ISSN 1178-2560
Decision Series
Project no. 14.18/13100

Public version

Cost of capital determination for disclosure year 2020

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

[2019] NZCC 8

The Commission: J Crawford
Dr S Gale
E Welson

Date of determination: 31 July 2019

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 [2018] NZCC 7
31 July 2018	ISSN 1178-2560	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
30 April 2019	ISSN 1178-2560	Cost of capital determination for disclosure year 2020 - Electricity distribution businesses and Wellington International Airport [2019] NZCC 7

Commerce Commission
Wellington, New Zealand

WACC estimates for Transpower, GPBs (GasNet and Vector) and airports (AIAL and CIAL)[1]

1. This determination specifies weighted average cost of capital (WACC) estimates that will apply for disclosure year 2020 for Transpower, gas pipeline businesses (GPBs) (GasNet and Vector)[2], and airports (AIAL and CIAL).

   1.1 The timing of our WACC determinations for ID regulation differs depending on the disclosure year of the regulated companies. We determine an ID WACC for Wellington Airport in April and for the other GPBs in October.

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	4.43	4.04
25th percentile	3.75	3.36
67th percentile	4.87	4.49
75th percentile	5.11	4.72

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

	Vanilla WACC	Post-tax WACC
Mid-point	4.79	4.40
25th percentile	4.08	3.69
67th percentile	5.25	4.86
75th percentile	5.50	5.11

[1] Unless appears otherwise from the context all references to GPBs in this determination mean GasNet Limited and Vector Limited, and all references to airports mean Auckland International Airport Limited and Christchurch International Airport Limited.

[2] As GasNet and Vector are both suppliers of gas distribution services this determination refers to the relevant clauses of the Gas Distribution Services Input Methodologies Determination 2012 (Consolidated April 2018) available at https://comcom.govt.nz/__data/assets/pdf_file/0029/59717/Gas-distribution-services-input-methodologies-determination-2012-consolidated-April-2018-3-April-2018.pdf

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

	Vanilla WACC	Post-tax WACC
Mid-point	5.60	5.44
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.[4] The guidelines explain our methodology for calculating WACC estimates, including:

   3.1 the formulas used (including for different WACC percentiles);

   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.

[3] For airports, we are not required to determine a WACC range or 67th percentile estimate.

[4] 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) available at https://comcom.govt.nz/__data/assets/pdf_file/0021/91191/Guidelines-for-WACC-determinations-under-the-cost-of-capital-input-methodologies-30-April-2018.PDF

Further details regarding the WACC estimates

WACC parameter values for Transpower, GPBs and airports

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	1.46%	1.46%	1.46%
Average debt premium	1.63%	1.62%	1.25%
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	3.29%	3.28%	2.90%
Cost of equity	5.25%	5.88%	6.23%
Standard error of WACC	0.0101	0.0105	0.0146
Mid-point vanilla WACC	**4.43%**	**4.79%**	**5.60%**
Mid-point post-tax WACC	**4.04%**	**4.40%**	**5.44%**

*The numbers are rounded to two decimal points.

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 2019 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 1.46% interest rate on New Zealand government bonds with a five year term maturity, as estimated at 1 July 2019.

Average debt premium for Transpower

7. The average debt premium for Transpower of 1.63% 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.[5] DPRY 2019 is the current reference year for Transpower.[6]

Table 5: Average debt premium for Transpower (%)

	DPRY 2015	DPRY 2016	DPRY 2017	DPRY 2018	DPRY 2019	Average
Debt premium	1.76	1.59	1.59	1.63	1.60	1.63

8. The debt premium values for the 2015 to 2017 DPRYs are set out in clause 2.4.4(4) of the Transpower IM Determination.[7] The debt premium of 1.63% for Transpower's DPRY 2018 was determined in April 2018.[8] The debt premium of 1.60% for Transpower's DPRY 2019 was determined in April 2019.[9]

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 IM Determination.[10]

Average debt premium for GPBs (GasNet and Vector)

11. The average debt premium for GPBs of 1.62% is the average of the debt premium values for the current debt premium reference year (DPRY) and the four previous

5 Rounded down from 1.634%.

6 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 2019 starts on 1 September 2018.

7 Transpower Input Methodologies Determination 2010 (Consolidated June 2019) available at https://comcom.govt.nz/__data/assets/pdf_file/0020/91181/Transpower-Input-Methodologies-Determination-2010-Consolidated-June-2019.pdf

8 Cost of capital determination for disclosure year 2019 for information disclosure regulation - Electricity distribution businesses and Wellington International Airport [2018] NZCC 7 (30 April 2018).

9 Cost of capital determination for disclosure year 2020 for information disclosure regulation - Electricity distribution businesses and Wellington International Airport [2019] NZCC 7 (30 April 2019).

