

Cost of capital determination for disclosure year 2022 for information disclosure regulation

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

[2021] NZCC 10

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Date of publication: 2 August 2021

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 January 2020)
3 April 2018	ISSN 1178-2560	Gas Distribution Services Input Methodologies Determination 2012 (Consolidated April 2018)
27 May 2021	ISBN 978-1-869458-98-0	Guidelines for WACC determinations under the cost of capital input methodologies – Regulation under Part 4 of the Commerce Act 1986 and Part 6 of the Telecommunications Act 2001
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 for information disclosure regulation. Electricity distribution businesses and Wellington International Airport [2019] NZCC 7
31 July 2019	ISSN 1178-2560	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

25 September 2019	ISSN 1178-2560	Cost of capital determination for electricity distribution businesses' 2020-2025 default price-quality paths and Transpower New Zealand Limited's 2020-2025 individual price-quality path [2019] NZCC 12
13 May 2020	ISSN 1178-2560	Cost of capital determination for disclosure year 2021 – Electricity distribution businesses and Wellington International Airport [2020] NZCC 11
31 July 2020	ISSN 1178-2560	Cost of capital determination for disclosure year 2021 – For Transpower, gas pipeline businesses and suppliers of specified airport services (with a June year-end) [2020] NZCC 15
31 October 2020	ISSN 1178-2560	Cost of capital determination for disclosure year 2021 – First Gas and Powerco gas pipeline businesses [2020] NZCC 22
30 April 2021	ISSN 1178-2560	Cost of capital determination for disclosure year 2022 for information disclosure regulation – For Electricity distribution businesses and Wellington International Airport [2021] NZCC 4

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WACC estimates for disclosure year 2022 for Transpower, GPBs (GasNet and Vector) and airports (AIAL and CIAL)¹

1. This determination specifies the weighted average cost of capital (WACC) estimates that will apply for ID regulation for disclosure year 2022 for Transpower, gas pipeline businesses (GPBs) (GasNet and Vector)², and airports (AIAL and CIAL).
2. 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 due to their different disclosure years.
3. Vanilla and post-tax WACC estimates for disclosure year 2022 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	4.03%	3.70%
25 th percentile	3.35%	3.02%
67 th percentile	4.47%	4.14%
75 th percentile	4.71%	4.38%

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

	Vanilla WACC	Post-tax WACC
Mid-point	4.37%	4.05%
25 th percentile	3.66%	3.34%
67 th percentile	4.83%	4.51%
75 th percentile	5.08%	4.76%

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)

	Vanilla WACC	Post-tax WACC
Mid-point	5.24%	5.11%
Standard error	0.0146	0.0146

4. The WACC estimates have been calculated as at 1 July 2021, which is the first day of disclosure year 2022.
5. This determination should be read together with our guidelines for WACC determinations under the cost of capital input methodologies.³ These guidelines form part of this determination. The guidelines explain our methodology for calculating WACC estimates, including:
 - 5.1 the formulas used (including for different WACC percentiles);
 - 5.2 the values for WACC parameters which are fixed under the input methodologies; and
 - 5.3 our methodology for estimating the risk-free rate and average debt premium.

³ Commerce Commission, Guidelines for WACC determinations under the cost of capital input methodologies - Regulation under Part 4 of the Commerce Act 1986 and Part 6 of the Telecommunications Act 2001, 27 May 2021.

Further details regarding the WACC estimates

WACC parameter values for Transpower, GPBs and Airports

6. The parameter values used to generate the mid-point WACC estimates for disclosure year 2022 (as at 1 July 2021) for Transpower, GPBs and airports are summarised in Table 4 below.⁴

Table 4: Values used to calculate WACC estimates for Transpower, GPBs and Airports

Parameter	Transpower	GPBs (GasNet and Vector)	Airports (AIAL and CIAL)
Risk-free rate	1.00%	1.00%	1.00%
Average debt premium	1.59%	1.54%	1.24%
Leverage	42%	42%	19%
Asset beta	0.35	0.40	0.60
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	2.79%	2.74%	2.44%
Cost of equity	4.92%	5.55%	5.90%
Standard error of midpoint WACC estimate	0.0101	0.0101	0.0146
Mid-point vanilla WACC	4.03%	4.37%	5.24%
Mid-point post-tax WACC	3.70%	4.05%	5.11%

*The numbers are rounded to two decimal points.

