

Cost of capital determination for disclosure year 2019

Electricity distribution businesses and Wellington International Airport

[2018] NZCC 7

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Associated documents

Publication date	Reference	Title
20 December 2016	ISSN 1178-2560	Airport Services Input Methodologies Determination 2010 (Consolidated December 2016)
20 December 2016	ISBN 978-1-869455-48-4	Input methodologies review decisions (Topic paper 4: Cost of capital issues)
28 April 2017	ISSN 1178-2560	Cost of capital determination for information disclosure year 2018 for electricity distribution services and specified airport services (March year-end) [2017] NZCC 7
3 April 2018	ISSN 1178-2560	Electricity 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

Commerce Commission
Wellington, New Zealand

WACC estimates for disclosure year 2019 for EDBs and Wellington Airport

1. This determination specifies weighted average cost of capital (WACC) estimates that will apply for disclosure year 2019 for electricity distribution businesses (EDBs) and Wellington Airport.
2. Vanilla and post-tax WACC estimates for disclosure year 2019 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	5.26	4.75
25 th percentile	4.58	4.07
67 th percentile	5.70	5.19
75 th percentile	5.94	5.43

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

	Vanilla WACC	Post-tax WACC
Mid-point	6.34	6.13
Standard error	0.0146	0.0146

3. Further detail regarding the parameter values used to generate these WACC estimates is contained in paragraphs 5 to 15 below. The WACC estimates have been calculated as at 1 April 2018, which is the first day of disclosure year 2019.
4. This determination should be read in conjunction with our guidelines for WACC determinations under the cost of capital input methodologies.¹ The guidelines explain our methodology for calculating WACC estimates, including:
 - 4.1 the formulas used;
 - 4.2 the values for WACC parameters which are fixed under the input methodologies; and
 - 4.3 our methodology for determining the risk-free rate and average debt premium.

¹ Commerce Commission “Guidelines for WACC determinations under the cost of capital input methodologies – Regulation under Part 4 of the Commerce Act 1986” (30 April 2018).

Further details regarding the WACC estimates

WACC parameter values

5. The parameter values used to generate the mid-point WACC estimates for disclosure year 2019 for EDBs and Wellington Airport are summarised in Table 3 below.

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

Parameter	EDBs	Wellington Airport
Risk-free rate	2.40%	2.40%
Average debt premium	1.72%	1.31%
Leverage	42%	19%
Equity beta	0.60	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	4.33%	3.91%
Cost of equity	5.93%	6.91%
Standard error of WACC	0.0101	0.0146
Mid-point vanilla WACC	5.26%	6.34%
Mid-point post-tax WACC	4.75%	6.13%

Risk-free rate for both EDBs and Wellington Airport

6. 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 March 2018 in respect of the May 2021 and April 2023 maturity bonds.
7. 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 2.40% interest rate on New Zealand government bonds with a five year term maturity as at 1 April 2018.

Average debt premium for EDBs

8. The average debt premium for EDBs of 1.72% 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. DPRY 2018 is the current reference year for EDBs.²

Table 4: Average debt premium for EDBs (%)

	DPRY 2014	DPRY 2015	DPRY 2016	DPRY 2017	DPRY 2018	Average
Debt premium	2.04	1.76	1.59	1.59	1.63	1.72

9. The debt premium values for the 2014 to 2017 DPRYs are set out in clause 2.4.4(4) of the Electricity Distribution Services IM Determination.
10. We have estimated the debt premium for EDB DPRY 2018 of 1.63%, based on judgement informed by the data in Table 5 below.
 - 10.1 We have had greatest regard to the category (b) bonds, which support a debt premium of approximately 1.60% to 1.65%. The Genesis (1.61%) and Mercury (1.66%) bonds both match the target credit rating (BBB+) and remaining term to maturity (5 years). Although the Meridian bond (1.62%) and Wellington Airport bond (1.56%) are both rated BBB+, they have remaining terms to maturity of 6 years and 3.3 years respectively.
 - 10.2 The estimated debt premiums on other issuers in categories (c) to (e) are generally consistent with a debt premium in the range from 1.60% to 1.65%, when consideration is given to different credit ratings and terms to maturity. The Nelson-Siegel-Svensson estimate of the debt premium of 1.63% also supports a debt premium in this range.
 - 10.3 We have determined a debt premium of 1.63% for DPRY 2018, which is the mid-point of the range from 1.60% to 1.65% (rounded to two decimal places).

