

**Cost of capital determination for information disclosure
year 2013 for Transpower, gas pipeline businesses and
specified airport services (with a June year-end) [2012]
NZCC 20**

The Commission: Dr M Berry
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Date of determination: 30 July 2012

Executive summary

1. This determination specifies weighted average cost of capital (WACC) estimates to apply for information disclosure year 2013 for:
 - Transpower New Zealand Limited (Transpower)
 - gas pipeline businesses (GPBs) subject to regulation under Part 4 of the Commerce Act 1986 (the Act) with a financial year ending in June
 - suppliers of specified airport services (as defined in section 56A of the Act) with a financial year ending in June (namely, Auckland International Airport Limited (AIAL) and Christchurch International Airport Limited (CIAL)).
2. Vanilla¹ and post-tax² WACCs have been estimated for the five year period commencing on the first day of disclosure year 2013 (ie 1 July 2012). Mid-point, 25th percentile and 75th percentile WACC estimates have been determined in each case.
3. The WACC estimates are summarised in Table 1 below. The WACCs are estimated as at 1 July 2012.

Table 1: Summary of vanilla and post-tax WACC estimates

	Mid-point	25 th percentile	75 th percentile
Transpower			
<i>WACC for Transpower information disclosure year 2013</i>			
Vanilla WACC	6.01%	5.29%	6.73%
Post-tax WACC	5.31%	4.59%	6.03%
GPBs with a financial year ending in June			
<i>WACC for GPB information disclosure year 2013</i>			
Vanilla WACC	6.72%	5.91%	7.53%
Post-tax WACC	6.02%	5.21%	6.83%

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

² The post-tax WACC is the weighted average of the post-corporate tax cost of debt and the cost of equity.

	Mid-point	25 th percentile	75 th percentile
Specified airport services with a financial year ending in June (AIAL and CIAL)			
<i>WACC for AIAL and CIAL information disclosure year 2013</i>			
Vanilla WACC	6.75%	5.76%	7.73%
Post-tax WACC	6.49%	5.51%	7.48%

Introduction

4. This determination specifies WACC estimates to apply for information disclosure year 2013 for Transpower, GPBs with a financial year ending in June and suppliers of specified airport services with a financial year ending in June (AIAL and CIAL).
5. The WACC estimates are set pursuant to:
 - Clauses 2.4.1 to 2.4.7 of the Commerce Act (Transpower Input Methodologies) Determination 2010 (the Transpower IM Determination)
 - Clauses 2.4.1 to 2.4.7 of the Commerce Act (Gas Distribution Services Input Methodologies) Determination 2010 (the GDS IM Determination) and clauses 2.4.1 to 2.4.7 of the Commerce Act (Gas Transmission Services Input Methodologies) Determination 2010 (the GTS IM Determination)
 - Clauses 5.1 to 5.7 of the Commerce Act (Specified Airport Services Input Methodologies) Determination 2010 (the Airports IM Determination).
6. The Commission has 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 for each estimate of the WACC are set out in this determination. Additional commentary on the estimation of the risk-free rate and the debt premium is also provided.
8. 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

