

Cost of capital determination for disclosure year 2019

For Transpower, gas pipeline businesses and suppliers of specified airport services (with a June year-end)

[2018] NZCC 11

The Commission: S Begg
Dr M Berry
Dr S Gale
Dr J Walker

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Associated documents

Publication date	Reference	Title
20 December 2016	ISSN 1178-2560	Airport Services Input Methodologies Determination 2010 (Consolidated December 2016)
20 December 2016	ISBN 978-1-869455-48-4	Input methodologies review decisions (Topic paper 4: Cost of capital issues)
28 February 2017	ISSN 1178-2560	Transpower Input Methodologies Determination 2010 (Consolidated February 2017)
31 July 2017	ISSN 1178-2560	Cost of capital determination for disclosure year 2018 for Transpower, gas pipeline businesses and suppliers of specified airport services (with a June year-end) [2017] NZCC 19
3 April 2018	ISSN 1178-2560	Gas Distribution Services Input Methodologies Determination 2012 (Consolidated April 2018)
30 April 2018	ISSN 1178-2560	Guidelines for WACC determinations under the cost of capital input methodologies – Regulation under Part 4 of the Commerce Act 1986
30 April 2018	ISSN 1178-2560	Cost of capital determination for disclosure year 2019 - Electricity distribution businesses and Wellington International Airport

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WACC estimates for Transpower, GPBs (GasNet and Vector) and airports (AIAL and CIAL)

1. This determination specifies weighted average cost of capital (WACC) estimates that will apply for disclosure year 2019 for Transpower, gas pipeline businesses (GPBs) (GasNet and Vector), and airports (AIAL and CIAL).
2. Vanilla and post-tax WACC estimates for Transpower, GPBs and airports are summarised in Table 1, Table 2 and Table 3 below, respectively.

Table 1: Summary of vanilla and post-tax WACC estimates for Transpower (%)

	Vanilla WACC	Post-tax WACC
Mid-point	5.22	4.72
25 th percentile	4.54	4.04
67 th percentile	5.67	5.16
75 th percentile	5.90	5.40

Table 2: Summary of vanilla and post-tax WACC estimates for GPBs (GasNet and Vector) (%)

	Vanilla WACC	Post-tax WACC
Mid-point	5.56	5.07
25 th percentile	4.85	4.36
67 th percentile	6.02	5.53
75 th percentile	6.27	5.77

Table 3: Summary of vanilla and post-tax WACC estimates for airports (AIAL and CIAL) (%)

	Vanilla WACC	Post-tax WACC
Mid-point	6.30	6.09
Standard error	0.0146	0.0146

3. This determination should be read in conjunction with our guidelines for WACC determinations under the cost of capital input methodologies.¹ The guidelines explain our methodology for calculating WACC estimates, including:
 - 3.1 the formulas used;
 - 3.2 the values for WACC parameters which are fixed under the input methodologies; and
 - 3.3 our methodology for determining the risk-free rate and average debt premium.

¹ Commerce Commission “Guidelines for WACC determinations under the cost of capital input methodologies – Regulation under Part 4 of the Commerce Act 1986” (30 April 2018).

Further details regarding the WACC estimates

WACC parameter values

4. The parameter values used to generate the mid-point WACC estimates for Transpower, GPBs and airports are summarised in Table 4 below.

Table 4: Values used to calculate WACC estimates for Transpower, GPBs (GasNet and Vector) and Airports (AIAL and CIAL)

Parameter	Transpower	GPBs (GasNet and Vector)	Airports (AIAL and CIAL)
Risk-free rate	2.36%	2.36%	2.36%
Average debt premium	1.72%	1.66%	1.24%
Leverage	42%	42%	19%
Equity beta	0.60	0.69	0.74
Tax adjusted market risk premium	7.0%	7.0%	7.0%
Average corporate tax rate	28%	28%	28%
Average investor tax rate	28%	28%	28%
Debt issuance costs	0.20%	0.20%	0.20%
Cost of debt	4.29%	4.22%	3.80%
Cost of equity	5.90%	6.53%	6.88%
Standard error of WACC	0.0101	0.0105	0.0146
Mid-point vanilla WACC	5.22%	5.56%	6.30%
Mid-point post-tax WACC	4.72%	5.07%	6.09%

Risk-free rate for Transpower, GPBs and airports

5. 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. Our estimate of the risk-free rate is based on data reported by Bloomberg for the three month period ending June 2018 in respect of the April 2023 and April 2025 maturity bonds.
6. The daily data reported by Bloomberg is linearly interpolated, annualised (to reflect the six monthly payment of interest), and averaged to produce the estimate of a 2.36% interest rate on New Zealand government bonds with a five year term maturity, as at 1 July 2018.

