

Cost of capital determination for the 2016 information disclosure year for Maui Development Limited [2015] NZCC 1

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Executive summary

1. This determination sets weighted average cost of capital (WACC) estimates to apply for the 2016 information disclosure year for Maui Development Limited (Maui).
2. Vanilla and post-tax WACCs have been estimated for the five year period commencing on the first day of disclosure year 2016 (ie 1 January 2015).¹ Mid-point, 25th percentile and 75th percentile WACC estimates have been determined.
3. The WACC estimates are summarised in Table 1 below. The WACCs are estimated as at 1 January 2015.

Table 1: Summary of WACC estimates for Maui's 2016 disclosure year (%)

	Mid-point	25 th percentile	75 th percentile
Vanilla WACC	7.08	6.27	7.89
Post-tax WACC	6.39	5.58	7.20

¹ The vanilla WACC is a weighted average of the pre-corporate tax cost of debt and the post-tax cost of equity. The post-tax WACC is a weighted average of the post-corporate tax cost of debt and the post-tax cost of equity.

Introduction

4. This determination specifies WACC estimates to apply for information disclosure year 2016 (that is, the 12 months to 31 December 2015) for Maui.²
5. The WACC estimates are set pursuant to clauses 2.4.1 to 2.4.8 of the Gas Transmission Services Input Methodologies Determination 2012 (the GTS IM Determination).³
6. We have estimated both vanilla and post-tax WACCs. The vanilla WACC is a weighted average of the pre-corporate tax cost of debt and the post-tax cost of equity. The post-tax WACC is a weighted average of the post-corporate tax cost of debt and the post-tax cost of equity.
7. The parameter values, estimates and information sources used to estimate WACC are set out in this determination.
8. Additional commentary on the estimation of the risk-free rate and the debt premium is also provided. For example, this determination identifies the issuers and bonds that were analysed (including the credit rating and remaining term to maturity) when estimating the debt premium. The commentary also explains which debt premium estimates were given greater weight than other estimates.

Background

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

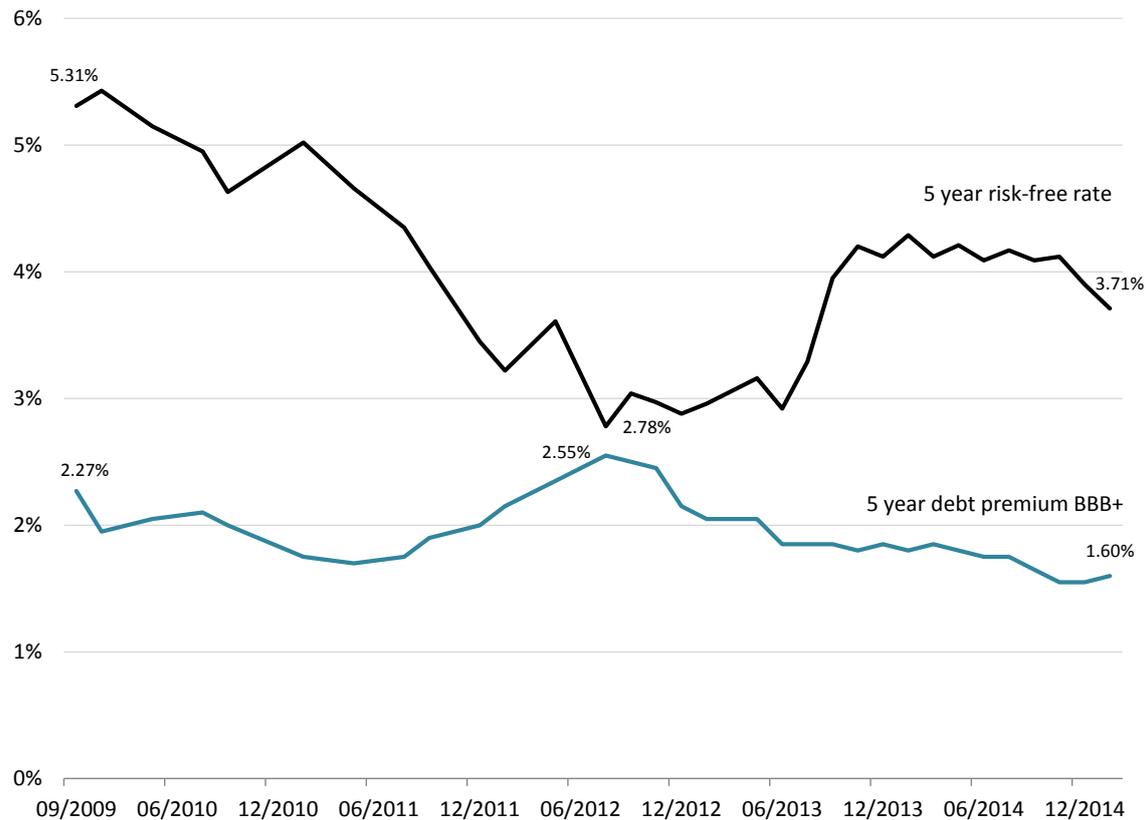
9. The cost of capital input methodologies for the regulated services reflect that both the risk-free rate and the debt premium on bonds change over time.⁴
10. Changes in the risk-free rate and debt premium on bonds are illustrated below. Figure 1 shows, as at 1 January 2015, changes over time in the:
 - 10.1 five year risk-free rate; and
 - 10.2 debt premium on bonds rated BBB+ with a term of five years.