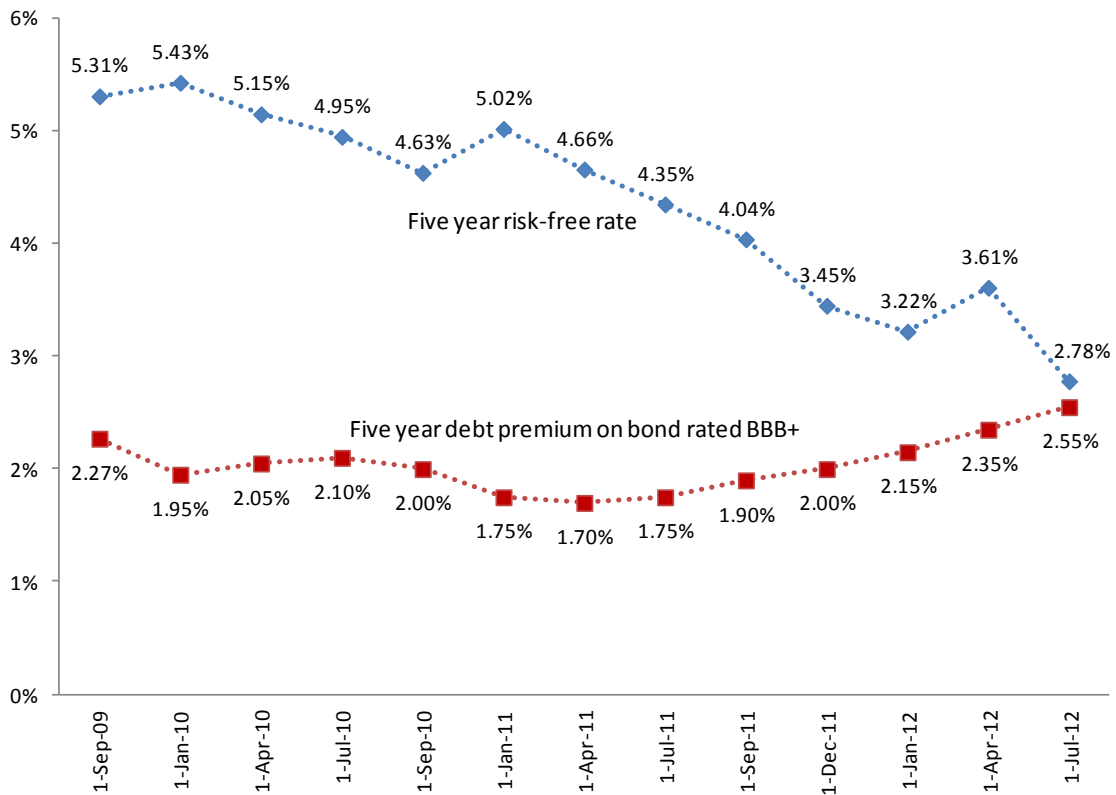
9. The input methodologies for the regulated services reflect that both the risk-free rate³ and the debt premium on bonds⁴ change over time.
10. Changes in the risk-free rate and debt premium on bonds are illustrated below. Figure 1 shows both:
 - the five year risk-free rate, and
 - the debt premium on bonds rated BBB+ with a five year term

³ 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.

⁴ The debt premium is estimated on publicly traded corporate bonds according to the methodology specified in the input methodology determinations.

as at the dates we have estimated the cost of capital under the input methodologies.

Figure 1: Changes in the risk-free rate and debt premium



Reasons for differences in WACC under input methodologies determinations

11. Differences in the WACCs estimated under input methodologies reflect differences in:

- the date of estimation for the WACCs, which results in different estimates of the risk-free rate and debt premium
- the periods in which the WACCs will apply
- 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 midpoint and range is determined for information disclosure)
- the assessed risk of the various regulated services (EDBs and Transpower have an asset beta of 0.34, GPBs have an asset beta of 0.44 and Airports have an asset beta of 0.60)
- the value of leverage for airports (17%) and for EDBs, GPBs, and Transpower (44%).

WACC for Transpower information disclosure year 2013

12. Under clause 2.4.1 of the Transpower IM Determination, the Commission has determined:
- A mid-point estimate of vanilla WACC of 6.01% for the five year period commencing on the first day of disclosure year 2013 (ie 1 July 2012). Under clause 2.4.7, the Commission has also determined a vanilla WACC range from 5.29% to 6.73%, where the endpoints are the 25th and 75th percentile estimates respectively.
 - A mid-point estimate of post-tax WACC of 5.31% for the five year period commencing on the first day of disclosure year 2013 (ie 1 July 2012). Under clause 2.4.7, the Commission has also determined a post-tax WACC range from 4.59% to 6.03%, where the endpoints are the 25th and 75th percentile estimates respectively.

Parameters used to estimate the WACC for Transpower

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

Summary of parameters

14. The parameters used to estimate the vanilla and post-tax WACCs for Transpower information disclosure year 2013 are summarised in Table 2 below.

