

Cost of capital determination disclosure year 2023 for information disclosure regulation

For Chorus Limited

[2023] NZCC 1

The Commission: S Begg
T Gilbertson
N Strong
E Welson

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Associated documents

Publication date	Reference	Title
17 January 2023	ISBN 978-1-869457-90-7	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 2022	ISSN 1178-2560	Cost of capital determination disclosure year 2023 for information disclosure regulation – For Enable Networks [2022] NZCC 29
3 May 2022	ISSN 1178-2560	Cost of capital determination for Tuatahi First Fibre Limited and Northpower Fibre Limited ID [2022] NZCC 13
1 February 2022	ISSN 1178-2560	Cost of capital determination for Chorus, Enable, Tuatahi, and Northpower Fibre ID [2022] NZCC 1
30 November 2021	ISSN 1178-2560	Fibre Information Disclosure Determination 2021
1 July 2021	ISSN 1178-2560	Cost of capital determination for Chorus' price quality path for PQP1 [2021] NZCC 8
13 October 2020	ISSN 1178-2560	Fibre Input Methodologies Determination 2020

Commerce Commission
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WACC estimates for disclosure year 2023 for Chorus

1. This cost of capital determination has been made under the Cost of Capital Input Methodologies (IMs).¹
2. This determination specifies the weighted average cost of capital (WACC) estimates that will apply for information disclosure (ID) regulation for disclosure year 2023 for Chorus Limited (**Chorus**).
3. The timing of our WACC determinations for Fibre ID regulation differs depending on the disclosure year of the regulated companies. We determine an ID WACC for Chorus Limited in January, as its disclosure year is 1 January to 31 December. We determine an ID WACC for Tuatahi First Fibre Limited and Northpower Fibre Limited in April each year as their disclosure year is 1 April to 31 March.² We determine an ID WACC for Enable Networks Limited in July each year as its disclosure year is 1 July to 30 June. As part of the implementation of the Fibre ID regime on 1 January 2022 we published a WACC determination on 1 February 2022 applying to Chorus for disclosure year 2022, being the period 1 January 2022 to 30 June 2022.³
4. The vanilla and post-tax WACC estimates for disclosure year 2023 for Chorus is summarised in Table 1 below.

Table 1: Vanilla and post-tax WACC estimates

	Mid-point
Vanilla WACC	7.90%
Post-tax WACC	7.38%
Standard error	0.0131

5. The WACC estimates have been calculated as at 1 January 2023, which is the first day of disclosure year 2023 for Chorus.

¹ Fibre Input Methodologies Determination 2020, [2020] NZCC 21 (as amended). An unofficial consolidated version incorporating amendments to the determination is [available on the Commerce Commission website](#).

² The input methodologies require us to make the determinations within one month of the start of the disclosure year for all disclosure years except for disclosure year 2022.

³ Commerce Commission, Cost of capital determination for Chorus, Enable, Tuatahi, and Northpower Fibre ID, NZCC1 [2022], 1 February 2022.

6. This determination should be read in conjunction with our guidelines for estimating the WACC under the IMs.⁴ These guidelines form part of this determination. The guidelines explain our methodology for calculating WACC estimates, including:
- 6.1 the formulas used;
 - 6.2 the values for WACC parameters which are fixed under the IMs; and
 - 6.3 our methodology for determining the risk-free rate and average debt premium.

Further details regarding the WACC estimates

WACC parameter values for Chorus

7. The parameter values used to generate the mid-point WACC estimates for Chorus are summarised in Table 2 below.⁵

Table 2: Values used to calculate WACC estimates

Parameter	Estimate
Risk-free rate	4.54%
Average debt premium ⁶	1.50%
Leverage	29%
Asset beta	0.50
Equity beta	0.70
Tax adjusted market risk premium	7.5%
Average corporate tax rate	28%
Average investor tax rate	28%
Debt issuance costs	0.33%
Cost of debt	6.37%
Cost of equity	8.52%
Standard error of midpoint WACC estimate	0.0131
Mid-point vanilla WACC	7.90%
Mid-point post-tax WACC	7.38%

*The numbers are rounded to two decimal points.

