

Cost of capital determination for information disclosure year 2016 for Transpower, gas pipeline businesses and suppliers of specified airport services (with a June year-end)

[2015] NZCC 20

| The Commission: | Transpower Division | Energy Division | Airport Services Division |
|------------------------|--------------------------------|------------------------|--------------------------------------|
| | S Begg | S Begg | S Begg |
| | P Duignan | P Duignan | P Duignan |
| | Dr S Gale | Dr S Gale | Dr M Berry |
| | E Welson | Dr M Berry | |

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Associated documents

| Publication date | Reference | Title |
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| 31 July 2014 | ISSN 1178-2560 | Cost of capital determination for information disclosure year 2015 for Transpower, gas pipeline businesses and suppliers of specified airport services (with a June year-end) [2014] NZCC 19 |
| 31 July 2013 | ISBN 978-1-869453-19-0 | Cost of capital determination for information disclosure year 2014 for Transpower, gas pipeline businesses and suppliers of specified airport services (with a June year-end) [2013] NZCC 12 |
| 30 July 2012 | ISBN 978-1-869452-10-0 | Cost of capital determination for information disclosure year 2013 for Transpower, gas pipeline businesses and specified airport services (with a June year-end) [2012] NZCC 20 |
| 8 July 2011 | ISBN 978-1-869451-60-8 | Determination of the Cost of Capital for Information Disclosure Year 2012 for Transpower New Zealand Limited, Suppliers of Gas Pipeline Services, and Suppliers of Specified Airport Services (June year-end) Decision Number 727 |

Commerce Commission
Wellington, New Zealand

Executive summary

1. This determination specifies weighted average cost of capital (WACC) estimates to apply for information disclosure year 2016 (that is, the 12 months to 30 June 2016) for:
 - 1.1 Transpower New Zealand Limited (Transpower);
 - 1.2 gas pipeline businesses (GPBs) with a financial year ending in June (Vector and GasNet); and
 - 1.3 suppliers of specified airport services with a financial year ending in June (Auckland International Airport Limited (AIAL) and Christchurch International Airport Limited (CIAL)).
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 July 2015).¹ Mid-point, 25th percentile and 75th percentile WACC estimates have been determined in each case. Consistent with our 2014 review of the WACC percentile, 67th percentile estimates of vanilla and post-tax WACC are now included for Transpower's 2016 disclosure year.²
3. The WACC estimates are summarised in Table 1 below. The WACCs are estimated as at 1 July 2015.

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 the weighted average of the post-corporate tax cost of debt and the post-tax cost of equity.

² *Electricity Lines Services and Gas Pipeline Services Input Methodologies Determination Amendment (WACC percentile for information disclosure regulation) 2014* [2014] NZCC 38. The 67th percentile WACC estimate does not take effect for GPB information disclosure until the 2018 disclosure year.

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

| | Mid-point | 25th percentile | 67th percentile | 75th percentile |
|--|------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Transpower information disclosure year 2016 | | | | |
| Vanilla WACC | 5.95 | 5.23 | 6.41 | 6.66 |
| Post-tax WACC | 5.32 | 4.60 | 5.78 | 6.03 |
| GPB information disclosure year 2016 (Vector and GasNet) | | | | |
| Vanilla WACC | 6.65 | 5.84 | N/A | 7.46 |
| Post-tax WACC | 6.02 | 5.21 | N/A | 6.83 |
| Specified airport services information disclosure year 2016 (AIAL and CIAL) | | | | |
| Vanilla WACC | 6.90 | 5.91 | N/A | 7.88 |
| Post-tax WACC | 6.68 | 5.69 | N/A | 7.66 |