Table 2: Parameters used to calculate WACC for Transpower information disclosure year 2013

Risk-free rate (5 years)	2.78%	Debt premium (5 years)	2.55%
Equity beta	0.61	TAMRP	7.0%
Average corporate tax rate	28%	Average investor tax rate	28%
Debt issuance costs	0.35%	Leverage	44%
Standard error of debt premium	0.0015	Standard error of WACC	0.011
Cost of debt (pre-corporate tax)	5.68%	Cost of equity	6.27%
Vanilla WACC (midpoint)	$5.68\% \times 0.44 + 6.27\% \times (1-0.44) = 6.01\%$		
Post-tax WACC (midpoint)	$5.68\% \times 0.44 \times (1-0.28) + 6.27\% \times (1-0.44) = 5.31\%$		

Risk-free rate

15. 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 June 2012 in respect of the April 2015 and December 2017 maturity bonds. The April 2015 and December 2017 bonds have annualised bid yields to maturity of 2.40% and 2.86% respectively.
16. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 2.78% interest rate on a NZ government bond with a five year term to maturity as at 1 July 2012.

Tax rates

17. 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

18. The standard error of the WACC is determined in accordance with the formula in the Transpower IM Determination, and is shown to three decimal places only in the table above.

Debt premium

19. The methodology for determining the debt premium is set out in clause 2.4.4 of the Transpower IM Determination.
20. 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:
 - 20.1 is issued by an EDB or a GPB that is neither majority owned by the Crown nor a local authority
 - 20.2 is publicly traded
 - 20.3 has a qualifying rating of grade BBB+
 - 20.4 has a remaining term to maturity of five years.
21. In estimating the debt premium, clause 2.4.4(4) of the Transpower IM Determination provides that the Commission will have regard to:
 - 21.1 bonds issued by an EDB or a GPB (that is not government-owned) with a rating of BBB+
 - 21.2 bonds issued by another entity (that is not government-owned) with a rating of BBB+
 - 21.3 bonds issued by an EDB or a GPB (that is not government-owned) with a rating other than BBB+

- 21.4 bonds issued by another entity (that is not government-owned) with a rating other than BBB+
- 21.5 bonds issued by government-owned entities.
22. 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).
23. Table 3 below shows the debt premium determined by the Commission as at 1 July 2012. This table includes a summary of information on the investment grade rated bonds the Commission considered in determining the debt premium.
24. A spreadsheet showing the calculations for the debt premium (and the risk-free rate) is published on our website.⁵

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

Table 3: Five-year debt premium on an EDB/GPB-issued bond rated BBB+⁶

Determined debt premium on an EDB/GPB-issued bond rated BBB+ with a remaining term of 5 years as at 1 July 2012						
	Industry	Rating	Remaining Term to Maturity	Debt premium	Comment	
<i>Determined Debt Premium</i>	<i>EDB / GPB</i>	<i>BBB+</i>	<i>5.0</i>	<i>2.55</i>	<i>Vector premium provides floor. Regard to results of 4(c) and 4(d). Not inconsistent with 4(e).</i>	
Subclause	Issuer	Industry	Rating	Remaining Term to Maturity	Debt premium	Comment
4(a)	Vector ¹	EDB/GPB	BBB+	2.3	2.41	Minimum per subclause 5(b).
4(b)						No data on applicable bond.
4(c)	Powerco ²	EDB/GPB	BBB	5.0	2.69	BBB+ debt premium would be less than this.
4(d)	Contact ³	Other	BBB	4.8	2.79	5 year debt premium would be higher and a BBB+ debt premium would be less than this.
	AIAL ⁴	Other	A-	5.0	2.18	BBB+ debt premium would be higher than this.
	Telecom ⁵	Other	A-	3.7	2.27	5 year debt premium and BBB+ debt premium would be higher than this.
	Telstra ⁶	Other	A	5.0	2.32	BBB+ debt premium would be higher than this.
	Fonterra ⁷	Other	A+	3.7	1.79	5 year debt premium and BBB+ debt premium would be higher than this.
4(e)	Genesis ⁸	Other	BBB+	5.0	2.09	
	MRP ⁹	Other	BBB+	5.0	2.41	
	Transpower	Other	AA-	5.0	1.75	
	Meridian ¹¹	Other	BBB+	4.7	2.35	

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 7.855% bond maturing 13/04/2017.
- 4 AIAL 8% bond maturing 15/11/2016; 5.47% bond maturing 17/10/2017.
- 5 Telecom 7.04% bond maturing 22/03/2016.
- 6 Telstra 7.515% bond maturing 11/07/2017.
- 7 Fonterra 6.83% bond maturing 4/03/2016.
- 8 Genesis 7.185% bond maturing 15/09/2016; 8.3% bond maturing 23/06/2020.
- 9 Mighty River Power 7.55% bond maturing 12/10/2016; 8.21% bond maturing 11/02/2020.
- 10 Transpower 6.595% bond maturing 15/02/2017; 7.19% maturing 12/11/2019.
- 11 Meridian 7.55% bond maturing 16/03/2017.

