

Cost of capital determination for disclosure year 2021

First Gas and Powerco gas pipeline businesses

[2020] NZCC 22

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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)
28 February 2017	ISSN 1178-2560	Gas Transmission Services Input Methodologies Determination 2012 (Consolidated February 2017)
24 May 2017	ISSN 1178-2560	Revised cost of capital determination for gas distribution and gas transmission businesses' default price-quality paths
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
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
30 April 2019	ISSN 1178-2560	Cost of capital determination for disclosure year 2020 – 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

31 October 2019	ISSN 1178-2560	Cost of capital determination for disclosure year 2020 – First Gas and Powerco gas pipeline businesses [2019] NZCC 14
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

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WACC estimates for gas disclosure year 2021 (Powerco and First Gas)

1. This determination specifies the weighted average cost of capital (WACC) estimates that will apply to gas distribution businesses (Powerco Limited and First Gas Limited) and gas transmission businesses (First Gas Limited) for information disclosure regulation for the disclosure year 2021,¹ as required by our input methodologies.²
2. The vanilla and post-tax WACC estimates for disclosure year 2021 are summarised in Table 1 below.

Table 1: Vanilla and post-tax WACC estimates (%)

	Mid-point	25 th percentile	67 th percentile	75 th percentile
Vanilla WACC	3.78	3.07	4.24	4.49
Post-tax WACC	3.54	2.83	4.00	4.24

3. This determination should be read in conjunction 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:⁴
 - 3.1 the formulas used (including how we calculate the 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.

¹ Disclosure year 2021 for these businesses began on 1 October 2020 and ends on 30 September 2021. This determination uses the debt premium estimated as of July 1st 2020 and the risk-free rate as of October 1st 2020 for the calculation of the WACC estimates. For further details see: [Commerce Commission “Fast track amendments to information disclosure determinations for First Gas gas pipeline services: Companion paper” \(14 June 2017\)](#) and [“\[FAST TRACK\] Gas Distribution Information Disclosure Amendments Determination \(No.1\) 2017”](#).

² The Commission is required to make this determination by clause 2.4.1 of the [Gas Transmission Services Input Methodologies Determination 2012 \(consolidated April 2018\)](#) and clause 2.4.1 of [the Gas Distribution Services Input Methodologies Determination 2012 \(consolidated April 2018\)](#).

³ Commerce Commission [“Guidelines for WACC determinations under cost of capital input methodologies – Regulation under Part 4 of the Commerce Act 1986” \(30 April 2018\)](#).

⁴ Table 1 of the guidelines contains links to the relevant input methodologies.

Further details regarding the WACC estimates

WACC parameter values for Powerco and First Gas

4. The parameter values used to generate the mid-point WACC estimates for disclosure year 2021 are set out in Table 2 below.

Table 2: Values used to calculate WACC estimates

Parameter	Estimate
Risk-free rate	0.27%
Average debt premium (BBB+)	1.58%
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	2.05%
Cost of equity	5.03%
Standard error of WACC	0.0105
Mid-point vanilla WACC	3.78%
Mid-point post-tax WACC	3.54%

Risk-free rate

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 30 September 2020 based on the April 2025 and April 2027 maturity bonds.
6. The daily data reported by Bloomberg is annualised (to reflect the six-monthly payment of interest), linearly interpolated and averaged to produce the estimate of a 0.27% interest rate on New Zealand Government bonds with a five-year term to maturity as at 1 October 2020.

Average debt premium

7. The average debt premium of 1.58% is the historical five year average of the debt premium values for the current debt premium reference year (DPRY) and the four previous DPRYs, as shown in Table 3 below. DPRY 2021 is the current reference year for gas distribution businesses and gas transmission businesses, together referred to as gas pipeline businesses (GPBs).⁵

Table 3: Average debt premium for GPBs (%)

	DPRY 2017	DPRY 2018	DPRY 2019	DPRY 2020	DPRY 2021	Average
Debt premium	1.54	1.65	1.60	1.65	1.45	1.58

8. The debt premium values are taken from the following sources:
- 8.1 The debt premium value for the 2017 DPRYs is set out in clause 2.4.4(4) of the *Gas Transmission Services Input Methodologies Determination 2012* (consolidated April 2018) and clause 2.4.4(4) of the *Gas Distribution Services Input Methodologies Determination 2012* (consolidated April 2018).⁶
- 8.2 The debt premium value for the 2018 DPRY is set out at Table 2 of the *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).⁷
- 8.3 The debt premium value for the 2019 DPRY is set out at Table 6 of the *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).⁸
- 8.4 The debt premium value for the 2020 DPRY is set out at Table 6 of the *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 July 2019).⁹

⁵ The 'current debt premium reference year' refers to the debt premium reference year (DPRY) that contains the start of the relevant disclosure year. The GPBs' DPRY 2021 starts on 1 March 2020 and ends on 28 February 2021.

⁶ [Gas Distribution Services Input Methodologies Determination 2012 \(consolidated April 2018\)](#).

⁷ [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 \(31 July 2017\)](#).