Average debt premium for Transpower

7. The average debt premium for Transpower of 1.72% is the average of the debt premium values for the current debt premium reference year (DPRY) and the four previous DPRYs, as shown in Table 5 below. DPRY 2018 is the current reference year for Transpower.²

Table 5: Average debt premium for Transpower (%)

	DPRY	DPRY	DPRY	DPRY	DPRY	Average
	2014	2015	2016	2017	2018	
Debt premium	2.04	1.76	1.59	1.59	1.63	1.72

8. The debt premium values for the 2014 to 2017 DPRYs are set out in clause 2.4.4(4) of the Transpower IM Determination.³ The debt premium for Transpowers' DPRY 2018 was determined in April 2018.⁴

WACC range and 67th percentile estimate for Transpower

9. In addition to the mid-point estimate, we are also required to determine a WACC range and 67th percentile estimate for each Transpower disclosure year.
10. The WACC range means the values falling between the 25th percentile and 75th percentile, inclusive of the mid-point estimate. The methodology for estimating different WACC percentile estimates is set out in clause 2.4.5 of the Transpower Distribution Services IM Determination.⁵

Average debt premium for GPBs (GasNet and Vector)

11. The average debt premium for GPBs of 1.66% is the average of the debt premium values for the current debt premium reference year (DPRY) and the four previous DPRYs, as shown in Table 6 below. DPRY 2019 is the current reference year for GPBs.⁶

² The 'current debt premium reference year' refers to the debt premium reference year that contains the start of the relevant disclosure year. Transpower's debt premium reference year 2018 starts on 1 September 2017.

³ [Transpower Input Methodologies Determination 2010](#) (Consolidated February 2017).

⁴ *Cost of capital determination for disclosure year 2019 - Electricity distribution businesses and Wellington International Airport* [2018] NZCC 7 (30 April 2018), table 4, page 5.

⁵ The same methodology applies to both vanilla and post-tax WACC estimates. The mid-point estimate of WACC is treated as the 50th percentile.

⁶ The 'current debt premium reference year' refers to the debt premium reference year that contains the start of the relevant disclosure year. GPBs' debt premium reference year 2019 starts on 1 March 2018.

Table 6: Average debt premium for GPBs (%)

	DPRY 2015	DPRY 2016	DPRY 2017	DPRY 2018	DPRY 2019	Average
Debt premium	1.84	1.66	1.54	1.65	1.60	1.66

12. The debt premium values for the 2015 to 2017 DPRYs are set out in clause 2.4.4(4) of the Gas Distribution Services IM Determination.⁷ The debt premium for GPB's DPRY 2018 was determined in July 2017.⁸
13. We have estimated a debt premium of 1.60% for GPB DPRY 2019, based on the data in Table 7 below.
- 13.1 We have had greatest regard to the category (b) bonds, which support a debt premium of approximately 1.60%. The Genesis (1.62%), Mercury (1.62%) and Wellington Airport (1.62%) bonds all match the target credit rating (BBB+) and remaining term to maturity (5 years). Although the Meridian bond (1.52%) is rated BBB+, it has a remaining term to maturity of 5.5 years so we would expect a lower debt premium, which supports an estimate of 1.60%.
- 13.2 The estimated debt premiums for other issuers in bond categories (c) to (e) are not inconsistent with a debt premium around 1.60%, when consideration is given to the different credit ratings and terms to maturity, although there is some variation.
- 13.3 The Nelson-Siegel-Svensson estimate of the debt premium of 1.57% also lends support to our estimate of 1.60%.

WACC range and 67th percentile estimate for GPBs

14. In addition to the mid-point estimate, we are also required to determine a WACC range and 67th percentile estimate for each GPB disclosure year.
15. The WACC range means the values falling between the 25th percentile and 75th percentile, inclusive of the mid-point estimate. The methodology for estimating different WACC percentile estimates is set out in clause 2.4.5 of the Gas Distribution Services IM Determination.⁹

⁷ [Gas Distribution Services Input Methodologies Determination 2012](#) (Consolidated April 2018).