25. Consistent with clauses 2.4.4(4) and 2.4.4(5)(a) of the Transpower IM Determination, greatest regard has been given to the estimated debt premium on Vector's October 2014 bond. This bond is issued by an EDB/GPB, is publicly traded and has a rating of BBB+. However, the October 2014 Vector bond has a remaining term to maturity of 2.3 years, which is significantly less than five years specified in clause 2.4.4(3)(d).
26. As at 1 July 2012, the debt premium on the Vector bond was estimated at 2.41%. 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.

⁶ The five-year debt premiums on the Powerco, AIAL, Genesis, Mighty River Power and Transpower bonds are calculated by linear interpolation with respect to maturity.

27. The interpolated five year debt premium on Powerco's bonds is 2.69%. Powerco's bonds are rated BBB, implying that the five year debt premium on bonds rated BBB+ would be less than 2.69%.
28. The Commission has also had regard to the estimated debt premium on bonds from a range of other issuers including Auckland International Airport Limited (AIAL) (2.18%, 5 years, rated A-), Contact Energy (2.79%, 4.8 years, rated BBB), Telecom (2.27%, 3.7 years, rated A-), Telstra (2.32%, 5 years, rated A) and Fonterra (1.79%, 3.7 years, rated A+). Consistent with clause 2.4.4(5)(a) these were given less weight as the issuers are not EDBs or GPBs, and the debt issues had different credit ratings than the BBB+ rating specified in clause 2.4.4(3)(d).
29. The estimated debt premium on the Genesis bonds (rated BBB+ with a 5 year term to maturity), the Mighty River Power bonds (rated BBB+ with a 5 year term to maturity), the Transpower bonds (rated AA- with a 5 year term to maturity) and the Meridian bond (rated BBB+ with a 4.7 year term to maturity) were 2.09%, 2.41%, 1.75% and 2.35% respectively.
30. 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, EDB/GPB-issued bond, rated BBB+ with a remaining term of five years to be 2.55% as at 1 July 2012.

WACC for GPB information disclosure year 2013

31. Under clause 2.4.1 of the GDS and GTS IM Determinations, the Commission has determined:
- A mid-point estimate of vanilla WACC of 6.72% for the five year period commencing on the first day of disclosure year 2013 (ie 1 July 2012). Under clause 2.4.7, the Commission has also determined a vanilla WACC range from 5.91% to 7.53%, where the endpoints are the 25th and 75th percentile estimates respectively.
 - A mid-point estimate of post-tax WACC of 6.02% for the five year period commencing on the first day of disclosure year 2013 (ie 1 July 2012). Under clause 2.4.7, the Commission has also determined a post-tax WACC range from 5.21% to 6.83%, where the endpoints are the 25th and 75th percentile estimates respectively.

Parameters used to estimate the WACC for GPBs

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

Summary of parameters

33. The parameters used to estimate the vanilla and post-tax WACCs for GPB information disclosure year 2013 are summarised in Table 2 below.

Table 4: Parameters used to calculate WACC for GPB information disclosure year 2013

Risk-free rate (5 years)	2.78%	Debt premium (5 years)	2.55%
Equity beta	0.79	TAMRP	7.0%
Average corporate tax rate	28%	Average investor tax rate	28%
Debt issuance costs	0.35%	Leverage	44%
Standard error of debt premium	0.0015	Standard error of WACC	0.012
Cost of debt (pre-corporate tax)	5.68%	Cost of equity	7.53%
Vanilla WACC (midpoint)	$5.68\% \times 0.44 + 7.53\% \times (1-0.44) = 6.72\%$		
Post-tax WACC (midpoint)	$5.68\% \times 0.44 \times (1-0.28) + 7.53\% \times (1-0.44) = 6.02\%$		

Risk-free rate

34. 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 June 2012 in respect of the April 2015 and December 2017 maturity bonds. The April 2015 and December 2017 bonds have annualised bid yields to maturity of 2.40% and 2.86% respectively.

35. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 2.78% interest rate on a NZ government bond with a five year term to maturity as at 1 July 2012.