Introduction

4. This determination specifies WACC estimates to apply for information disclosure year 2016 (that is, the 12 months to 30 June 2016) for:
 - 4.1 Transpower;
 - 4.2 GPBs subject to regulation under Part 4 of the Commerce Act 1986 (the Act) with a financial year ending in June (Vector and GasNet); and
 - 4.3 suppliers of specified airport services (as defined in section 56A of the Act) with a financial year ending in June (AIAL and CIAL).
5. The WACC estimates are determined under:
 - 5.1 clauses 2.4.1 to 2.4.7 of the Transpower Input Methodologies Determination (the Transpower IM Determination);³
 - 5.2 clauses 2.4.1 to 2.4.7 of the Gas Distribution Services Input Methodologies Determination 2012 (the GDS IM Determination) and clauses 2.4.1 to 2.4.7 of the Gas Transmission Services Input Methodologies Determination 2012 (the GTS IM Determination);⁴ and
 - 5.3 clauses 5.1 to 5.7 of the Commerce Act (Specified Airport Services Input Methodologies) Determination 2010 (the Airports IM Determination).⁵
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. Consistent with our 2014 review of the WACC percentile for electricity lines and gas pipeline businesses, 67th percentile estimates of vanilla and post-tax WACC are included for the first time for the 2016 Transpower information disclosure year. The 67th percentile does not take effect for GPBs until the 2018 information disclosure year.⁶
8. The parameter values, estimates and information sources used for each estimate of the WACC are set out in this determination. Additional commentary on the estimation of the risk-free rate and the debt premium is also provided.

³ *Transpower Input Methodologies Determination* [2012] NZCC 17, as subsequently amended.

⁴ *Gas Distribution Services Input Methodologies Determination 2012* [2012] NZCC 27 and *Gas Transmission Services Input Methodologies Determination 2012* [2012] NZCC 28, as subsequently amended.

⁵ *Commerce Act (Specified Airports Services Input Methodologies) Determination 2010* [2010] NZCC 709, as subsequently amended.

⁶ Commerce Commission “Amendments to the WACC percentile range for information disclosure regulation for electricity lines services and gas pipeline services – Reasons paper” (12 December 2014); and *Electricity Lines Services and Gas Pipeline Services Input Methodologies Determination Amendment (WACC percentile for information disclosure regulation) 2014* [2014] NZCC 38.

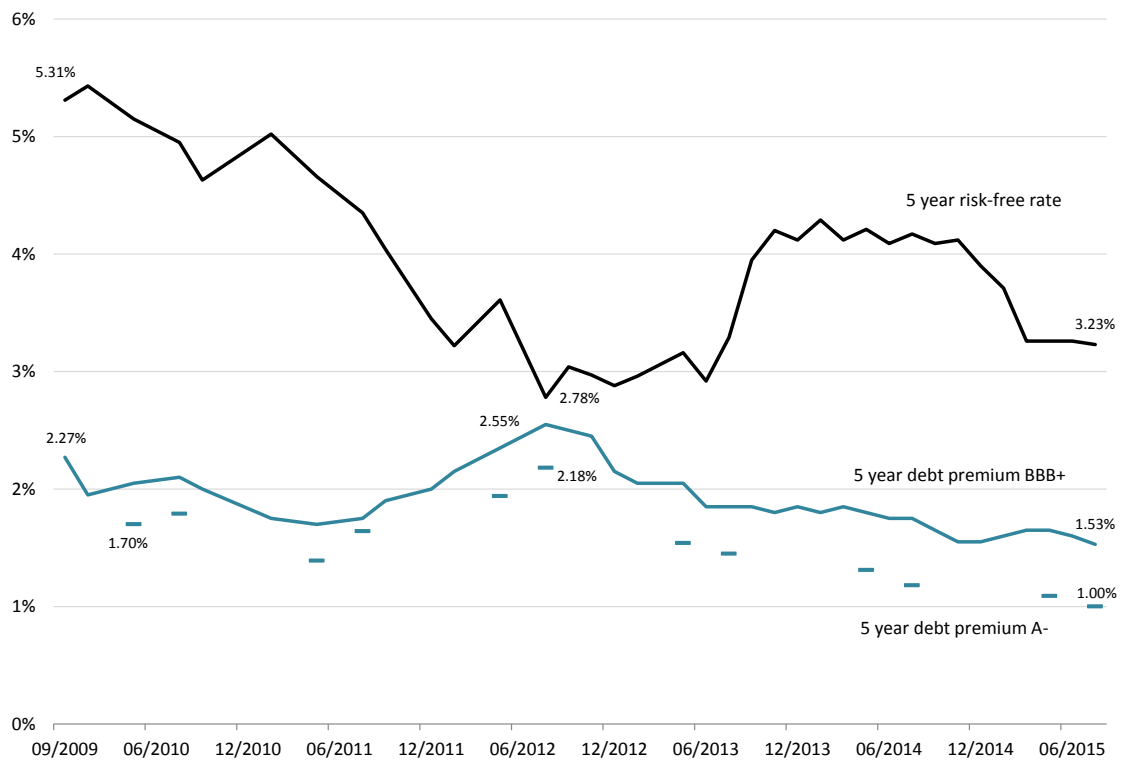
9. For example, this determination identifies the issuers and bonds that were analysed (including the credit rating and remaining term to maturity) when estimating the debt premium. The commentary also explains which debt premium estimates were given greater weight than other estimates.