⁴ Commerce Commission, [Guidelines for WACC determinations under the cost of capital input methodologies](#), 17 January 2023.

⁵ All parameter values except the estimate of the risk-free rate and the average debt premium are set in the Fibre IMs.

⁶ S&P target credit rating BBB.

Risk-free rate

8. The risk-free rate reflects the estimated bid yield to maturity on New Zealand government bonds with a term to maturity equal to the length of the regulatory period (three years).⁷
9. Our estimate of the three-year risk-free rate is based on data reported by Bloomberg for the three-month period ending 31 December 2022 in respect of the April 2025 and May 2026 maturity bonds.
10. The daily data reported by Bloomberg is linearly interpolated, annualised (to reflect the six-monthly or quarterly payment of interest) and averaged to produce the estimate of a 4.54% interest rate on New Zealand government bonds with a three-year term to maturity, as estimated at 1 January 2023.⁸

Average debt premium

11. The average debt premium of 1.50% 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 2023 is the current debt premium reference year.

Table 3: Average debt premium for Chorus (%)

	DPRY 2019	DPRY 2020	DPRY 2021	DPRY 2022	DPRY 2023	Average
Debt premium	1.65	1.70	1.70	1.30	1.15	1.50

12. DPRYs for all fibre regulated entities start on 1 September and end on 31 August.⁹ DPRY 2023, being the DPRY ending 31 August 2023, is the current DPRY for Chorus as it contains the start of disclosure year 2023 (1 January 2023). The Fibre IMs state

⁷ The Fibre IMs define a regulatory period as “the relevant regulatory period for price-quality regulation applicable to a regulated provider as notified in a PQ determination”. The current regulatory period for Chorus under its PQ determination is three years. We interpolate between the two closest bonds surrounding a three-year remaining term. This requires taking the yields of the bonds with a remaining term immediately before and after with a three-year 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.

⁸ Note that the target term to maturity for the risk-free rate and debt premium are different for the first regulatory period (the risk-free rate has a term equal to the length of the regulatory period, ie, three years for the first regulatory period, and the debt premium has a five-year term). For more information see the cost of debt section of the Fibre IM final reasons paper: Commerce Commission “Fibre input methodologies: Main final decisions – Reasons paper”, 13 October 2020, paras 6.81 to 6.264.

⁹ Commerce Commission, Fibre Input Methodologies Determination 2020 [2020] NZCC 21, 13 October 2020.

that the calculation of the debt premium for a DPRY is estimated for each business day in the 12 months preceding the start of the DPRY.

13. This means that for all the DPRYs we have used bond data starting on 1 September and ending on 31 August. The data used for DPRYs 2019 to 2021, in Table 3, is the same data used in the WACC determination for Chorus PQP1 price path in July 2021. The data used for DPRY 2022, in Table 3, is the same data used in the ID WACC determinations published on 1 February 2022, 3 May 2022 and 2 August 2022 (see the list of associated documents).
14. When determining the WACC estimates for Chorus' first price-quality path (PQP1), we retrospectively estimated the historical debt premium estimates to calculate the five-year historical average. A summary of the data used and how we have applied our judgement in determining the debt premium for DPRYs 2019 to DPRY 2021 are described in the Cost of capital determination for Chorus' price quality path for PQP1.¹⁰
15. We previously estimated a debt premium of 1.30% for DPRY 2022 in the ID WACC determination published on 1 February 2022 applying to Chorus Limited, Enable Limited, Tuatahi and Northpower Fibre.¹¹
16. We have estimated a debt premium of 1.15% for DPRY 2023, based on the data in Table 4 below.¹²
 - 16.1 We have had greatest regard to the category (a) and (c) bonds, which support a debt premium of approximately 1.15%. The Chorus (1.13%) bond debt premium estimate matches the target credit rating (BBB), however the remaining term to maturity is more than five years so we would expect this bond to have a lower debt premium. However, the Contact Energy (0.91%), Vector (1.31%) and Wellington Airport (1.28%) bonds have a remaining time to maturity of less than five years so we would expect these debt premiums to be higher. Overall, these bonds support a debt premium estimate of 1.15%.
 - 16.2 The estimated debt premiums for other issuers in bond categories (e) to (f) are not inconsistent with a debt premium around 1.15%, when consideration is given to the different credit ratings and terms to maturity.
 - 16.3 The Nelson-Siegel-Svensson (NSS) debt premium estimate of 1.18% is consistent with our estimate of 1.15%.