Tax rates

36. 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

37. The standard error of the WACC is determined in accordance with the formula in the GDS and GTS IM Determinations, and is shown to three decimal places only in the table above.

Debt premium

38. The methodology for determining the debt premium is set out in clause 2.4.4 of the GDS and GTS IM Determinations.
39. 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:
- 39.1 is issued by a GPB or an EDB that is neither majority owned by the Crown nor a local authority
 - 39.2 is publicly traded
 - 39.3 has a qualifying rating of grade BBB+
 - 39.4 has a remaining term to maturity of five years.
40. In estimating the debt premium, clause 2.4.4(4) of the GDS and GTS IM Determinations provides that the Commission will have regard to:
- 40.1 bonds issued by a GPB or an EDB (that is not government-owned) with a rating of BBB+
 - 40.2 bonds issued by another entity (that is not government-owned) with a rating of BBB+
 - 40.3 bonds issued by a GPB or an EDB (that is not government-owned) with a rating other than BBB+
 - 40.4 bonds issued by another entity (that is not government-owned) with a rating other than BBB+

40.5 bonds issued by government-owned entities.

41. 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).
42. Table 3 below shows the debt premium determined by the Commission as at 1 July 2012. This table includes a summary of information on the investment grade rated bonds the Commission considered in determining the debt premium.
43. 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 5: Five-year debt premium on an EDB/GPB-issued bond rated BBB+⁸

Determined debt premium on an EDB/GPB-issued bond rated BBB+ with a remaining term of 5 years as at 1 July 2012						
	Industry	Rating	Remaining Term to Maturity	Debt premium	Comment	
<i>Determined Debt Premium</i>	<i>EDB / GPB</i>	<i>BBB+</i>	<i>5.0</i>	<i>2.55</i>	<i>Vector premium provides floor. Regard to results of 4(c) and 4(d). Not inconsistent with 4(e).</i>	
Subclause	Issuer	Industry	Rating	Remaining Term to Maturity	Debt premium	Comment
4(a)	Vector ¹	EDB/GPB	BBB+	2.3	2.41	Minimum per subclause 5(b).
4(b)						No data on applicable bond.
4(c)	Powerco ²	EDB/GPB	BBB	5.0	2.69	BBB+ debt premium would be less than this.
4(d)	Contact ³	Other	BBB	4.8	2.79	5 year debt premium would be higher and a BBB+ debt premium would be less than this.
	AIAL ⁴	Other	A-	5.0	2.18	BBB+ debt premium would be higher than this.
	Telecom ⁵	Other	A-	3.7	2.27	5 year debt premium and BBB+ debt premium would be higher than this.
	Telstra ⁶	Other	A	5.0	2.32	BBB+ debt premium would be higher than this.
	Fonterra ⁷	Other	A+	3.7	1.79	5 year debt premium and BBB+ debt premium would be higher than this.
4(e)	Genesis ⁸	Other	BBB+	5.0	2.09	
	MRP ⁹	Other	BBB+	5.0	2.41	
	Transpower	Other	AA-	5.0	1.75	
	Meridian ¹¹	Other	BBB+	4.7	2.35	

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 7.855% bond maturing 13/04/2017.
- 4 AIAL 8% bond maturing 15/11/2016; 5.47% bond maturing 17/10/2017.
- 5 Telecom 7.04% bond maturing 22/03/2016.
- 6 Telstra 7.515% bond maturing 11/07/2017.
- 7 Fonterra 6.83% bond maturing 4/03/2016.
- 8 Genesis 7.185% bond maturing 15/09/2016; 8.3% bond maturing 23/06/2020.
- 9 Mighty River Power 7.55% bond maturing 12/10/2016; 8.21% bond maturing 11/02/2020.
- 10 Transpower 6.595% bond maturing 15/02/2017; 7.19% maturing 12/11/2019.
- 11 Meridian 7.55% bond maturing 16/03/2017.

44. Consistent with clauses 2.4.4(4) and 2.4.4(5)(a) of the GDS and GTS IM Determinations, greatest regard has been given to the estimated debt premium on Vector's October 2014 bond. This bond is issued by an EDB/GPB, is publicly traded and has a rating of BBB+. However, the October 2014 Vector bond has a remaining term to maturity of 2.3 years, which is significantly less than five years specified in clause 2.4.4(3)(d).