⁸ *Cost of capital determination for disclosure year 2018 for Transpower, gas pipeline businesses and suppliers of specified airport services (with a June year-end)* [2017] NZCC 19 (31 July 2017), table 6, page 21.

⁹ The same methodology applies to both vanilla and post-tax WACC estimates. The mid-point estimate of WACC is treated as the 50th percentile.

Table 7: Debt premium estimate for GPB DPRY 2019

	Sector	Rating	Remaining term to maturity (years)	Debt premium
Determined debt premium	GPB	BBB+	5	1.60

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium	Security name(s)	Comment
b	GENESIS ENERGY LTD	Other	No	BBB+	5.0	1.62	GENEPO 4.14 03/18/22; GENEPO 8.3 06/23/20; GENEPO 5.81 03/08/23	Credit rating and term are an exact match
b	MERCURY NZ LTD	Other	No	BBB+	5.0	1.62	MCYNZ 8.21 02/11/20; MCYNZ 5.793 03/06/23	Credit rating and term are an exact match
b	MERIDIAN ENERGY LIMITE	Other	No	BBB+	5.5	1.52	MERINZ 4.53 03/14/23	5 year debt premium would be lower
b	WELLINGTON INTL AIRPOR	Airport	No	BBB+	5.0	1.62	WIANZ 5.27 06/11/20; WIANZ 5 06/16/25	Credit rating and term are an exact match
c	VECTOR LTD	EDB/GPB	No	BBB	6.5	1.96	VCTNZ 4.996 03/14/24	5 year debt premium would be lower; BBB+ debt premium would be lower
d	AUCKLAND INTL AIRPORT	Airport	No	A-	5.0	1.15	AIANZ 4.28 11/09/22; AIANZ 5.52 05/28/21; AIANZ 3.97 11/02/23	BBB+ debt premium would be higher
d	CHORUS LTD	Other	No	BBB	3.7	1.60	CNUNZ 4.12 05/06/21	5 year debt premium would be higher; BBB+ debt premium would be lower
d	CONTACT ENERGY LTD	Other	No	BBB	5.2	1.46	CENNZ 4.63 11/15/22	5 year debt premium would be lower; BBB+ debt premium would be lower
d	FONTERRA COOPERATIVE G	Other	No	A-	5.0	1.35	FCGNZ 5.9 02/25/22; FCGNZ 4.42 03/07/23	BBB+ debt premium would be higher
d	SPARK FINANCE LTD	Other	No	A-	5.0	1.34	SPKNZ 4 1/2 03/25/22; SPKNZ 5 1/4 10/25/19; SPKNZ 4.51 03/10/23	BBB+ debt premium would be higher
e	CHRISTCHURCH INTL AIRP	Airport	Yes	BBB+	4.1	1.51	CHRINT 6 1/4 10/04/21	5 year debt premium would be higher
e	TRANSPower NEW ZEALAND	Other	Yes	AA-	5.0	1.07	TPNZ 4.069 09/16/22; TPNZ 4.3 06/30/22; TPNZ 6.95 06/10/20; TPNZ 5.448 03/15/23	BBB+ debt premium would be higher
Nelson-Siegel-Svenson estimate						5.0	1.57	

Average debt premium for Airports (AIAL and CIAL)

16. The average debt premium for Airports of 1.24% is the average of the debt premium values for the current DPRY and the four previous DPRYs, as shown in Table 8 below. DPRY 2019 is the current reference year for Airports (AIAL and CIAL).¹⁰
17. The debt premium values for the 2015 to 2017 DPRYs are set out in clause 5.4(4) of the Airport Services IM Determination.¹¹ The debt premium for Airports' DPRY 2018 was determined in July 2017.¹²

Table 8: Average debt premium for Airports (%)

	DPRY 2015	DPRY 2016	DPRY 2017	DPRY 2018	DPRY 2019	Average
Debt premium	1.25	1.05	1.38	1.35	1.15	1.24

18. We have estimated a debt premium of 1.15%, for Airport DPRY 2019 based on the data in Table 9 below.
- 18.1 We have had greatest regard to the category (a) bond, which supports a debt premium of around 1.11%. The category (b) bonds both match the target credit rating (A-) and remaining term to maturity (5 years) and, along with the Nelson-Siegel-Svensson estimate of 1.22%, support a higher debt premium than the Auckland Airport bond alone suggests.
- 18.2 The estimated debt premiums for other issuers in bond categories (c) to (e) are generally consistent with a higher debt premium, when consideration is given to different credit ratings and terms to maturity. These bonds are less relevant, none of them have both the same credit rating and term to maturity, but they do support a slight uplift to the category (a) bond estimate.