² The 'current debt premium reference year' refers to the debt premium reference year that contains the start of the relevant disclosure year. EDB disclosure year 2019 starts on 1 April 2018. In this case, the current debt premium reference year is DPRY 2018 (1 September 2017 to 31 August 2018).

Table 5: Debt premium estimate for EDB DPRY 2018

	Industry	Rating	Remaining term to maturity	Debt premium
Determined debt premium	EDB/GPB	BBB+	5.0	1.63

Category	Issuer	Note ref.	Industry	Rating	Remaining term to maturity	Debt premium	Comment
(a)	-	-	-	-	-	-	No data on applicable bonds
(b)	Genesis Energy Ltd	1	Other	BBB+	5.0	1.61	Credit rating and term are an exact match
	Mercury NZ Ltd	2	Other	BBB+	5.0	1.66	Credit rating and term are an exact match
	Meridian Energy Ltd	3	Other	BBB+	6.0	1.62	5 year debt premium would be lower
	Wellington Intl Airport	4	Other	BBB+	3.3	1.56	5 year debt premium would be higher
(c)	Vector Ltd	5	EDB/GPB	BBB	6.8	2.01	BBB+ debt premium would be lower; 5 year debt premium would be lower
(d)	Auckland Intl Airport	6	Other	A-	5.0	1.25	BBB+ debt premium would be higher
	Chorus Ltd	7	Other	BBB	4.2	1.71	BBB+ debt premium would be lower; 5 year debt premium would be higher
	Contact Energy Ltd	8	Other	BBB	4.7	1.59	BBB+ debt premium would be lower; 5 year debt premium would be higher
	Fonterra Cooperative Group	9	Other	A-	5.0	1.55	BBB+ debt premium would be higher
	Spark Finance Ltd	10	Other	A-	5.0	1.43	BBB+ debt premium would be higher
(e)	Christchurch Intl Airport	11	Other	BBB+	4.6	1.63	5 year debt premium would be higher
	Transpower New Zealand	12	Other	AA-	5.0	1.15	BBB+ debt premium would be higher
Nelson-Siegel-Svensson estimate					5.0	1.63	

Notes on bonds analysed:

- 1 GENEPO 4.14 03/18/22; GENEPO 8.3 06/23/20; GENEPO 5.81 03/08/23
- 2 MCYNZ 8.21 02/11/20; MCYNZ 5.793 03/06/23
- 3 MERINZ 4.53 03/14/23
- 4 WIANZ 5.27 06/11/20
- 5 VCTNZ 4.996 03/14/24
- 6 AIANZ 5.52 05/28/21; AIANZ 4.28 11/09/22
- 7 CNUNZ 4.12 05/06/21
- 8 CENNZ 4.4 11/15/21
- 9 FCGNZ 5.9 02/25/22; FCGNZ 4.33 10/20/21; FCGNZ 5.52 02/25/20; FCGNZ 4.42 03/07/23
- 10 SPKNZ 4 1/2 03/25/22; SPKNZ 5 1/4 10/25/19; SPKNZ 4.51 03/10/23
- 11 CHRINT 6 1/4 10/04/21
- 12 TPNZ 4.3 06/30/22; TPNZ 6.95 06/10/20; TPNZ 5.448 03/15/23

Average debt premium for Wellington Airport

11. The average debt premium for Wellington Airport of 1.31% is the average of the debt premium values for the current DPRY and the four previous DPRYs, as shown in Table 6 below. DPRY 2018 is the current reference year for Wellington Airport.³
12. The debt premium values for the 2014 to 2017 DPRYs are set out in clause 5.4(4) of the Airport Services IM Determination. The debt premium for airports' DPRY 2018 was determined in July 2017.⁴

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

	DPRY 2014	DPRY 2015	DPRY 2016	DPRY 2017	DPRY 2018	Average
Debt premium	1.50	1.25	1.05	1.38	1.35	1.31

³ Wellington Airport's disclosure year 2019 starts on 1 April 2018. In this case, the current debt premium reference year is DPRY 2018 (1 July 2017 to 30 June 2018).

