

## **Cost of capital determination for gas pipeline businesses' 2022-2026/2022-2027 default price-quality path**

### **[2022] NZCC 10**

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## Associated documents

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3 April 2018	ISSN 1178-2560	Gas Transmission Services Input Methodologies Determination 2012 (Consolidated February 2018)
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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
1 November 2021	ISSN 1178-2560	Cost of capital determination for disclosure year 2022 for information disclosure regulation – For First Gas and Powerco [2021] NZCC 20
25 March 2022	ISSN 1178-2560	Gas Transmission Services Input Methodologies Amendments Determination (No.1) 2022
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## WACC estimates for 2022 GPB DPP

1. This determination specifies the weighted average cost of capital (WACC) estimates that will apply to the default price-quality paths (DPPs) for gas distribution businesses and gas transmission businesses, together gas pipeline business (GPBs), for the regulatory period commencing from 1 October 2022.
2. We are required to determine the WACC estimates (vanilla and post-tax WACC) no later than six months prior to the start of a DPP regulatory period.
3. The WACC estimates apply the amendments to the cost of capital input methodologies (IMs) for gas pipeline businesses which provide for the setting of a weighted average cost of capital that reflects the length of the regulatory period and a tax adjusted market risk premium of 7.5%.<sup>1</sup> The parameters that change depending on the length of the regulatory period are the risk-free rate which is estimated in this determination and the debt issuance costs which are 0.25 percent in the case of a four-year regulatory period and 0.20 percent in the case of a five-year regulatory period.
4. Our draft decision was to set a four-year regulatory period for the DPPs for GPBs for the regulatory period commencing from 1 October 2022. In this determination we publish WACC estimates for both a four-year and a five-year regulatory period as we will only make a final decision on the length of the regulatory period by 31 May 2022.<sup>2</sup> The WACC estimates that will apply when we determine the DPPs by 31 May 2022 are those that reflect our final decision on the length of the regulatory period.
5. Vanilla and post-tax WACC estimates for the GPB DPP regulatory period, for four-year and a five-year scenario, commencing from 1 October 2022 are summarised in Table 1 and Table2 below.

**Table 1: Summary of vanilla and post-tax WACC estimates for GPBs for a four-year regulatory period**

	Vanilla WACC	Post-tax WACC
Mid-point	5.68%	5.21%
67 <sup>th</sup> percentile	6.14%	5.67%

<sup>1</sup> Gas Distribution Input Methodologies Amendments Determination (No.1) 2022 and Gas Transmission Input Methodologies Amendments Determination (No.1) 2022 dated 25 March 2022.

<sup>2</sup> Under s 53 M of the Commerce Act the length of a regulatory period must be five years, unless we set a shorter regulatory period which may not be less than four years. As noted above, our draft decision was to set a four-year regulatory period.

**Table 2: Summary of vanilla and post-tax WACC estimates for GPBs for a five-year regulatory period**

	Vanilla WACC	Post-tax WACC
Mid-point	5.70%	5.22%
67 <sup>th</sup> percentile	6.16%	5.68%

6. The WACC estimates have been calculated as at 1 March 2022.
7. This determination should be read together with our guidelines for WACC determinations under the cost of capital input methodologies.<sup>3</sup> These guidelines form part of this determination.<sup>4</sup> The guidelines explain our methodology for calculating WACC estimates, including:
  - 7.1 the formulas used (including for different WACC percentiles);
  - 7.2 the values for WACC parameters which are fixed under the input methodologies; and
  - 7.3 our methodology for estimating the risk-free rate and average debt premium.

<sup>3</sup> 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.

<sup>4</sup> The guidelines currently only refer to a 5-year period for GPBs, they will be updated to refer to a 4-year period.