¹⁰ The 'current debt premium reference year' refers to the debt premium reference year that contains the start of the relevant disclosure year. The Airports' debt premium reference year 2019 starts on 1 July 2018.

¹¹ [Airport Services Input Methodologies Determination 2010](#) (Consolidated December 2016).

¹² *Cost of capital determination for disclosure year 2018 for Transpower, gas pipeline businesses and suppliers of specified airport services (with a June year-end)* [2017] NZCC 19 (31 July 2017), Table 9, p 26.

Table 9: Debt premium estimate for Airports (AIAL and CIAL) DPRY 2019

		Sector	Rating	Remaining term to maturity (years)	Debt premium				
Determined debt premium		Airport	A-	5	1.15				
Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium	Security name(s)	Comment	
a	AUCKLAND INTL AIRPORT	Airport	No	A-	5.0	1.11	AIANZ 3.64 04/17/23; AIANZ 4.28 11/09/22; AIANZ 5.52 05/28/21; AIANZ 3.97 11/02/23	Credit rating and term are an exact match	
b	FONTERRA COOPERATIVE G	Other	No	A-	5.0	1.27	FCGNZ 4.42 03/07/23; FCGNZ 5.9 02/25/22; FCGNZ 5.08 06/19/25	Credit rating and term are an exact match	
b	SPARK FINANCE LTD	Other	No	A-	5.0	1.25	SPKNZ 4.51 03/10/23; SPKNZ 4 1/2 03/25/22; SPKNZ 3.94 09/07/26	Credit rating and term are an exact match	
c	WELLINGTON INTL AIRPOR	Airport	No	BBB+	5.0	1.58	WIANZ 5.27 06/11/20; WIANZ 5 06/16/25	A- debt premium would be lower	
d	CHORUS LTD	Other	No	BBB	3.4	1.57	CNUNZ 4.12 05/06/21	5 year debt premium would be higher; A- debt premium would be lower	
d	CONTACT ENERGY LTD	Other	No	BBB	4.9	1.41	CENNZ 4.63 11/15/22	5 year debt premium would be higher; A- debt premium would be lower	
d	GENESIS ENERGY LTD	Other	No	BBB+	5.0	1.67	GENEPO 5.81 03/08/23; GENEPO 4.14 03/18/22; GENEPO 5 04/03/25	A- debt premium would be lower	
d	MERCURY NZ LTD	Other	No	BBB+	5.2	1.65	MCYNZ 5.793 03/06/23	5 year debt premium would be lower; A- debt premium would be lower	
d	MERIDIAN ENERGY LIMITE	Other	No	BBB+	5.2	1.48	MERINZ 4.53 03/14/23	5 year debt premium would be lower; A- debt premium would be lower	
d	VECTOR LTD	EDB/GPB	No	BBB	6.2	1.93	VCTNZ 4.996 03/14/24	5 year debt premium would be lower; A- debt premium would be lower	
e	CHRISTCHURCH INTL AIRP	Airport	Yes	BBB+	3.8	1.47	CHRINT 6 1/4 10/04/21	5 year debt premium would be higher A- debt premium would be lower	
e	TRANSPower NEW ZEALAND	Other	Yes	AA-	5.0	1.05	TPNZ 5.448 03/15/23; TPNZ 4.069 09/16/22; TPNZ 4.3 06/30/22; TPNZ 5.893 03/15/28	A- debt premium would be higher	
Nelson-Siegel-Svenson estimate					5.0	1.22			

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

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.

19. **Figure 1** Figure 1 shows, as at 1 July 2018, changes over time in the:

- 19.1 five year risk-free rate;
- 19.2 debt premium on bonds rated BBB+ with a term of five years;
- 19.3 debt premium on bonds rated A- with a term of five years.

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