Risk-free rate for Transpower, GPBs and airports

7. 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 2021 in respect of the April 2025, May 2026 and April 2027 maturity bonds. The risk-free rate is the same for Transpower, GPBs and airports.
8. 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

⁴ All parameter values except the estimate of the risk-free rate and the average debt premium are set in the input methodologies.

1.00% interest rate on New Zealand government bonds with a five year term to maturity, as estimated at 1 July 2021.

Average debt premium for Transpower

9. The average debt premium for Transpower of 1.59% 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 2021 is the current reference year for Transpower.⁵

Table 5: Average debt premium for Transpower (%)

	DPRY 2017	DPRY 2018	DPRY 2019	DPRY 2020	DPRY 2021	Average
Debt premium	1.59	1.63	1.60	1.60	1.55	1.59

10. The debt premium values are taken from the following sources:
- 10.1 The debt premium value for the 2017 DPRY is set out in clause 2.4.4(4)(e) of the *Transpower Input Methodologies Determination 2010* (IM).⁶
- 10.2 The debt premium value for the 2018 DPRY was estimated in the *Cost of capital determination for disclosure year 2019 for Electricity distribution businesses and Wellington International Airport [2018]* NZCC 7 (30 April 2018).
- 10.3 The debt premium value for the 2019 DPRY was estimated in the *Cost of capital determination for disclosure year 2020 for information disclosure regulation for Electricity distribution businesses and Wellington International Airport [2019]* NZCC 7 (30 April 2019).
- 10.4 The debt premium value for the 2020 DPRY was estimated in the *Cost of capital determination for disclosure year 2021 for information disclosure regulation for Electricity distribution businesses and Wellington International Airport [2020]* NZCC 11 (13 May 2020).

⁵ The 'current debt premium reference year' refers to the DPRY that contains the start of the relevant disclosure year. Transpower's disclosure year 2022 starts on 1 July 2021. In this case, the current DPRY applying for the debt premium estimation is DPRY 2021 (1 September 2020 to 31 August 2021). We therefore use bond data from the 12 months prior to the start of the current DPRY (that is, 1 September 2019 to 31 August 2020) to estimate the debt premium for DPRY 2021.

⁶ Transpower Input Methodologies Determination 2010 (Consolidated January 2020), ISSN 1178-2560.

- 10.5 The debt premium value for the 2021 DPRY was estimated in the *Cost of capital determination for disclosure year 2022 for information disclosure regulation for Electricity distribution businesses and Wellington International Airport [2021]* NZCC 4 (30 April 2021).

WACC range and 67th percentile estimate for Transpower

11. 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.
12. The WACC range means the values falling between the 25th percentile and 75th percentile, inclusive of the mid-point estimate of WACC. The methodology for estimating different WACC percentiles is set out in clause 2.4.5 of the Transpower IM.⁷

Average debt premium for GPBs (GasNet and Vector)

13. The average debt premium for GPBs of 1.54% is the average of the debt premium values for the current DPRY and the four previous DPRYs, as shown in Table 6 below. DPRY 2022 is the current reference year for GPBs.⁸
14. The debt premium values are taken from the following sources:
- 14.1 The debt premium value for DPRY 2018 was estimated in the *Cost of capital determination for disclosure year 2018 for Transpower, gas pipeline businesses and suppliers of specified airport services [2017]* NZCC 19 (31 July 2017).
- 14.2 The debt premium value for DPRY 2019 was estimated in the *Cost of capital determination for disclosure year 2019 for Transpower, gas pipeline businesses and suppliers of specified airport services [2018]* NZCC 11 (31 July 2018).
- 14.3 The debt premium value for DPRY 2020 was estimated in the *Cost of capital determination for disclosure year 2020 for Transpower, gas pipeline businesses and suppliers of specified airport services [2019]* NZCC 8 (31 July 2019).
- 14.4 The debt premium value for DPRY 2021 was estimated in the *Cost of capital determination for disclosure year 2021 for Transpower, gas pipeline businesses and suppliers of specified airport services [2020]* NZCC 15 (31 July 2020).