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

DPRYs, as shown in Table 6 below. DPRY 2020 is the current reference year for GPBs.[11]

Table 6: Average debt premium for GPBs (%)

	DPRY 2016	DPRY 2017	DPRY 2018	DPRY 2019	DPRY 2020	Average
Debt premium	1.66	1.54	1.65	1.60	1.65	1.62

12. The debt premium values for the 2016 to 2017 DPRYs are set out in clause 2.4.4(4) of the Gas Distribution Services IM Determination.[12] The debt premium of 1.65% for GPB's DPRY 2018 was determined in July 2017.[13] The debt premium of 1.60% for GPB's DPRY 2019 was determined in July 2018.[14]

13. We have estimated a debt premium of 1.65% for GPB DPRY 2020, 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 1.65%. The Genesis (1.76%) and Wellington Airport (1.59%) bonds all match the target credit rating (BBB+) and remaining term to maturity (5 years). Although the Mercury (1.65%) and Meridian bond (1.54%) are rated BBB+, both have a remaining term to maturity of 4.5 years so we would expect GPBs to have higher debt premium, which supports an estimate of 1.65%.

    13.2 The estimated debt premiums for other issuers in bond categories (c) to (e) are not inconsistent with a debt premium around 1.65%, when consideration is given to the different credit ratings and terms to maturity.

    13.3 The Nelson-Siegel-Svennson estimate of the debt premium of 1.58% also lends support to our estimate of 1.65%.

[11] 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 2020 starts on 1 March 2019.

[12] Gas Distribution Services Input Methodologies Determination 2012 (Consolidated April 2018) available at https://comcom.govt.nz/__data/assets/pdf_file/0029/59717/Gas-distribution-services-input-methodologies-determination-2012-consolidated-April-2018-3-April-2018.pdf

[13] 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)

[14] 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 (31 July 2018)

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.[15]

Table 7: Debt premium estimate for GPB DPRY 2020

			Industry	Rating	Remaining term to maturity	Debt premium	
Determined debt premium			GPB	BBB+	5.0	1.60	
Category	**Issuer**	**Note ref.**	**Industry**	**Rating**	**Remaining term to maturity**	**Debt premium**	**Comment**
(b)	GENESIS ENERGY LTD	1	Other	BBB+	5.0	1.76	Credit rating and term are an exact match
	MERCURY NZ LTD	2	Other	BBB+	4.5	1.65	5 year debt premium would be higher
	MERIDIAN ENERGY LIMITE	3	Other	BBB+	4.5	1.54	5 year debt premium would be higher
	WELLINGTON INTL AIRPOR	4	Airport	BBB+	5.0	1.59	Credit rating and term are an exact match
(c)	VECTOR LTD	5	EDB/GPB	BBB	5.5	1.95	BBB+ debt premium would be lower; 5 year debt premium would be lower
(d)	AUCKLAND INTL AIRPORT	6	Airport	A-	5.2	1.19	BBB+ debt premium would be higher; 5 year debt premium would be lower
	CHORUS LTD	7	Other	BBB	2.7	1.65	BBB+ debt premium would be lower; 5 year debt premium would be higher
	CONTACT ENERGY LTD	8	Other	BBB	4.2	1.51	BBB+ debt premium would be lower; 5 year debt premium would be higher
	FONTERRA COOPERATIVE G	9	Other	A-	5.0	1.39	BBB+ debt premium would be higher
	SPARK FINANCE LTD	10	Other	A-	5.0	1.27	BBB+ debt premium would be higher
(e)	CHRISTCHURCH INTL AIRP	11	Airport	A-	5.0	1.49	BBB+ debt premium would be higher
	TRANSPOWER NEW ZEALAND	12	Other	AA-	5.0	1.10	BBB+ debt premium would be higher
Nelson-Siegel Svennson estimate					5.0	1.58	

Notes on bonds analysed

1 GENEPO 5.81 03/08/23; GENEPO 4.14 03/18/22; GENEPO 5 04/03/25
2 MCYNZ 5.793 03/06/23
3 MERINZ 4.53 03/14/23
4 WIANZ 5.27 06/11/20; WIANZ 5 06/16/25
5 VCTNZ 4.996 03/14/24
6 AIANZ 3.97 11/02/23
7 CNUNZ 4.12 05/06/21
8 CENNZ 4.63 11/15/22
9 FCGNZ 4.42 03/07/23; FCGNZ 5.9 02/25/22; FCGNZ 5.08 06/19/25
10 SPKNZ 4.51 03/10/23; SPKNZ 4 1/2 03/25/22; SPKNZ 3.94 09/07/26
11 CHRINT 6 1/4 10/04/21; CHRINT 4.13 05/24/24; CHRINT 5.53 04/05/27
12 TPNZ 5.448 03/15/23; TPNZ 4.069 09/16/22; TPNZ 3.823 03/06/25

