

# **Cost of capital determination for disclosure year 2024 for information disclosure regulation**

**Electricity distribution businesses and Wellington International Airport**

**[2023] NZCC 8**

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**Date of publication:** 1 May 2023

## 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 for disclosure year 2023 for information disclosure regulation – For Transpower, gas pipeline businesses and suppliers of specified airport services (with a June year-end) [2022] NZCC 28
3 May 2022	ISSN 1178-2560	Cost of capital determination for disclosure year 2023 for information disclosure regulation – For Electricity distribution businesses and Wellington International Airport [2022] NZCC 12
2 August 2021	ISSN 1178-2560	Cost of capital determination for disclosure year 2022 – For Transpower, gas pipeline businesses and suppliers of specified airport services (with a June year-end) [2021] NZCC 10
30 April 2021	ISSN 1178-2560	Cost of capital determination for disclosure year 2022 – Electricity distribution businesses and Wellington International Airport [2021] NZCC 4
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
20 May 2020	ISBN 978-1-869458-15-7	Electricity Distribution Services Input Methodologies Determination 2012 (Consolidated May 2020)

13 May 2020	ISSN 1178-2560	Cost of capital determination for disclosure year 2021 – Electricity distribution businesses and Wellington International Airport [2020] NZCC 11
25 September 2019	ISSN 1178-2560	Cost of capital determination for electricity distribution businesses' 2020-2025 default price-quality paths and Transpower New Zealand Limited's 2020-2025 individual price-quality path [2019] NZCC 12
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
30 April 2019	ISSN 1178-2560	Cost of capital determination for disclosure year 2020 for information disclosure regulation. Electricity distribution businesses and Wellington International Airport [2019] NZCC 7
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 April 2018	ISSN 1178-2560	Cost of capital determination for disclosure year 2019. Electricity distribution businesses and Wellington International Airport [2018] NZCC 7
20 December 2016	ISBN 978-1-869455-48-4	Input methodologies review decisions (Topic paper 4: Cost of capital issues)
20 December 2016	ISSN 1178-2560	Airport Services Input Methodologies Determination 2010 (Consolidated December 2016)

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## WACC estimates for disclosure year 2024 for EDBs and Wellington Airport

1. This determination specifies the weighted average cost of capital (WACC) estimates that will apply for disclosure year 2024 for electricity distribution businesses (EDBs) and Wellington International Airport (Wellington Airport) for information disclosure (ID) regulation.
2. Within one month of the start of each disclosure year, the input methodologies (IMs) applying to EDBs require us to determine the 25<sup>th</sup> percentile, mid-point, 67<sup>th</sup> percentile and 75<sup>th</sup> percentile estimates of vanilla and post-tax WACC, and the IMs applying to Wellington Airport requires us to determine the mid-point estimate of vanilla and post-tax WACC.<sup>1</sup> EDBs and Wellington Airport have disclosure years of 1 April to 31 March, with disclosure year 2024 being the year ending 31 March 2024.<sup>2</sup>
3. Vanilla and post-tax WACC estimates for disclosure year 2024 for EDBs and Wellington Airport are summarised in Table 1 and Table 2 below, respectively.

**Table 1: Summary of vanilla and post-tax WACC estimates for EDBs (%)**

	Vanilla WACC	Post-tax WACC
Mid-point	6.75%	6.05%
25 <sup>th</sup> percentile	6.07%	5.37%
67 <sup>th</sup> percentile	7.20%	6.50%
75 <sup>th</sup> percentile	7.43%	6.73%

**Table 2: Summary of vanilla and post-tax WACC estimates for Wellington Airport (%)**

	Vanilla WACC	Post-tax WACC
Mid-point	7.81%	7.51%
Standard error	0.0146	0.0146

4. Further detail regarding the parameter values used to generate these WACC estimates is contained in paragraphs 6 to 18 below. The WACC estimates have been calculated as at 1 April 2023, which is the first day of disclosure year 2024.
5. This determination should be read together with our guidelines for WACC determinations under the cost of capital input methodologies.<sup>3</sup> These guidelines

<sup>1</sup> Electricity Distribution Services Input Methodologies Determination 2012 (Consolidated May 2020); and Airport Services Input Methodologies Determination 2010 (Consolidated December 2016) .