⁷ The same methodology applies to both vanilla and post-tax WACC estimates. The mid-point estimate of WACC is treated as the 50th percentile. The required estimates are set out in Table 1.

⁸ The 'current debt premium reference year' refers to the DPRY that contains the start of the relevant disclosure year. The GPBs' disclosure year 2022 starts on 1 July 2021. In this case, the current DPRY is DPRY 2022 (1 March 2021 to 28 February 2022). The data we use is from 1 March 2020 to 28 February 2021.

Table 6: Average debt premium for GPBs (%)

	DPRY 2018	DPRY 2019	DPRY 2020	DPRY 2021	DPRY 2022	Average
Debt premium	1.65	1.60	1.65	1.45	1.35	1.54

15. We have estimated a debt premium of 1.35% for DPRY 2022, based on the data in Table 7 below.⁹ We note that the DPRY22 estimation period used data from 1 March 2020 to 28 February 2021 which coincided with the beginning of the Covid-19 pandemic and which had a significant impact on debt and equity markets, in particular airports and travel-related securities.
- 15.1 We have had greatest regard to the category (b) bonds, which support a debt premium of approximately 1.35%. The Genesis (1.14%), Mercury (1.10%) and Meridian bond (1.21%) debt premium estimates all match the target credit rating (BBB+), however the remaining term to maturity is less than 5 years so we would expect GPBs to have higher debt premium, which supports an estimate of 1.35%.
- 15.2 The estimated debt premiums for other issuers in bond categories (c) to (e) are not inconsistent with a debt premium around 1.35%, when consideration is given to the different credit ratings and terms to maturity.
- 15.3 The NSS debt premium estimate of 1.62% does not appear very consistent with our proposed estimate of 1.35%.
- 15.3.1 This is likely due to the volatility associated with the Covid-19 pandemic and demand for bonds of certain sectors (e.g., travel) and perceived 'safety'.
- 15.3.2 As a sensitivity check we excluded the Wellington Airport and Christchurch Airport bonds from the NSS sample to mitigate some of the potential pandemic impacts.¹⁰ We note that the credit ratings of Wellington Airport and Christchurch Airport were downgraded effective 15/6/2020 during the sample period. Excluding these bonds from the sample resulted in a five-year NSS debt premium estimate of 1.27%.

⁹ Note that bond observations that have a remaining term to maturity exactly equal to the target (i.e., five years), and include multiple bonds analysed, have been interpolated between multiple bonds from the issuer to give an exact match to the target term to maturity.

¹⁰ We consider that this large spread in debt premiums for Wellington Airport and Christchurch Airport bonds, compared with the rest of the sample, could be due to a sell-off in these bonds amid the Covid-19 pandemic, with potential concerns around default or cash-flow risk while air travel was reduced. The yields of the remainder of the bonds in the sample may also be perceived as relatively 'safe' during the economic uncertainty, increasing demand for these bonds and reducing their yields.

15.3.3 The NSS estimate excluding the lower credit-rated airport bonds is broadly consistent with our DPRY22 debt premium estimate of 1.35%.

WACC range and 67th percentile estimate for GPBs

16. 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.
17. 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.¹¹