² Consistent with the definition of “disclosure year” in the GTS IM determination, disclosure year 2016 for Maui relates to the 12 month period ending on 31 December 2015. See clause 1.1.4(2) of the GTS IM determination.

³ *Gas Transmission Services Input Methodologies Determination 2012* [2012] NZCC 34, as subsequently amended.

⁴ The risk-free rate is estimated based on an interpolation of bid yields on New Zealand government stock to a term to maturity of five years. The debt premium is estimated on publicly traded corporate bonds according to the methodology specified in the GTS IM Determination.

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



Reasons for differences in WACC under the various cost of capital input methodologies determinations

11. There are differences in the WACCs estimated over time and between services under the various cost of capital input methodologies. This is due to differences in the:
 - 11.1 date of estimation for the WACCs, which results in different estimates of the risk-free rate and debt premium;
 - 11.2 periods in which the WACCs will apply;
 - 11.3 context in which the WACCs will be used (67th percentile estimates of the WACC are used for the purposes of default and individual price-quality paths, while a mid-point and range is determined for information disclosure);
 - 11.4 assessed risk of the various regulated services (electricity distribution businesses (EDBs) and Transpower have an asset beta of 0.34, gas pipeline businesses (GPBs) have an asset beta of 0.44 and airports have an asset beta of 0.60); and
 - 11.5 value of leverage for airports (17%) and for EDBs, GPBs, and Transpower (44%).

WACC for Maui 2016 information disclosure year

12. Under clause 2.4.1 of the GTS IM Determination, we have determined the following vanilla and post-tax WACCs for Maui's 2016 information disclosure year.⁵

12.1 A mid-point estimate of vanilla WACC of 7.08% for the five year period commencing on the first day of Maui's disclosure year 2016 (ie 1 January 2015). Under clause 2.4.7, we have also determined a vanilla WACC range from 6.27% to 7.89%, where the endpoints are the 25th and 75th percentile estimates respectively.

12.2 A mid-point estimate of post-tax WACC of 6.39% for the five year period commencing on the first day of Maui's disclosure year 2016 (ie 1 January 2015). Under clause 2.4.7, we have also determined a post-tax WACC range from 5.58% to 7.20%, where the endpoints are the 25th and 75th percentile estimates respectively.

Parameters used to estimate the WACC

13. These vanilla and post-tax WACC estimates reflect the parameters specified in the GTS IM Determination. The risk-free rate and debt premium are also estimated in accordance with the GTS IM Determination.

Summary of parameters

14. The parameters used to estimate the vanilla and post-tax WACCs are summarised in Table 2 below.

⁵ Consistent with our recently completed review of the WACC percentile for information disclosure regulation, 67th percentile vanilla and post-tax WACC estimates will also be determined for GPBs from disclosure year 2018 onwards. *Electricity Lines Services and Gas Pipeline Services Input Methodologies Determination Amendment (WACC percentile for information disclosure regulation) 2014* [2014] NZCC 38.

