

Cost of capital determination for Chorus, Enable, Tuatahi, and Northpower Fibre ID

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WACC estimates for disclosure year 2022 for Chorus, Enable, Tuatahi and Northpower Fibre

1. We estimate the cost of capital for regulated suppliers by estimating the costs of two sources of funding for investments (debt and equity). The cost of capital provides for an efficient regulated supplier to service its debt and provide a return to shareholders in order to attract necessary funding for investment.
2. The cost of capital is not directly observable and therefore we have to estimate it based on market data. We aim to estimate a cost of capital that will promote efficient investment in, and efficient operation of, the regulated service to promote the long-term interests of consumers.
3. Most of the parameters used to estimate the cost of capital were determined and form part of the Cost of Capital Input Methodologies (IMs).¹ However, for the debt premium and the risk-free rate, the IMs lay out the methodology for estimating these parameters using up to date market evidence. This determination implements these rules.
4. This determination specifies the weighted average cost of capital (WACC) estimates that will apply for information disclosure (ID) regulation for disclosure year 2022 for Chorus, Enable, Tuatahi and Northpower Fibre (together the 'regulated suppliers').²
5. The average debt premium, calculated as at 1st of January 2022, is the historical 5-year average debt premium using the debt premium estimates from debt premium reference year (DPRY) 2018 to DPRY 2022 (the four previous DPRYs and the current DPRY (DPRY 2022)).
6. The DPRY for Fibre starts on 1 September and ends on 31 August. The IMs state 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. DPRY 2022 is the current DPRY as it is the most recent DPRY that has 12 months of data available. For all of the DPRYs we have used bond data starting on 1 September and ending on 31 August.
7. The vanilla and post-tax WACC estimates for disclosure year 2022 for the regulated suppliers is summarised in Table 1 below.

¹ *Fibre Input Methodologies Determination 2020*, [2020] NZCC 21 (as amended).

² Under the ID determination and the IMs we must determine the WACC estimates for disclosure year 2022 for Chorus, Enable, Tuatahi and Northpower Fibre by 31 January 2022, ie, for Chorus within one month of the start of the disclosure year and for Enable, Tuatahi and Northpower Fibre within one month of the implementation date.

Table 1: Vanilla and post-tax WACC estimates

	Mid-point
Vanilla WACC	5.86%
Post-tax WACC	5.54%
Standard error	0.0131

8. The WACC estimates have been calculated as at 1 January 2022, which is the implementation date for all regulated suppliers and the first day of disclosure year 2022 for Chorus.
9. This determination should be read in conjunction with our guidelines for estimating the WACC under the IMs.³ These guidelines form part of this determination. The guidelines explain our methodology for calculating WACC estimates, including:
 - 9.1 the formulas used;
 - 9.2 the values for WACC parameters which are fixed under the IMs; and
 - 9.3 our methodology for determining the risk-free rate and average debt premium.

³ Commerce Commission, [Guidelines for WACC determinations under the cost of capital input methodologies](#) [27 May 2021].

Further details regarding the WACC estimates

WACC parameter values for Chorus, Enable, Tuatahi and Northpower Fibre

10. The parameter values used to generate the mid-point WACC estimates for regulated suppliers is summarised in Table 2 below.⁴

Table 2: Values used to calculate WACC estimates

Parameter	Estimate
Risk-free rate	1.96%
Average debt premium ⁵	1.62%
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	3.91%
Cost of equity	6.66%
Standard error of midpoint WACC estimate	0.0131
Mid-point vanilla WACC	5.86%
Mid-point post-tax WACC	5.54%

*The numbers are rounded to two decimal points.

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

⁵ S&P target credit rating BBB.

Risk-free rate

11. The risk-free rate reflects the linearly-interpolated, annualised, bid yield to maturity on New Zealand government bonds with a term to maturity of three years (the length of the first regulatory period).⁶ Our estimate of the risk-free rate is based on data reported by Bloomberg for the three-month period ending 31 December 2021 in respect of the May 2024 and April 2025 maturity bonds.
12. 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 1.96% interest rate on New Zealand government bonds with a three-year term to maturity, as estimated at 1 January 2022.⁷

Average debt premium

13. The average debt premium of 1.62% 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 2022 is the most recent debt premium reference year. The debt premium estimates are based on a target S&P credit rating of BBB and term to maturity of five years.