<sup>2</sup> We determine an ID WACC for Auckland International Airport Limited and Christchurch International Airport (AIAL and CIAL) in July as their disclosure year is 1 July to 30 June.

<sup>3</sup> Commerce Commission, [Guidelines for WACC determinations under the cost of capital input methodologies](#), 17 January 2023.

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 determining the risk-free rate and average debt premium.

## Further details regarding the WACC estimates

### WACC parameter values for EDBs and Wellington Airport

6. The parameter values used to generate the mid-point WACC estimates for disclosure year 2024 for EDBs and Wellington Airport are summarised in Table 3 below.<sup>4</sup>

**Table 3: Values used to calculate WACC estimates for EDBs and Wellington Airport**

Parameter	EDBs	Wellington Airport
Risk-free rate	4.34%	4.34%
Average debt premium	1.43%	1.17%
Leverage	42%	19%
Asset beta	0.35	0.6
Equity beta	0.6	0.74
Tax adjusted market risk premium	7.0%	7.0%
Average corporate tax rate	28%	28%
Average investor tax rate	28%	28%
Debt issuance costs	0.20%	0.20%
Cost of debt	5.97%	5.71%
Cost of equity	7.32%	8.30%
Standard error of midpoint WACC estimate	0.0101	0.0146
<b>Mid-point vanilla WACC</b>	<b>6.75%</b>	<b>7.81%</b>
<b>Mid-point post-tax WACC</b>	<b>6.05%</b>	<b>7.51%</b>

\*The numbers are rounded to two decimal points.

<sup>4</sup> All parameter values except the estimate of the risk-free rate and the average debt premium are set in the input methodologies.

### Risk-free rate for EDBs and Wellington Airport

7. 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 (and five years for airports).
8. Our estimate of the five-year risk-free rate is based on data reported by Bloomberg for the three-month period ending March 2023 in respect of the April 2027 and May 2028 maturity bonds.
9. 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 4.34% interest rate on New Zealand government bonds with a five-year term to maturity, as estimated at 1 April 2023.<sup>5</sup>

### Average debt premium for EDBs

10. The average debt premium for EDBs of 1.43% is the average of the debt premium values for the current debt premium reference year (DPRY) and the four previous DPRYs, as shown in Table 4 below.
11. The DPRY for EDBs starts on 1 September and ends on 31 August.<sup>6</sup> DPRY 2023 is the current DPRY for EDBs as it contains the start of disclosure year 2024 (1 April 2023). The EDB 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.

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

	DPRY	DPRY	DPRY	DPRY	DPRY	Average
	2019	2020	2021	2022	2023	
Debt premium	1.60	1.60	1.55	1.15	1.25	1.43

<sup>5</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 target 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>6</sup> For example, DPRY 2023 for EDBs is 1 September 2022 to 31 August 2023.

12. The debt premium values are taken from the following sources:
- 12.1 The debt premium value for the 2019 DPRY was estimated in the *Cost of capital determination for disclosure year 2020 for information disclosure regulation for Electricity distribution businesses and Wellington International Airport [2019]* NZCC 7 (30 April 2019).<sup>7</sup>
  - 12.2 The debt premium value for the 2020 DPRY was estimated in the *Cost of capital determination for disclosure year 2021 for information disclosure regulation for Electricity distribution businesses and Wellington International Airport [2020]* NZCC 11 (13 May 2020).<sup>8</sup>
  - 12.3 The debt premium value for the 2021 DPRY was estimated in the *Cost of capital determination for disclosure year 2022 for information disclosure regulation for Electricity distribution businesses and Wellington International Airport [2021]* NZCC 4 (30 Apr 2021).<sup>9</sup>
  - 12.4 The debt premium value for the 2022 DPRY was estimated in the *Cost of capital determination for disclosure year 2023 for information disclosure regulation for Electricity distribution businesses and Wellington International Airport [2022]* NZCC 12 (3 May 2022).<sup>10</sup>
13. We have estimated a debt premium of 1.25% for the 2023 DPRY based on the data in Table 5 below.
- 13.1 We have had greatest regard to the category (b) bonds,<sup>11</sup> which support a debt premium of approximately 1.25% or lower, as there are no applicable category (a) bonds. The Genesis (1.24%), Meridian (1.01%) and Mercury (1.06%) bonds match the target credit rating (BBB+) but Genesis and Meridian have a remaining term to maturity of less than 5 years (suggesting a 5 year debt premium on these bonds would be higher than 1.24% or 1.01% respectively).