Table 2: Parameters used to estimate WACC for Maui's 2016 disclosure year

Parameter	Estimate
Risk-free rate	3.71%
Debt premium	1.60%
Leverage	44%
Equity beta	0.79
Tax adjusted market risk premium	7.0%
Average corporate tax rate	28%
Average investor tax rate	28%
Debt issuance costs	0.35%
Cost of debt	5.66%
Cost of equity	8.20%
Standard error of debt premium	0.0015
Standard error of WACC	0.012
Mid-point vanilla WACC	7.08%
Mid-point post-tax WACC	6.39%

Note: The cost of debt is calculated as the risk-free rate + debt premium + debt issuance costs. The cost of equity is calculated as the risk-free rate \times (1 - investor tax rate) + the equity beta \times the tax adjustment market risk premium. The mid-point vanilla WACC is calculated as the cost of equity \times (1 - leverage) + the cost of debt \times leverage.

Risk-free rate

- 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. The estimates use data reported by Bloomberg for the month of December 2014 in respect of the 15 March 2019 and 15 April 2020 maturity bonds. The March 2019 and April 2020 bonds have simple average annualised bid yields to maturity of 3.66% and 3.73% respectively.

16. The daily data reported by Bloomberg is annualised (to reflect the six monthly payment of interest), averaged to give a monthly average, and linearly-interpolated to produce the estimate of a 3.71% interest rate on a New Zealand government bond with a five year term to maturity as at 1 January 2015.

Tax rates

17. The average corporate tax rate is the corporate tax rate of 28% for all years. The average investor tax rate is the investor tax rate of 28% for all years.

Standard error of the WACC

18. The standard error of the WACC is determined in accordance with the formula in the GTS IM Determination, and is shown to three decimal places only in Table 2 above.

Debt premium

19. The methodology for determining the debt premium is set out in clause 2.4.4 of the GTS IM Determination.
20. Clause 2.4.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ\$ denominated bond that:
- 20.1 is issued by a GPB or an EDB that is neither majority owned by the Crown nor a local authority;
 - 20.2 is publicly traded;
 - 20.3 has a qualifying rating of grade BBB+; and
 - 20.4 has a remaining term to maturity of five years.
21. In estimating the debt premium, clause 2.4.4(4) of the GTS IM Determination provides that the Commission will have regard to:
- 21.1 bonds issued by a GPB or EDB (that is not government-owned) with a rating of BBB+;
 - 21.2 bonds issued by another entity (that is not government-owned) with a rating of BBB+;
 - 21.3 bonds issued by a GPB or EDB (that is not government-owned) with a rating other than BBB+;
 - 21.4 bonds issued by another entity (that is not government-owned) with a rating other than BBB+; and
 - 21.5 bonds issued by entities that are majority owned by the Crown or a local authority.

22. Clause 2.4.4(5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses 2.4.4(4)(a) to (e).
23. Table 3 below shows the debt premium we have determined as at 1 January 2015. This table includes a summary of information on the investment grade rated bonds we considered in determining the debt premium.
24. A spreadsheet showing the calculations for the debt premium (and the risk-free rate) is published on our website.⁶

⁶ See www.comcom.govt.nz/cost-of-capital

Table 3: Debt premium on a GPB/EDB issued bond rated BBB+ with a remaining term to maturity of five years, as at 1 January 2015⁷

	Industry	Rating	Remaining term to Maturity	Debt premium	Comment
Determined debt premium	EDB/GPB	BBB+	5.0	1.60	Regard to results 4(b), 4(c) and 4(d) Generally consistent with 4(e)

Subclause	Issuer	Note ref.	Industry	Rating	Remaining term to Maturity	Debt premium	Comment
4(a)	-	-	-	-	-	-	No data on applicable bonds
4(b)	WIAL	1	Other	BBB+	5.4	1.65	5 year debt premium would be slightly lower
4(c)	Powerco	2	EDB/GPB	BBB	0.5	0.94	5 year debt premium would be significantly higher BBB+ debt premium would be lower
4(d)	Spark	3	Other	A-	4.8	1.27	BBB+ and 5 year debt premium would be higher
	AIAL	4	Other	A-	5.0	1.05	BBB+ debt premium would be higher
	Contact	5	Other	BBB	5.0	1.51	BBB+ debt premium would be lower
	Fonterra	6	Other	A	5.0	1.04	BBB+ debt premium would be significantly higher
4(e)	Meridian	7	Other	BBB+	2.2	1.06	
	Genesis Energy	8	Other	BBB+	5.0	1.49	
	MRP	9	Other	BBB+	5.0	1.57	
	CIAL	10	Other	BBB+	5.0	1.45	
	Transpower	11	Other	AA-	5.0	0.96	