¹⁰ Commerce Commission, Cost of capital determination for Chorus' price quality path for PQP1, NZCC 8 [2021], 1 July 2021, paras 14-18.

¹¹ Commerce Commission, Cost of capital determination for Chorus, Enable, Tuatahi, and Northpower Fibre ID [2022] NZCC 1, 1 February 2022.

¹² Note that bond observations that have a remaining term to maturity exactly equal to the target (ie, 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 4: DPRY 2023 bond data

			Industry	Rating	Remaining term to maturity	Debt premium		
Determined debt premium			Fibre	BBB	5.0	1.15		
Category	Issuer	Note ref.	Industry	Rating	Remaining term to maturity	Debt premium	Comment	
a	CHORUS LTD	1	Fibre	BBB	5.8	1.13	5 year debt premium would be lower	
c	CONTACT ENERGY LTD	2	Other	BBB	2.5	0.91	5 year debt premium would be higher	
c	VECTOR LTD	3	EDB/GPB	BBB	4.6	1.31	5 year debt premium would be higher	
c	WELLINGTON INTL AIRPOR	4	Airport	BBB	3.3	1.28	5 year debt premium would be higher BBB debt premium would be higher;	
e	AUCKLAND INTL AIRPORT	5	Airport	A-	4.6	1.00	5 year debt premium would be higher BBB debt premium would be higher;	
e	FONTERRA COOPERATIVE G	6	Other	A-	3.7	1.01	5 year debt premium would be higher BBB debt premium would be higher;	
e	GENESIS ENERGY LTD	7	Other	BBB+	6.7	1.58	5 year debt premium would be lower	
e	MERCURY NZ LTD	8	Other	BBB+	5.0	1.06	BBB debt premium would be higher BBB debt premium would be higher;	
e	MERIDIAN ENERGY LIMITE	9	Other	BBB+	3.3	1.01	5 year debt premium would be higher BBB debt premium would be higher;	
e	SPARK FINANCE LTD	10	Telco	A-	4.5	0.86	5 year debt premium would be higher BBB debt premium would be higher;	
f	CHRISTCHURCH INTL AIRP	11	Airport	A-	5.1	1.40	5 year debt premium would be lower	
f	TRANSPower NEW ZEALAN	12	Other	AA	5.0	0.74	BBB debt premium would be higher	
Nelson-Siegel Svensson estimate					5.0	1.18		

Notes on bonds analysed

- 1 CNUNZ 1.98 12/02/27
- 2 CENNZ 3.55 08/15/24
- 3 VCTNZ 1.575 10/06/26
- 4 WIANZ 5 06/16/25
- 5 AIANZ 3.29 11/17/26
- 6 FCGNZ 4.15 11/14/25
- 7 GENEPO 3.65 12/20/28
- 8 MCYNZ 2.16 09/29/26; MCYNZ 5.793 03/06/23; MCYNZ 1.56 09/14/27
- 9 MERINZ 4.21 06/27/25
- 10 SPKNZ 3.94 09/07/26
- 11 CHRINT 5.53 04/05/27
- 12 TPNZ 2.047 09/08/26; TPNZ 1.52 04/08/26; TPNZ 5.893 03/15/28

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. Changes in the risk-free rate and debt premium estimates are illustrated below. Figure 1 shows, as at 1 January 2023, changes over time in the:
 - 17.1 five-year risk-free rate from our historical determinations in other regulated sectors;
 - 17.2 three-year risk-free rate; and
 - 17.3 debt premiums and five-year average debt premiums on bonds rated BBB with a term of five years from our historical debt premium determinations.

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