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<sup>7</sup> [Cost of capital determination for disclosure year 2020 for information disclosure regulation. Electricity distribution businesses and Wellington International Airport \[2019\] NZCC 7.](#)

<sup>8</sup> [Cost of capital determination for disclosure year 2021 for information disclosure regulation. Electricity distribution businesses and Wellington International Airport \[2020\] NZCC 11.](#)

<sup>9</sup> [Cost of capital determination for disclosure year 2022 for information disclosure regulation. Electricity distribution businesses and Wellington International Airport \[2021\] NZCC 4.](#)

<sup>10</sup> [Cost of capital determination for disclosure year 2023 for information disclosure regulation. Electricity distribution businesses and Wellington International Airport \[2022\] NZCC 12.](#)

<sup>11</sup> Electricity Distribution Services Input Methodologies Determination 2012 (Consolidated May 2020), Clauses 2.4.4(7)(c) to (e).

13.2 The estimated debt premiums on other issuers in categories (c) to (e)<sup>12</sup> are not inconsistent with a debt premium of approximately 1.25%, when consideration is given to the different credit ratings and terms to maturity. The Nelson-Siegel-Svensson (NSS) estimate of the debt premium of 1.14% supports our estimate of 1.25%. We note that unlike the NSS, in assessing the debt premium we use judgement and apply weight to different bonds based on their categories.

**Table 5: Debt premium estimate for EDB DPRY 2023<sup>13</sup>**

	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium
Benchmark bond	EDB/GPB	No	BBB+	5	1.25

Bond category	Issuer	Sector	100% Govt owned	Bond credit rating	Remaining term to maturity (years)	Debt premium	Comments
b	GENESIS ENERGY LTD	Other	No	BBB+	3.1	1.24	5 year debt premium would be higher
b	MERCURY NZ LTD	Other	No	BBB+	5.0	1.06	Credit rating and term are an exact match
b	MERIDIAN ENERGY LTD	Other	No	BBB+	3.3	1.01	5 year debt premium would be higher
c	VECTOR LTD	EDB/GPB	No	BBB	4.6	1.31	BBB+ debt premium would be lower; 5 year debt premium would be higher
d	AUCKLAND INTL AIRPORT	Airport	No	A-	2.6	0.96	BBB+ debt premium would be higher; 5 year debt premium would be higher
d	CHORUS LTD	Fibre	No	BBB	5.8	1.13	BBB+ debt premium would be lower; 5 year debt premium would be lower
d	CONTACT ENERGY LTD	Other	No	BBB	2.5	0.91	BBB+ debt premium would be lower; 5 year debt premium would be higher
d	FONTERRA COOPERATIVE	Other	No	A-	3.7	1.01	BBB+ debt premium would be higher; 5 year debt premium would be higher
d	SPARK FINANCE LTD	Telco	No	A-	4.5	0.86	BBB+ debt premium would be higher; 5 year debt premium would be higher
d	WELLINGTON INTL AIRPORT	Airport	No	BBB	3.3	1.28	BBB+ debt premium would be lower; 5 year debt premium would be higher
e	CHRISTCHURCH INTL AIRPORT	Airport	Yes	A-	5.1	1.40	BBB+ debt premium would be higher; 5 year debt premium would be lower
e	TRANSPower NEW ZEALAND	Other	Yes	AA	5.0	0.76	BBB+ debt premium would be higher

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 5.53 04/05/27
12	TPNZ 1.52 04/08/26; TPNZ 5.893 03/15/28

<sup>12</sup> Electricity Distribution Services Input Methodologies Determination 2012 (Consolidated May 2020), Clauses 2.4.4(7)(c) to (e).

