

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

First Gas and Powerco gas pipeline businesses

[2021] NZCC 20

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Date of publication: 1 November 2021

Associated documents

Publication date	Reference	Title
20 December 2016	ISBN 978-1-869455-48-4	Input methodologies review decisions (Topic paper 4: Cost of capital issues)
3 April 2018	ISSN 1178-2560	Gas Transmission Services Input Methodologies Determination 2012 (Consolidated February 2018)
3 April 2018	ISSN 1178-2560	Gas Distribution Services Input Methodologies Determination 2012 (Consolidated April 2018)
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 October 2018	ISSN 1178-2560	Cost of capital determination for information disclosure – First Gas and Powerco gas pipeline businesses disclosure year 2019 [2018] NZCC 16
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
31 October 2019	ISSN 1178-2560	Cost of capital determination for disclosure year 2020 – First Gas and Powerco gas pipeline businesses [2019] NZCC 14
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
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

2 August 2021	ISSN 1178-2560	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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Commerce Commission
Wellington, New Zealand

WACC estimates for disclosure year 2022 (Powerco and First Gas)¹

1. This determination specifies the weighted average cost of capital (WACC) estimates that will apply for ID regulation for disclosure year 2022 for gas distribution businesses (Powerco Limited and First Gas Limited),² and gas transmission businesses (First Gas Limited), together gas pipeline businesses (GPBs).
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 the other GPBs in July due to their different disclosure years.
3. Vanilla and post-tax WACC estimates for disclosure year 2022 are summarised in Table 1.

Table 1: Summary of vanilla and post-tax WACC estimates for Powerco and First Gas

	Vanilla WACC	Post-tax WACC
Mid-point	4.67%	4.30%
25 th percentile	3.96%	3.60%
67 th percentile	5.13%	4.77%
75 th percentile	5.38%	5.01%

4. The WACC estimates have been calculated as at 1 October 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.

¹ Unless appears otherwise from the context, all references to GDBs in this determination mean Powerco Limited and First Gas Limited, and all references to a GTB in this determination mean First Gas Limited.

² As this determination covers suppliers of both gas distribution services and gas transmission services, this determination refers to the relevant clauses of both the [Gas Distribution Services Input Methodologies Determination 2012 \(Consolidated April 2018\)](#) and the [Gas Transmission Services Input Methodologies Determination 2012 \(Consolidated April 2018\)](#).

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 Powerco and First Gas

6. The parameter values used to generate the mid-point WACC estimates for disclosure year 2022 (as at 1 October 2021) are summarised in Table 2 below.⁴

Table 2: Values used to calculate WACC estimates

Parameter	Estimate
Risk-free rate	1.36%
Average debt premium	1.54%
Leverage	42%
Asset beta	0.40
Equity beta	0.69
Tax adjusted market risk premium	7.0%
Average corporate tax rate	28%
Average investor tax rate	28%
Debt issuance costs	0.20%
Cost of debt	3.10%
Cost of equity	5.81%
Standard error of midpoint WACC estimate	0.0105
Mid-point vanilla WACC	4.67%
Mid-point post-tax WACC	4.30%

*The numbers are rounded to two decimal points.

Risk-free rate

7. The risk-free rate reflects the unweighted arithmetic average of the daily annualised, linearly-interpolated, bid yield to maturity on New Zealand government bonds with a term to maturity of five years.⁵ Our estimate of the risk-free rate is based on data reported by Bloomberg for each business day in the three-month period ending 30 September 2021 in respect of the May 2026 and April 2027 maturity bonds.
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.

⁵ We interpolate between the two closest bonds surrounding a 5-year remaining term. This requires taking the yields of the bonds with a remaining term immediately before and after 5 years term to maturity on that day. The term to maturity is constant but the bonds' remaining terms to maturity decrease over time so the bonds immediately before and after the target term may change over time.

1.36% interest rate on New Zealand government bonds with a five-year term to maturity, as estimated at 1 October 2021.

Average debt premium

9. 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 3 below. DPRY 2022 is the current reference year for gas distribution businesses and gas transmission businesses, together referred to as gas pipeline businesses (GPBs). This determination uses the debt premium estimated at 1 July 2021 for DPRY 2022.⁶

Table 3: 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

10. The historical debt premium values are taken from the following sources:
- 10.1 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).
- 10.2 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).
- 10.3 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).
- 10.4 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).

⁶ 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 October 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.

11. In July 2021 we estimated a debt premium of 1.35% for DPRY 2022, based on the data in Table 4 below.^{7,8} We noted at the time 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.
- 11.1 We 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%.
- 11.2 The estimated debt premiums for other issuers in bond categories (c) to (e) were not inconsistent with a debt premium around 1.35%, when consideration was given to the different credit ratings and terms to maturity.
- 11.3 The NSS debt premium estimate of 1.62% did not appear very consistent with our estimate of 1.35%.
- 11.3.1 This was likely due to the volatility associated with the Covid-19 pandemic and demand for bonds of certain sectors (e.g., travel) and perceived 'safety'.
- 11.3.2 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.⁹ We noted 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%.
- 11.3.3 The NSS estimate excluding the lower credit-rated airport bonds was broadly consistent with our DPRY22 debt premium estimate of 1.35%.

⁷ Cost of capital determination for disclosure year 2022 for Transpower, gas pipeline businesses and suppliers of specified airport services [2021] NZCC 10 (2 August 2021).

⁸ 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.

⁹ 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.

Table 4: Debt premium estimate for GPB DPROY 2022¹⁰

			Industry	Rating	Remaining term to maturity	Debt premium			
Determined debt premium			GPB	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						5.0	1.62	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

WACC range and 67th percentile estimate for GPBs

12. 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.
13. 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 and the Gas Transmission Services IM Determination.¹¹

¹⁰ Note that there are no Chorus bonds that are applicable to our debt premium sample during the DPROY22 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.

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.

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

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

14.1 the five-year risk-free rate; and

14.2 the debt premium on bonds rated BBB+ with a remaining term to maturity of five years.

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