⁸ [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 \(31 July 2018\)](#).

⁹ [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 \(31 July 2019\)](#).

- 8.5 The debt premium value for the 2021 DPRY is set out at Table 6 of the *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 July 2020)*.¹⁰
9. In July 2020 we estimated a debt premium of 1.45% for the 2021 DPRY based on the data in Table 4 below.
- 9.1 We have had greatest regard to the category (b) bonds, which support a debt premium of approximately 1.45%. The Genesis (1.57%) and Meridian bond (1.32%) debt premium estimates match the target credit rating (BBB+) and remaining term to maturity (5 years). Although the Mercury (1.41%) is also in category (b) bonds and rated BBB+, the remaining term to maturity is 3.5 years so we would expect GPBs to have higher debt premium (to reflect the target 5 year term to maturity), which supports an estimate of 1.45%.
- 9.2 The estimated debt premiums for other issuers in bond categories (c) to (e) are not inconsistent with a debt premium of approximately 1.45%, when consideration is given to the different credit ratings and terms to maturity.
- 9.3 The Nelson-Siegel-Svensson (NSS) estimate of the debt premium of 1.46% also lends support to our estimate of 1.45%.¹¹

¹⁰ [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 \(31 July 2020\)](#).

¹¹ The Nelson-Siegel-Svensson estimate of the debt premium was estimated in July 2020.

Table 4: Debt premium estimate for GPB DPRO 2021

	Industry	Rating	Remaining term to maturity	Debt premium
Determined debt premium	GPB	BBB+	5.0	1.45

Category	Issuer	Note ref.	Industry	Rating	Remaining term to maturity	Debt premium	Comment
b	GENESIS ENERGY LTD	1	Other	BBB+	5.0	1.57	Credit rating and term are an exact match
b	MERCURY NZ LTD	2	Other	BBB+	3.5	1.41	5 year debt premium would be higher
b	MERIDIAN ENERGY LIMITE	3	Other	BBB+	5.0	1.32	Credit rating and term are an exact match
c	VECTOR LTD	4	EDB/GPB	BBB	5.0	1.69	BBB+ debt premium would be lower BBB+ debt premium would be higher;
d	AUCKLAND INTL AIRPORT	5	Airport	A-	5.1	1.07	5 year debt premium would be lower
d	CHORUS LTD	6	Other	BBB	5.0	1.37	BBB+ debt premium would be lower
d	CONTACT ENERGY LTD	7	Other	BBB	5.0	1.48	BBB+ debt premium would be lower
d	FONTEERRA COOPERATIVE G	8	Other	A-	5.0	1.51	BBB+ debt premium would be higher
d	SPARK FINANCE LTD	9	Other	A-	5.0	1.11	BBB+ debt premium would be higher
d	WELLINGTON INTL AIRPOR	10	Airport	BBB	5.0	1.44	BBB+ debt premium would be lower
e	CHRISTCHURCH INTL AIRP	11	Airport	BBB+	5.0	1.20	Credit rating and term are an exact match
e	TRANSPOWER NEW ZEALAND	12	Other	AA-	5.0	0.87	BBB+ debt premium would be higher
Nelson-Siegel Svensson estimate					5.0	1.46	

Notes on bonds analysed

- 1 GENEPO 5.81 03/08/23; GENEPO 5 04/03/25
- 2 MCYNZ 5.793 03/06/23
- 3 MERINZ 4.88 03/20/24; MERINZ 4.53 03/14/23; MERINZ 4.21 06/27/25
- 4 VCTNZ 4.996 03/14/24; VCTNZ 3.45 05/27/25
- 5 AIANZ 3.51 10/10/24
- 6 CNUNZ 4.12 05/06/21; CNUNZ 4.35 12/06/28
- 7 CENNZ 3.55 08/15/24
- 8 FCGNZ 4.42 03/07/23; FCGNZ 5.08 06/19/25
- 9 SPKNZ 3.37 03/07/24; SPKNZ 4.51 03/10/23; SPKNZ 3.94 09/07/26
- 10 WIANZ 5.27 06/11/20; WIANZ 5 06/16/25
- 11 CHRINT 4.13 05/24/24; CHRINT 6 1/4 10/04/21; CHRINT 5.53 04/05/27
- 12 TPNZ 2.73 03/14/24; TPNZ 5.448 03/15/23; TPNZ 3.823 03/06/25

WACC range and 67th percentile estimate for GPBs

10. 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.
11. 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 Input Methodologies Determination 2012 (Consolidated April 2018)*.¹²

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

12. The risk-free rate and the debt premium on bonds change over time. Changes in the risk-free rate and debt premium estimates are illustrated below.
13. Figure 1 shows, as at 1 October 2020, changes over time in the:
 - 13.1 five-year risk-free rate; and
 - 13.2 debt premium on bonds rated BBB+ with a term of five years.

¹² [Gas Distribution Services Input Methodologies Determination 2012 \(Consolidated April 2018\)](#). The same methodology applies to both vanilla and post-tax WACC estimates. The mid-point estimate of WACC is treated as the 50th percentile.

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