¹¹ 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 2022¹²

		Industry	Rating	Remaining term to maturity	Debt premium		
Determined debt premium		EDB	BBB+	5.0	1.35		
Category	Issuer	Note ref.	Industry	Rating	Remaining term to maturity	Debt premium	Comment
b	GENESIS ENERGY LTD	1	Other	BBB+	4.6	1.14	5 year debt premium would be higher
b	MERCURY NZ LTD	2	Other	BBB+	2.5	1.10	5 year debt premium would be higher
b	MERIDIAN ENERGY LIMITE	3	Other	BBB+	4.8	1.21	5 year debt premium would be higher BBB+ debt premium would be lower;
c	VECTOR LTD	4	EDB/GPB	BBB	4.7	1.44	5 year debt premium would be higher BBB+ debt premium would be higher;
d	AUCKLAND INTL AIRPORT	5	Airport	A-	4.1	1.09	5 year debt premium would be higher BBB+ debt premium would be lower;
d	CONTACT ENERGY LTD	6	Other	BBB	4.0	1.03	5 year debt premium would be higher BBB+ debt premium would be higher;
d	FONTERRA COOPERATIVE G	7	Other	A-	4.8	1.34	5 year debt premium would be higher
d	SPARK FINANCE LTD	8	Telco	A-	5.0	0.96	BBB+ debt premium would be higher BBB+ debt premium would be lower;
d	WELLINGTON INTL AIRPOR	9	Airport	BBB	4.8	2.34	5 year debt premium would be higher
e	CHRISTCHURCH INTL AIRP	10	Airport	BBB+	5.0	2.15	Credit rating and term are an exact match
e	TRANSPOWER NEW ZEALAND	11	Other	AA	5.0	0.77	BBB+ debt premium would be higher
Nelson-Siegel Svensson estimate						1.62	
						5.0	1.27* Wellington Airport and Christchurch Airport bonds excluded

Notes on bonds analysed

- 1 GENEPO 5 04/03/25
- 2 MCYNZ 5.793 03/06/23
- 3 MERINZ 4.21 06/27/25
- 4 VCTNZ 3.45 05/27/25
- 5 AIANZ 3.51 10/10/24
- 6 CENNZ 3.55 08/15/24
- 7 FCGNZ 5.08 06/19/25
- 8 SPKNZ 3.37 03/07/24; SPKNZ 3.94 09/07/26
- 9 WIANZ 5 06/16/25
- 10 CHRINT 4.13 05/24/24; CHRINT 5.53 04/05/27
- 11 TPNZ 1.735 09/04/25; TPNZ 3.823 03/06/25; TPNZ 2.73 03/14/24; TPNZ 5.893 03/15/28

Average debt premium for Airports (AIAL and CIAL)

18. 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 2022 is the current reference year for Airports (AIAL and CIAL).¹³
19. The debt premium values are taken from the following sources:

¹² Note that there are no Chorus bonds that are applicable to our debt premium sample during the DPRY22 period. The Chorus bond maturing in 2021 has a term to maturity less than any of the government bonds, and so no debt premium interpolation can be made. Other Chorus bonds enter the sample later in the period, but are not applicable to the estimation as the yield observations are present for less than 50% of the estimation period.

¹³ The 'current debt premium reference year' refers to the debt premium reference year that contains the start of the relevant disclosure year. The Airports' disclosure year 2022 starts on 1 July 2021. In this case, the current DPRY is DPRY 2022 (1 July 2021 to 30 June 2022). The data we use is from 1 July 2020 to 30 June 2021.

- 19.1 The debt premium value for the DPRY 2018 was estimated in *the Cost of capital determination for disclosure year 2018 for Transpower, gas pipeline businesses and suppliers of specified airport services [2017]* NZCC 19 (31 July 2017).
- 19.2 The debt premium value for the DPRY 2019 was estimated in the *Cost of capital determination for disclosure year 2019 for Transpower, gas pipeline businesses and suppliers of specified airport services [2018]* NZCC 11 (31 July 2018).
- 19.3 The debt premium value for the DPRY 2020 was estimated in the *Cost of capital determination for disclosure year 2020 for Transpower, gas pipeline businesses and suppliers of specified airport services [2019]* NZCC 8 (31 July 2019).
- 19.4 The debt premium value for the DPRY 2021 was estimated in the *Cost of capital determination for disclosure year 2021 for Transpower, gas pipeline businesses and suppliers of specified airport services [2020]* NZCC 15 (31 July 2020).