⁸ The five-year debt premiums on the Powerco, AIAL, Genesis, Mighty River Power and Transpower bonds are calculated by linear interpolation with respect to maturity.

45. As at 1 July 2012, the debt premium on the Vector bond was estimated at 2.41%. 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.
46. The interpolated five year debt premium on Powerco's bonds is 2.69%. Powerco's bonds are rated BBB, implying that the five year debt premium on bonds rated BBB+ would be less than 2.69%.
47. The Commission has also had regard to the estimated debt premium on bonds from a range of other issuers including Auckland International Airport Limited (AIAL) (2.18%, 5 years, rated A-), Contact Energy (2.79%, 4.8 years, rated BBB), Telecom (2.27%, 3.7 years, rated A-), Telstra (2.32%, 5 years, rated A) and Fonterra (1.79%, 3.7 years, rated A+). Consistent with clause 2.4.4(5)(a) these were given less weight as the issuers are not EDBs or GPBs, and the debt issues had different credit ratings than the BBB+ rating specified in clause 2.4.4(3)(d).
48. The estimated debt premium on the Genesis bonds (rated BBB+ with a 5 year term to maturity), the Mighty River Power bonds (rated BBB+ with a 5 year term to maturity), the Transpower bonds (rated AA- with a 5 year term to maturity) and the Meridian bond (rated BBB+ with a 4.7 year term to maturity) were 2.09%, 2.41%, 1.75% and 2.35% respectively.
49. 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, EDB/GPB-issued bond, rated BBB+ with a remaining term of five years to be 2.55% as at 1 July 2012.

WACC for AIAL and CIAL information disclosure year 2013

50. Under clause 5.1 of the Airports IM Determination, the Commission has determined:

- A mid-point estimate of vanilla WACC of 6.75% for the five year period commencing on the first day of disclosure year 2013 (ie 1 July 2012). Under clause 5.7, the Commission has also determined a vanilla WACC range from 5.76% to 7.73%, where the endpoints are the 25th and 75th percentile estimates respectively.
- A mid-point estimate of post-tax WACC of 6.49% for the five year period commencing on the first day of disclosure year 2013 (ie 1 July 2012). Under clause 5.7, the Commission has also determined a post-tax WACC range from 5.51% to 7.48%, where the endpoints are the 25th and 75th percentile estimates respectively.

Parameters used to estimate the WACC for AIAL and CIAL

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

Summary of parameters

52. The parameters used to estimate the vanilla and post-tax WACCs for AIAL and CIAL information disclosure year 2013 are summarised in Table 3 below.

Table 3: Parameters used to calculate WACC for AIAL and CIAL information disclosure year 2013

Risk-free rate (5 years)	2.78%	Debt premium (5 years)	2.18%
Equity beta	0.72	TAMRP	7.0%
Average corporate tax rate	28%	Average investor tax rate	28%
Debt issuance costs	0.35%	Leverage	17%
Standard error of debt premium	0.0015	Standard error of WACC	0.015
Cost of debt (pre-corporate tax)	5.31%	Cost of equity	7.04%
Vanilla WACC (midpoint)	$5.31\% \times 0.17 + 7.04\% \times (1-0.17) = 6.75\%$		
Post-tax WACC (midpoint)	$5.31\% \times 0.17 \times (1-0.28) + 7.04\% \times (1-0.17) = 6.49\%$		

Risk-free rate

53. 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 June 2012 in respect of the April 2015 and December 2017 maturity bonds. The April 2015 and December 2017 bonds have annualised bid yields to maturity of 2.40% and 2.86% respectively.

54. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 2.78% interest rate on a NZ government bond with a five year term to maturity as at 1 July 2012.

Tax rates

55. 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

56. The standard error of the WACC is determined in accordance with the formula in the Airports IM Determination, and is shown to three decimal places only in the table above.

Debt premium

57. The methodology for determining the debt premium is set out in clause 5.4 of the Airports IM Determination.
58. Clause 5.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ\$ denominated bond that:
- 58.1 is issued by an airport that is neither majority owned by the Crown nor a local authority
 - 58.2 is publicly traded
 - 58.3 has a qualifying rating of grade A-
 - 58.4 has a remaining term to maturity of five years.
59. In estimating the debt premium, clause 5.4(4) of the Airports IM Determination provides that the Commission will have regard to:
- 59.1 bonds issued by an airport (that is not government-owned) with a rating of A-
 - 59.2 bonds issued by another entity (that is not government-owned) with a rating of A-
 - 59.3 bonds issued by an airport (that is not government-owned) with a rating other than A-
 - 59.4 bonds issued by another entity (that is not government-owned) with a rating other than A-
 - 59.5 bonds issued by government-owned entities.