<sup>13</sup> To estimate the debt premium values for a DPRY we use bond data from the 12 months preceding the start of the DPRY. We therefore used bond data from the period 1 September 2021 to 31 August 2022 to estimate the debt premium for the DPRY 2023.



### WACC range and 67<sup>th</sup> percentile estimate for EDBs

14. In addition to the mid-point estimate, we are also required to determine a WACC range and 67th percentile estimate for each EDB disclosure year.
15. The WACC range means the values falling between the 25th percentile and 75th percentile, inclusive of the mid-point estimate of WACC. The methodology for estimating different WACC percentiles is set out in clause 2.4.5 of the EDB IMs.<sup>14</sup>

### Average debt premium for Wellington Airport

16. The average debt premium for Wellington Airport of 1.17% is the average of the debt premium values for the current DPRY and the four previous DPRYs, as shown in Table 6 below.
17. The DPRY for Wellington Airport starts on 1 July and ends on 30 June. DPRY 2023 is the current DPRY for Wellington Airport as it contains the start of disclosure year 2024 (1 April 2023).<sup>15</sup>
18. The debt premium values for the 2019 to 2023 DPRYs are the same debt premium values that we previously determined for AIAL and CIAL from the following sources:
  - 18.1 The debt premium value for the 2019 DPRY was estimated in 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)*.<sup>16</sup>
  - 18.2 The debt premium value for the 2020 DPRY was estimated in the *Cost of capital determination for disclosure 2020 for Transpower, gas pipeline businesses and supplier of specified airport services (with a June year-end) [2019] NZCC 8 (31 July 2019)*.<sup>17</sup>
  - 18.3 The debt premium value for the 2021 DPRY was estimated in 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)*.<sup>18</sup>
  - 18.4 The debt premium value for the 2022 DPRY was estimated in the *Cost of capital determination for disclosure year 2022 for Transpower, gas pipeline*

<sup>14</sup> The same methodology applies to both vanilla and post-tax WACC estimates. The mid-point estimate of WACC is treated as the 50th percentile. The required estimates are set out in Table 1.

<sup>15</sup> Wellington Airport's disclosure year 2024 starts on 1 April 2023. In this case, the current debt premium reference year is DPRY 2023. (The debt premium for DPRY 2023 for airports is calculated using data from 1 July 2021 to 30 June 2022).

<sup>16</sup> [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 \(31 July 2018\)](#).

<sup>17</sup> [Cost of capital determination for disclosure 2020 for Transpower, gas pipeline businesses and supplier of specified airport services \(with a June year-end\) \[2019\] NZCC 8 \(31 July 2019\)](#).

<sup>18</sup> [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 \(31 July 2020\)](#).

*businesses and suppliers of specified airport services (with a June year-end) [2021] NZCC 10 (2 August 2021).*<sup>19</sup>

- 18.5 The debt premium value for the 2023 DPRY was estimated in the *Cost of capital determination for disclosure year 2023 for Transpower, gas pipeline businesses and suppliers of specified airport services (with a June year-end) [2022] NZCC 28 (2 August 2022).*<sup>20</sup>

**Table 6: Average debt premium for Wellington Airport (%)**

	DPRY 2019	DPRY 2020	DPRY 2021	DPRY 2022	DPRY 2023	Average
Debt premium	1.15	1.30	1.30	1.10	1.00	1.17

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

19. The cost of capital input methodologies for regulated services (including for EDBs and Wellington Airport) reflect that both the risk-free rate and the debt premium on bonds change over time. Figure 1 shows, as at 1 April 2023, changes over time in:
- 19.1 The five year risk-free rate;
  - 19.2 The estimated debt premium on bonds rated BBB+ with a remaining term to maturity of five years; and
  - 19.3 The estimated debt premium on bonds rated A- with a remaining term to maturity of five years.

<sup>19</sup> [Cost of capital determination for disclosure year 2022 for Transpower, gas pipeline businesses and suppliers of specified airport services \(with a June year-end\) \[2021\] NZCC 10 \(2 August 2021\).](#)

<sup>20</sup> [Cost of capital determination for disclosure year 2023 for Transpower, gas pipeline businesses and suppliers of specified airport services \(with a June year-end\) \[2022\] NZCC 28 \(2 August 2022\).](#)

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