Table 8: Average debt premium for Airports (%)

	DPRY 2018	DPRY 2019	DPRY 2020	DPRY 2021	DPRY 2022	Average
Debt premium	1.35	1.15	1.30	1.30	1.10	1.24

20. We have estimated a debt premium of 1.10%, for DPRY 2022 based on the data in Table 9 below.¹⁴
21. We have had greatest regard to the category (a) Auckland International Airport bond, which supports a debt premium of 1.10%. The only category (a) bond matches the target credit rating (A-) and has a term to maturity just under our target of 5 years (3.8 years term to maturity) so we would expect a higher debt premium if it were 5 years.
22. The category (b) bonds both match the target credit rating (A-) and remaining term to maturity (5 years) and support a debt premium of 1.10%.
23. The estimated debt premiums for other issuers in bond categories (c) to (e) may suggest a higher debt premium when consideration is given to the different credit ratings and terms to maturity. These bonds are less relevant, none of them have

¹⁴ Note that bond observations that have a remaining term to maturity exactly equal to the target (i.e., five years), and include multiple bonds analysed, have been interpolated between multiple bonds from the issuer to give an exact match to the target term to maturity.

both the same credit rating and term to maturity, but they do support a slight uplift to the category (a) bond estimate.

24. The NSS estimate of the debt premium of 1.05% also lends support to our estimate of 1.10%.

Table 9: Debt premium estimate for Airports (AIAL and CIAL) DPROY 2022¹⁵

			Remaining term				
			Industry	Rating	to maturity	Debt premium	
Determined debt premium			Airport	A-	5.0	1.10	
Category	Issuer	Note ref.	Industry	Rating	Remaining term to maturity	Debt premium	Comment
a	AUCKLAND INTL AIRPORT	1	Airport	A-	3.8	1.03	5 year debt premium would be higher
b	FONTERRA COOPERATIVE G	2	Other	A-	4.9	1.07	5 year debt premium would be higher
b	SPARK FINANCE LTD	3	Telco	A-	5.0	0.73	Credit rating and term are an exact match A- debt premium would be lower;
c	WELLINGTON INTL AIRPOR	4	Airport	BBB	4.5	1.83	5 year debt premium would be lower A- debt premium would be lower;
d	CHORUS LTD	5	Fibre	BBB	6.7	1.14	5 year debt premium would be lower A- debt premium would be lower;
d	CONTACT ENERGY LTD	6	Other	BBB	3.6	0.96	5 year debt premium would be higher A- debt premium would be lower;
d	GENESIS ENERGY LTD	7	Other	BBB+	4.3	1.12	5 year debt premium would be higher A- debt premium would be lower;
d	MERCURY NZ LTD	8	Other	BBB+	6.6	1.06	5 year debt premium would be lower A- debt premium would be lower;
d	MERIDIAN ENERGY LIMITE	9	Other	BBB+	4.5	0.96	5 year debt premium would be higher A- debt premium would be lower;
d	VECTOR LTD	10	EDB/GPB	BBB	4.4	1.12	5 year debt premium would be higher
e	CHRISTCHURCH INTL AIRP	11	Airport	BBB+	5.0	1.85	A- debt premium would be lower;
e	TRANSPower NEW ZEALAND	12	Other	AA	5.0	0.64	A- debt premium would be higher
Nelson-Siegel Svensson estimate					5.0	1.05	

Notes on bonds analysed

- 1 AIANZ 3.51 10/10/24
- 2 FCGNZ 4.15 11/14/25
- 3 SPKNZ 3.37 03/07/24; SPKNZ 3.94 09/07/26
- 4 WIANZ 5 06/16/25
- 5 CNUNZ 1.98 12/02/27
- 6 CENNZ 3.55 08/15/24
- 7 GENEPO 5 04/03/25
- 8 MCYNZ 1.56 09/14/27
- 9 MERINZ 4.21 06/27/25
- 10 VCTNZ 3.45 05/27/25
- 11 CHRINT 4.13 05/24/24; CHRINT 5.53 04/05/27
- 12 TPNZ 1.735 09/04/25; TPNZ 3.823 03/06/25; TPNZ 5.893 03/15/28

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

25. The risk-free rate and the debt premium on bonds change over time. Figure 1 shows, as at 1 July 2021, changes over time in:

¹⁵ Note that the debt premiums are different to those in Table 8, which is caused by applying a different calculation period for GPBs and for airports.

- 25.1 the five-year risk-free rate;
- 25.2 the debt premium on bonds rated BBB+ with a remaining term to maturity of five years; and
- 25.3 the debt premium on bonds rated A- with a remaining term to maturity of five years.

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