60. Clause 5.4(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 5.4(4)(a) to (e).
61. Table 4 below shows the debt premium determined by the Commission as at 1 July 2012. This table includes a summary of information on the investment grade rated bonds the Commission considered in determining the debt premium.
62. 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 4: Five-year debt premium on an Airport-issued bond rated A-¹⁰

Determined debt premium on an Airport-issued bond rated A- with a remaining term of 5 years as at 1 July 2012						
	Industry	Rating	Remaining Term to Maturity	Debt premium	Comment	
<i>Determined Debt Premium</i>	<i>Airport</i>	<i>A-</i>	<i>5.0</i>	<i>2.18</i>	<i>AIAL is an exact match. Regard to results of 4(b) and 4(d).</i>	
Subclause	Issuer	Industry	Rating	Remaining Term to Maturity	Debt premium	Comment
4(a)	AIAL ¹	Airport	A-	5.0	2.18	Exact match
4(b)	Telecom ²	Other	A-	3.7	2.27	5 year debt premium would be higher than this.
4(c)						No data on an applicable bond.
4(d)	Vector ³	Other	BBB+	2.3	2.41	5 year debt premium would be higher and an A- bond would be less than this.
	Powerco ⁴	Other	BBB	5.0	2.69	A- bond would be less than this.
	Contact ⁵	Other	BBB	4.8	2.79	5 year debt premium would be higher and an A- bond would be less than this.
	Telstra ⁶	Other	A	5.0	2.32	A- bond would be higher than this.
	Fonterra ⁷	Other	A+	3.7	1.79	5 year debt premium and debt premium on an A- bond would be higher than this.
4(e)	Genesis ⁸	Other	BBB+	5.0	2.09	
	MRP ⁹	Other	BBB+	5.0	2.41	
	Transpower	Other	AA-	5.0	1.75	
	Meridian ¹¹	Other	BBB+	4.7	2.35	

Notes on bonds analysed:

- 1 AIAL 8% bond maturing 15/11/2016; 5.47% bond maturing 17/10/2017.
- 2 Telecom 7.04% bond maturing 22/03/2016.
- 3 Vector 7.8% bond maturing 15/10/2014.
- 4 Powerco 6.53% bond maturing 29/06/2015; 6.74% bond maturing 28/09/2017.
- 5 Contact Energy 7.855% bond maturing 13/04/2017.
- 6 Telstra 7.515% bond maturing 11/07/2017.
- 7 Fonterra 6.83% bond maturing 4/03/2016.
- 8 Genesis 7.185% bond maturing 15/09/2016; 8.3% bond maturing 23/06/2020.
- 9 Mighty River Power 7.55% bond maturing 12/10/2016; 8.21% bond maturing 11/02/2020.
- 10 Transpower 6.595% bond maturing 15/02/2017; 7.19% maturing 12/11/2019.
- 11 Meridian 7.55% bond maturing 16/03/2017.

63. Consistent with clauses 5.4(4) and 5.4(5)(a) of the Airports IM Determination, greatest regard has been given to the estimated debt premium on AIAL's bonds. These bonds are issued by an airport, are publicly traded, are rated A- and have a debt premium of 2.18% when linearly interpolated to give a remaining term to maturity of five years.

64. The estimated debt premium on the AIAL bonds exactly matches the requirements defined in clause 5.4(3)(d). Therefore, the Commission has determined the debt

¹⁰ The five-year debt premiums on the Powerco, AIAL, Genesis, Mighty River Power and Transpower bonds are calculated by linear interpolation with respect to maturity.

premium on airport-issued bonds rated A- with a remaining term to maturity of five years to be 2.18% as at 1 July 2012.

65. The Commission has also had regard to the estimated debt premiums on bonds from a range of other issuers, but none of these match the requirements in clause 5.4(3)(d) as well as the AIAL bonds. The estimated debt premiums from these other bonds are largely consistent with the debt premium on the AIAL bonds when consideration is given to different credit ratings and terms to maturity.