Notes on bonds analysed:

- 1 WIAL 5.27% bond maturing 11/06/2020.
- 2 Powerco 6.53% bond maturing 29/06/2015.
- 3 Spark 5.25% bond maturing 25/10/2019.
- 4 AIAL 4.73% bond maturing 13/12/2019; 5.52% bond maturing 28/05/2021.
- 5 Contact Energy 5.8% bond maturing 15/05/2019; 5.277% bond maturing 27/05/2020.
- 6 Fonterra 4.6% bond maturing 24/10/2017; 5.52% bond maturing 25/02/2020.
- 7 Meridian 7.55% bond maturing 16/03/2017.
- 8 Genesis Energy 5.205% bond maturing 1/11/2019; 8.3% bond maturing 23/06/2020.
- 9 MRP 5.029% bond maturing 6/03/2019; 8.21% bond maturing 11/02/2020.
- 10 CIAL 5.15% bond maturing 6/12/2019; 6.25% bond maturing 4/10/2021.
- 11 Transpower 7.19% bond maturing 12/11/2019; 6.95% bond maturing 10/06/2020.

25. Consistent with clauses 2.4.4(4) and 2.4.4(5)(a) of the GTS IM Determination, greatest regard has been given to the estimated debt premium on Wellington International Airport Limited's (WIAL's) June 2020 bond. This bond is issued by an entity other than an EDB/GPB, is publicly traded and has a rating of BBB+. The June 2020 bond has a term to maturity of 5.4 years, which is slightly more than the five years specified in clause 2.4.4(3)(d).

⁷ The five-year debt premiums on the AIAL, Contact, Fonterra, Genesis Energy, MRP, CIAL and Transpower bonds are calculated by linear interpolation with respect to maturity.

26. As at 1 January 2015, the debt premium on the WIAL bond was estimated at 1.65% with a remaining term to maturity of 5.4 years. This implies the debt premium on a bond with a term of exactly five years would be slightly lower (approximately 1.60%).
27. The debt premium on Powerco's June 2015 maturity bond is 0.94%. This bond has a term to maturity of 0.5 years, which is much less than the five years specified in clause 2.4.4(3)(d), and implies that an estimate for a five year term would be significantly above 0.94%.⁸ On the other hand, Powerco's bonds are rated BBB which is less than the BBB+ specified in clause 2.4.4(3)(d). These considerations do not alter our view that a debt premium of approximately 1.60% is appropriate for BBB+ rated bonds with a five year term to maturity.
28. We also had regard to the estimated debt premium on bonds from a range of other issuers including Contact Energy (1.51%, 5 years, rated BBB), Spark (1.27%, 4.8 years, rated A-), Auckland international Airport Limited (AIAL) (1.05%, 5 years, rated A-) and Fonterra (1.04%, 5 years, rated A). Consistent with clause 2.4.4(5)(a) these debt premiums were given less weight as the issuers are not GPBs or EDBs, and the debt issues had different credit ratings than the BBB+ rating specified in clause 2.4.4(3)(d).⁹
29. The estimated debt premium on the Genesis Energy bonds (1.49%, 5 years, rated BBB+), the Mighty River Power (MRP) bonds (1.57%, 5 years, rated BBB+), the Meridian bond (1.06%, 2.2 years, rated BBB+), the Christchurch International Airport Limited (CIAL) bonds (1.45%, 5 years, rated BBB+), and Transpower bonds (0.96%, 5 years, rated AA-) were given least weight. Taking into account the likely impact of Government ownership, the premiums on these bonds generally support the view that the estimate of the debt premium we use should be above 1.50%.
30. Placing primary weight on the estimated debt premium on the WIAL bond (which has a term slightly longer than our benchmark term), but having regard to the debt premium on a range of other bonds, we have determined the debt premium on a publicly traded, EDB/GPB-issued bond, rated BBB+ with a remaining term of five years to be 1.60% as at 1 January 2015.

⁸ For example, Powerco also has bonds maturing on 28 September 2017 (2.7 years to maturity) and 20 December 2018 (4.0 years to maturity), with observed debt premiums of 1.47% and 1.69% respectively. However, these bonds are secured against the network assets of the company so are not included in Table 3 above.

⁹ Telstra is not included in category 4(d) of Table 3 because it is not a New Zealand resident limited liability company (as required by the definition of "qualifying issuer" in the GTS IM Determination).