> <i>Not inconsistent with 4(e).</i>
Subclause	Issuer	Industry	Rating	Remaining Term to Maturity	Debt premium	Comment
4(a)	Vector ¹	EDB/GPB	BBB+	3.0	1.73	Minimum per subclause 5(b).
4(b)						No data on applicable bonds.
4(c)	Powerco ²	EDB/GDB	BBB	5.0	1.99	BBB+ debt premium would be lower than this.
4(d)	Contact ³ Telecom ⁴ AIAL ⁵ Telstra ⁶ Fonterra ⁷	Other Other Other Other Other	BBB A- A- A A+	5.0 4.5 5.0 5.0 4.4	2.14 2.08 1.86 1.73 1.30	BBB+ debt premium would be lower than this. Anomalous, see paragraph 31. BBB+ debt premium would be higher than this. BBB+ debt premium would be higher than this. 5 year debt premium and BBB+ debt premium would be higher than this.
4(e)	Genesis Energy ⁸ MRP ⁹ Meridian ¹⁰ Transpower ¹¹	Other Other Other Other	BBB+ BBB+ BBB+ AA-	5.0 5.0 5.0 5.4	1.73 1.71 1.69 1.33	

Notes on bonds analysed:

1 Vector 7.8% bond maturing 15/10/2014.

2 Powerco 6.53% bond maturing 29/06/2015; 6.74% bond maturing 28/09/2017.

3 Contact Energy 8% bond maturing 15/04/2014; 7.855% bond maturing 13/04/2017.

4 Telecom 7.04% bond maturing 22/03/2016.

5 AIAL 8% bond maturing 10/08/2016; 8% bond maturing 15/11/2016.

6 Telstra 7.15% bond maturing 24/11/2014; 7.515% bond maturing 11/07/2017.

7 Fonterra 6.83% bond maturing 4/03/2016.

8 Genesis Energy 7.185% bond maturing 15/09/2016; 8.3% bond maturing 23/06/2020.

9 MRP 7.55% bond maturing 12/10/2016.

10 Meridian 7.15% bond maturing 16/03/2015; 7.55% bond maturing 16/03/2017.

11 Transpower 6.595% bond maturing 15/02/2017.

26. Consistent with clauses 2.4.4(4) and 2.4.4(5)(a) of the GDS IM Determination, greatest regard has been given to the estimated debt premium on Vector's October 2014 bond. This bond is issued by a GPB/EDB, is publicly traded and has a rating of BBB+. However, the October 2014 Vector bond has a remaining term to maturity of three years, which is significantly less than five years specified in clause 2.4.4(3)(d).

27. As at 1 October 2011, the debt premium on the Vector bond was estimated at 1.73%. Consistent with clause 2.4.4(5)(b), this estimated debt premium is treated as the minimum debt premium for a bond rated BBB+ with a term of five years.

¹⁰ The five-year debt premiums on the Powerco, Contact Energy, Auckland International Airport Limited (AIAL), Telstra, Genesis Energy and Meridian bonds are calculated by linear interpolation with respect to maturity.

28. The five year debt premium on Powerco's bonds is 1.99%. Powerco's bonds are rated BBB, implying that the five year debt premium on bonds rated BBB+ would be less than 1.99%.
29. We have also had regard to the estimated debt premium on bonds from a range of other issuers including Contact Energy (2.14%, 5 years, rated BBB), Auckland International Airport Limited (AIAL) (1.86%, 5 years, rated A-), Telstra (1.73%, 5 years, rated A) and Fonterra (1.30%, 4.4 years, rated A+). Consistent with clause 2.4.4(5)(a) these were given less weight as the issuers are not GPBs or EDBs, and the debt issues had different credit ratings than the BBB+ rating specified in clause 2.4.4(3)(d).
30. The estimated debt premiums on the Genesis bonds (rated BBB+ with a 5 year term to maturity), the Mighty River Power bond (rated BBB+ with a 5 year term to maturity), the Meridian bonds (rated BBB+ with a 5 year term to maturity), and the Transpower bond (rated AA- with a 5.4 year term to maturity) are 1.73%, 1.71%, 1.69% and 1.33% respectively.
31. No weight has been placed on the estimated debt premium for Telecom (2.08%, 4.5 years, rated A-), due to significant corporate action affecting that company at the time of this WACC estimate (1 October 2011).
32. Starting with the estimated debt premium on the Vector bond, but having regard to the debt premium on a range of other bonds, the Commission has determined the debt premium on a publicly traded, GPB/EDB-issued bond, rated BBB+ with a remaining term of five years to be 1.90% as at 1 October 2011.