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

Average debt premium for Airports (AIAL and CIAL)

16. The average debt premium for Airports of 1.25% is the average of the debt premium values for the current DPRY and the four previous DPRYs, as shown in Table 8 below.[16] DPRY 2020 is the current reference year for Airports (AIAL and CIAL).[17]

17. The debt premium values for the 2016 to 2017 DPRYs are set out in clause 5.4(4) of the Airport Services IM Determination.[18] The debt premium of 1.35% for Airports' DPRY 2018 was determined in July 2017.[19] The debt premium of 1.15% for Airports' DPRY 2019 was determined in July 2018.[20]

Table 8: Average debt premium for Airports (%)

	DPRY 2016	DPRY 2017	DPRY 2018	DPRY 2019	DPRY 2020	Average
Debt premium	1.05	1.38	1.35	1.15	1.30	1.25

18. We have estimated a debt premium of 1.30%, for Airport DPRY 2020 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 1.19%. The category (b) bonds both match the target credit rating (A-) and remaining term to maturity (5 years) and, along with the Nelson-Siegel-Svennson estimate of 1.30%, 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. With the exception of Christchurch International Airport 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.

16 Rounded up from 1.246%.

17 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 2020 starts on 1 July 2019.

18 Airport Services Input Methodologies Determination 2010 (Consolidated December 2016) available at https://comcom.govt.nz/__data/assets/pdf_file/0019/60553/Airport-Services-Input-Methodologies-Determination-2010-consolidated-as-of-20-December-2016.pdf

19 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).

20 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 (31 July 2018).

Table 9: Debt premium estimate for Airports (AIAL and CIAL) DPRY 2020

			Industry	Rating	Remaining term to maturity	Debt premium	
Determined debt premium			Airport	A-	5.0	1.30	
Category	**Issuer**	**Note ref.**	**Industry**	**Rating**	**Remaining term to maturity**	**Debt premium**	**Comment**
(a)	AUCKLAND INTL AIRPORT	1	Airport	A-	5.0	1.19	Credit rating and term are an exact match
(b)	FONTERRA COOPERATIVE G	2	Other	A-	5.0	1.48	Credit rating and term are an exact match
	SPARK FINANCE LTD	3	Other	A-	5.0	1.30	Credit rating and term are an exact match
	WELLINGTON INTL AIRPOR	4	Airport	BBB+	5.0	1.59	A- debt premium would be lower
	CHORUS LTD	5	Other	BBB	2.4	1.66	A- debt premium would be lower; 5 year debt premium would be higher
(c)	CONTACT ENERGY LTD	6	Other	BBB	3.9	1.47	A- debt premium would be lower; 5 year debt premium would be higher
(d)	GENESIS ENERGY LTD	7	Other	BBB+	5.0	1.74	A- debt premium would be lower
	MERCURY NZ LTD	8	Other	BBB+	4.2	1.61	A- debt premium would be lower; 5 year debt premium would be higher
	MERIDIAN ENERGY LIMITE	9	Other	BBB+	5.0	1.53	A- debt premium would be lower
	VECTOR LTD	10	EDB/GPB	BBB	5.2	1.94	A- debt premium would be lower; 5 year debt premium would be lower
	CHRISTCHURCH INTL AIRP	11	Airport	A-	5.0	1.41	Credit rating and term are an exact match
(e)	TRANSPOWER NEW ZEALAND	12	Other	AA-	5.0	1.08	A- debt premium would be higher
Nelson-Siegel Svennson estimate					5.0	1.29	

Notes on bonds analysed

1 AIANZ 3.97 11/02/23; AIANZ 3.64 04/17/23; AIANZ 3.51 10/10/24
2 FCGNZ 4.42 03/07/23; FCGNZ 5.08 06/19/25
3 SPKNZ 3.37 03/07/24; SPKNZ 4.51 03/10/23; SPKNZ 3.94 09/07/26
4 WIANZ 5.27 06/11/20; WIANZ 5 06/16/25
5 CNUNZ 4.12 05/06/21
6 CENNZ 4.63 11/15/22
7 GENEPO 5.81 03/08/23; GENEPO 5 04/03/25
8 MCYNZ 5.793 03/06/23
9 MERINZ 4.88 03/20/24; MERINZ 4.53 03/14/23; MERINZ 4.21 06/27/25
10 VCTNZ 4.996 03/14/24
11 CHRINT 4.13 05/24/24; CHRINT 6 1/4 10/04/21; CHRINT 5.53 04/05/27
12 TPNZ 5.448 03/15/23; TPNZ 3.823 03/06/25

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 shows, as at 1 July 2019, 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