Table 3: Average debt premium for the regulated suppliers (%)

	DPRY 2018	DPRY 2019	DPRY 2020	DPRY 2021	DPRY 2022	Average
Debt premium	1.75	1.65	1.70	1.70	1.30	1.62

14. When determining the WACC estimates for Chorus' price-quality path, 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 2018 to DPRY 2021 are

⁶ The 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 which applies to all of the regulated suppliers for purposes of determining the ID WACCs. 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 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.

⁷ 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, i.e., 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.

described in the Cost of capital determination for Chorus' price quality path determination for PQP1.⁸

15. We have estimated a debt premium of 1.30% for DPRY 2022, based on the data in Table 4 below.⁹ We note that the DPRY 2022 estimation period used data from 1 September 2020 to 31 August 2021 which was impacted by the Covid-19 pandemic and which had an impact on debt and equity markets, in particular airports and travel-related securities.
 - 15.1 We have had greatest regard to the category (a) and (c) bonds, which support a debt premium of approximately 1.30%. The Chorus (1.06%) and Vector bond (1.29%) debt premium estimates match the target credit rating (BBB), however the remaining term to maturity is more than five years so we would expect these two bonds to have lower debt premium. However, the Contact Energy (0.90%) and Wellington Airport (1.66%) bonds have a remaining time to maturity less than 5 years so we would expect these debt premiums to be higher. Overall, these bonds support an estimate of 1.30%.
 - 15.2 The estimated debt premiums for other issuers in bond categories (e) to (f) are not inconsistent with a debt premium around 1.30%, when consideration is given to the different credit ratings and terms to maturity.
 - 15.3 The NSS debt premium estimate of 1.29% is consistent with our estimate of 1.30%.

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

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.

Table 4: DPRY 2022 bond data

			Industry	Rating	Remaining term to maturity	Debt premium	
Determined debt premium			Fibre	BBB	5.0	1.30	
Category	Issuer	Note ref.	Industry	Rating	Remaining term to maturity	Debt premium	Comment
a	CHORUS LTD	1	Fibre	BBB	6.6	1.06	5 year debt premium would be lower
c	CONTACT ENERGY LTD	2	Other	BBB	3.5	0.90	5 year debt premium would be higher
c	VECTOR LTD	3	EDB/GPB	BBB	5.6	1.29	5 year debt premium would be lower
c	WELLINGTON INTL AIRPOF	4	Airport	BBB	4.3	1.66	5 year debt premium would be higher BBB debt premium would be higher;
e	AUCKLAND INTL AIRPORT	5	Airport	A-	3.6	0.98	5 year debt premium would be higher; BBB debt premium would be higher;
e	FONTERRA COOPERATIVE	6	Other	A-	4.7	0.95	5 year debt premium would be higher BBB debt premium would be higher;
e	GENESIS ENERGY LTD	7	Other	BBB+	4.1	1.09	5 year debt premium would be higher BBB debt premium would be higher;
e	MERCURY NZ LTD	8	Other	BBB+	6.5	1.03	5 year debt premium would be lower BBB debt premium would be higher;
e	MERIDIAN ENERGY LIMITE	9	Other	BBB+	4.3	0.88	5 year debt premium would be higher
e	SPARK FINANCE LTD	10	Telco	A-	5.0	0.70	BBB debt premium would be higher
f	CHRISTCHURCH INTL AIRP	11	Airport	BBB+	5.0	1.67	BBB debt premium would be higher
f	TRANSPower NEW ZEAL ^A	12	Other	AA	5.0	0.63	BBB debt premium would be higher
Nelson-Siegel Svensson estimate					5.0	1.29	

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 3.51 10/10/24
- 6 FCGNZ 4.15 11/14/25
- 7 GENEPO 5 04/03/25
- 8 MCYNZ 1.56 09/14/27
- 9 MERINZ 4.21 06/27/25
- 10 SPKNZ 3.37 03/07/24; SPKNZ 3.94 09/07/26
- 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

16. 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 2022, changes over time in the:
- 16.1 five-year risk-free rate from our historical determinations in other regulated sectors;
 - 16.2 three-year risk-free rate; and
 - 16.3 debt premiums and five-year average debt premiums on bonds rated BBB, BBB+ and A- 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