## Further details regarding the WACC estimates

### WACC parameter values for GPBs

8. The parameter values used to generate the mid-point WACC estimates for the GPBs DPP regulatory period commencing in October 2022 are summarised in Table 3 below.<sup>5</sup>

**Table 3: Values used to calculate WACC estimates**

Parameter	Estimate 4-year regulatory period	Estimate 5-year regulatory period
Risk-free rate	2.36%	2.40%
Average debt premium	1.43%	1.43%
Leverage	42%	42%
Asset beta	0.40	0.40
Equity beta	0.69	0.69
Tax adjusted market risk premium <sup>6</sup>	7.5%	7.5%
Average corporate tax rate	28%	28%
Average investor tax rate	28%	28%
Debt issuance costs <sup>7</sup>	0.25%	0.20%
Cost of debt	4.04%	4.03%
Cost of equity	6.87%	6.90%
Standard error of midpoint WACC estimate	0.0105	0.0105
<b>Mid-point vanilla WACC</b>	5.68%	5.70%
<b>Mid-point post-tax WACC</b>	5.21%	5.22%

\*The numbers are rounded to two decimal points.

<sup>5</sup> All parameter values except the estimate of the risk-free rate and the average debt premium are set in the input methodologies.

<sup>6</sup> We amended the IMs to increase the estimate of the TAMRP from 7.0% to 7.5%.

<sup>7</sup> We amended the IMs to provide for debt issuance costs of 0.25% for a 4-year regulatory period.

### Risk-free rate

9. 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 equal to the length of the regulatory period.<sup>8</sup>
10. Our estimate of the five-year risk-free rate is based on data reported by Bloomberg for each business day in the three-month period ending 28 February 2022 in respect of the May 2026 and April 2027 maturity bonds. Our estimate of the four-year risk-free rate is based on data reported by Bloomberg for each business day in the three-month period ending 28 February 2022 in respect of the April 2025 and May 2026 maturity bonds.
11. 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% (for a four-year regulatory period) and 2.40% (for a five-year regulatory period) interest rate on New Zealand government bonds, as estimated at 1 March 2022.

### Average debt premium

12. The average debt premium for GPBs of 1.43% is the average of the debt premium values for the current DPRY and the four previous DPRYs, as shown in Table 4 below. DPRY 2023 is the current reference year for GPBs. This determination uses the debt premium estimated at 1 March 2022 for DPRY 2023.<sup>9</sup>

**Table 4: Average debt premium for GPBs (%)**

	DPRY 2019	DPRY 2020	DPRY 2021	DPRY 2022	DPRY 2023	Average
Debt premium	1.60	1.65	1.45	1.35	1.10	1.43

13. The historical debt premium values are taken from the following sources:
  - 13.1 The debt premium value for DPRY 2019 was estimated in *the Cost of capital determination for disclosure year 2019 for Transpower, gas pipeline*

<sup>8</sup> If we were estimating a five-year risk-free rate, for example, 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.

<sup>9</sup> Under the IMs a 'debt premium reference year' means a 12 month period ending on 28 February. The 'current debt premium reference year' refers to the DPRY that contains the start of the relevant disclosure year. The disclosure year 2022 for the GPBs starts on either 1 July 2021 or 1 October 2021. The current DPRY is DPRY 2023 (1 March 2021 to 28 February 2022). The data we use is from 1 March 2021 to 28 February 2022.

- businesses and suppliers of specified airport services [2018] NZCC 11 (31 July 2018).*
- 13.2 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).*
- 13.3 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).*
- 13.4 The debt premium value for DPRY 2022 was estimated in the *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).*
14. We estimated a debt premium of 1.10% for DPRY 2023, based on the data in Table 5 below.<sup>10</sup> We note that the DPRY 2023 estimation period uses data from 1 March 2021 to 28 February 2022, in which the Covid-19 pandemic is still having a significant impact on debt and equity markets, in particular airports and travel-related securities.
- 14.1 We had greatest regard to the category (b) bonds, which support a debt premium of approximately 1.10%. The Mercury bond debt premium (0.87%) matches both the target credit rating (BBB+) and the 5 year remaining term to maturity. The Genesis (1.10%) and Meridian bond (0.87%) debt premiums all match the target credit rating (BBB+), however the remaining term to maturity is less than 5 years for Genesis and Meridian so we would expect GPBs to have slightly higher debt premiums. When taken together this information supports our estimate of 1.10%.
- 14.2 The estimated debt premiums for other issuers in bond categories (c) to (e) were not inconsistent with a debt premium around 1.10%, when consideration was given to the different credit ratings and terms to maturity.
- 14.3 The NSS debt premium estimate of 1.08% supports our estimate of 1.10%.