⁴ *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), Table 9, p 26.*

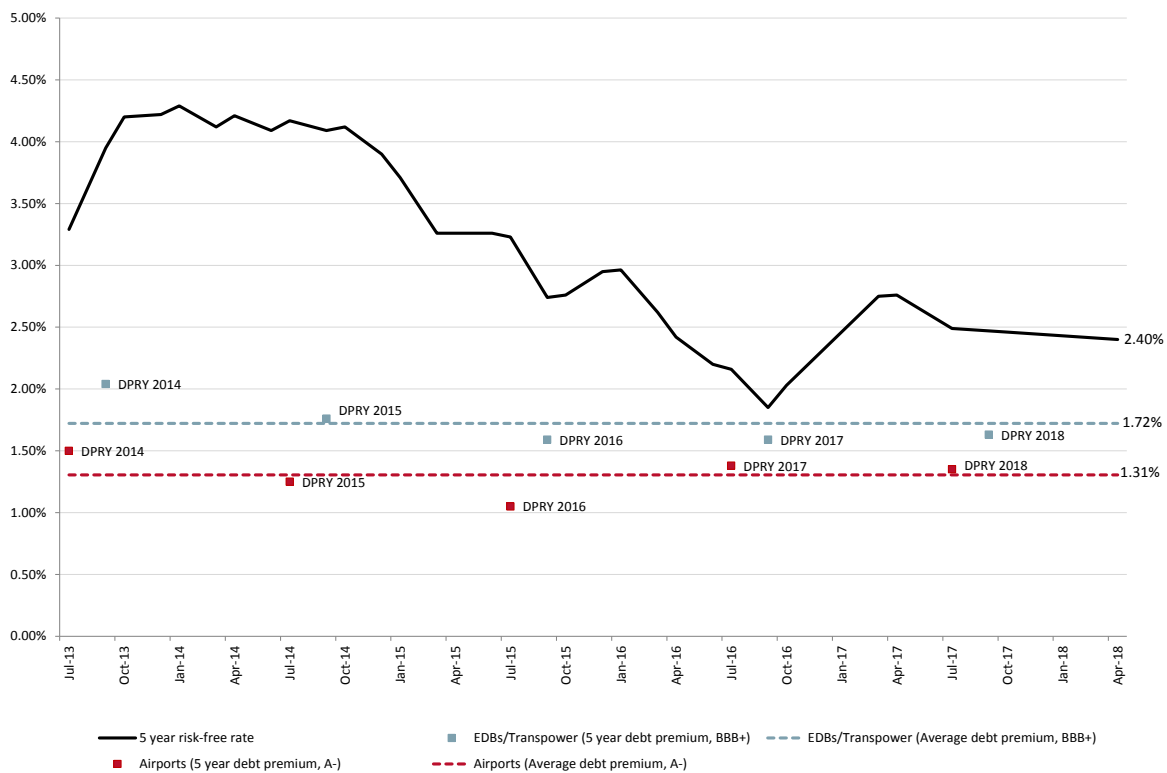
WACC range and 67th percentile estimate for EDBs

13. 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.
14. 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 percentile estimates is set out in clause 2.4.5 of the Electricity Distribution Services IM Determination.⁵

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

15. The cost of capital input methodologies for regulated services reflect that both the risk-free rate and the debt premium on bonds change over time. Figure 1 shows, as at 1 April 2018, changes over time in the:
 - 15.1 five year risk-free rate;
 - 15.2 debt premium on bonds rated BBB+ with a term of five years;
 - 15.3 debt premium on bonds rated A- with a term of five years.

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



⁵ The same methodology applies to both vanilla and post-tax WACC estimates. The mid-point estimate of WACC is treated as the 50th percentile.