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<sup>10</sup> 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.



**Table 5: Debt premium estimate for GPB DPRO 2023**

		Industry	Rating	Remaining term to maturity	Debt premium		
<b>Determined debt premium</b>		GPB	BBB+	5.0	1.10		
Category	Issuer	Note ref.	Industry	Rating	Remaining term to maturity	Debt premium	Comment
b	GENESIS ENERGY LTD	1	Other	BBB+	3.6	1.10	5 year debt premium would be higher
b	MERCURY NZ LTD	2	Other	BBB+	5.0	0.87	credit rating and term are an exact match
b	MERIDIAN ENERGY LIMITED	3	Other	BBB+	3.8	0.87	5 year debt premium would be higher
c	VECTOR LTD	4	EDB/GPB	BBB	5.1	1.23	5 year debt premium would be lower
d	AUCKLAND INTL AIRPORT	5	Airport	A-	3.1	0.86	5 year debt premium would be higher
d	CHORUS LTD	6	Fibre	BBB	6.3	0.90	5 year debt premium would be lower
d	CONTACT ENERGY LTD	7	Other	BBB	3.0	0.80	5 year debt premium would be higher
d	FONTERRA COOPERATIVE G	8	Other	A-	4.2	0.93	5 year debt premium would be higher
d	SPARK FINANCE LTD	9	Telco	A-	5.0	0.69	5 year debt premium would be higher
d	WELLINGTON INTL AIRPOR	10	Airport	BBB	3.8	1.35	5 year debt premium would be lower
e	CHRISTCHURCH INTL AIRP	11	Airport	BBB+	5.0	1.34	5 year debt premium would be higher
e	TRANSPower NEW ZEALAND	12	Other	AA	5.0	0.66	5 year debt premium would be higher
Nelson-Siegel Svensson estimate					5.0	1.08	

**Notes on bonds analysed**

- 1 GENEPO 5 04/03/25
- 2 MCYNZ 2.16 09/29/26; MCYNZ 5.793 03/06/23; MCYNZ 1.56 09/14/27
- 3 MERINZ 4.21 06/27/25
- 4 VCTNZ 1.575 10/06/26
- 5 AIANZ 3.51 10/10/24
- 6 CNUNZ 1.98 12/02/27
- 7 CENNZ 3.55 08/15/24
- 8 FCGNZ 4.15 11/14/25
- 9 SPKNZ 3.94 09/07/26
- 10 WIANZ 5 06/16/25
- 11 CHRINT 4.13 05/24/24; CHRINT 5.53 04/05/27
- 12 TPNZ 1.52 04/08/26; TPNZ 1.735 09/04/25; TPNZ 5.893 03/15/28

**The 67th percentile estimate of WACC for GPBs**

15. In addition to the mid-point estimate, we are also required to determine a 67<sup>th</sup> percentile estimate of vanilla and post-tax WACC.
16. The methodology for estimating the 67<sup>th</sup> WACC percentile is set out in clause 4.4.5 of the Gas Distribution Services IM Determination and the Gas Transmission Services IM Determination.<sup>11</sup>

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

17. The risk-free rate and the debt premium on bonds change over time. Figure 1 shows, as at 1 March 2022, changes over time in:
  - 17.1 the five-year risk-free rate;
  - 17.2 the four-year risk-free rate; and

<sup>11</sup> The same methodology applies to both vanilla and post-tax WACC estimates. The mid-point estimate of WACC is treated as the 50<sup>th</sup> percentile.

17.3 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**