Background

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

10. 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.⁷
11. Changes in the risk-free rate and debt premium on bonds are illustrated below. Figure 1 shows the changes over time in the:
- 11.1 five year risk-free rate;
 - 11.2 debt premium on bonds rated BBB+ with a term of five years; and
 - 11.3 debt premium on bonds rated A- with a term of five years.

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



⁷ 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 input methodology determinations.

Reasons for differences in WACC under input methodologies determinations

12. Differences in the WACCs estimated under the various cost of capital input methodologies reflect differences in the:
 - 12.1 date of estimation for the WACCs, which results in different estimates of the risk-free rate and debt premium;
 - 12.2 periods in which the WACCs will apply;
 - 12.3 context in which the WACCs will be used (67th percentile WACC estimates are used for the purposes of price-quality paths, while a mid-point and range is determined for information disclosure);
 - 12.4 assessed risk of the various regulated services (electricity distribution businesses (EDBs) and Transpower have an asset beta of 0.34, GPBs have an asset beta of 0.44, and Airports have an asset beta of 0.60); and
 - 12.5 value of leverage for airports (17%) and for EDBs, GPBs, and Transpower (44%).

WACC for Transpower information disclosure year 2016

13. Under clause 2.4.1 of the Transpower IM Determination, we have determined the following vanilla and post-tax WACCs for information disclosure year 2016.
 - 13.1 A mid-point estimate of vanilla WACC of 5.95% for the five year period commencing on the first day of disclosure year 2016 (ie, 1 July 2015). Under clause 2.4.7, we have also determined a vanilla WACC range from 5.23% to 6.66%, where the endpoints are the 25th and 75th percentile estimates respectively. We have also determined a 67th percentile estimate of vanilla WACC of 6.41% under clause 2.4.7.
 - 13.2 A mid-point estimate of post-tax WACC of 5.32% for the five year period commencing on the first day of disclosure year 2016 (ie, 1 July 2015). Under clause 2.4.7, we have also determined a post-tax WACC range from 4.60% to 6.03%, where the endpoints are the 25th and 75th percentile estimates respectively. We have also determined a 67th percentile estimate of post-tax WACC of 5.78% under clause 2.4.7.

Parameters used to estimate the WACC for Transpower

14. The above estimates of vanilla and post-tax WACC reflect the parameters specified in the Transpower IM Determination. The risk-free rate and debt premium are also estimated in accordance with the Transpower IM Determination.

Summary of parameters

15. The parameters used to estimate the vanilla and post-tax WACCs for Transpower information disclosure year 2016 are summarised in Table 2 below.

Table 2: Parameters used to calculate WACC for Transpower 2016 disclosure year

| Parameter | 5 year estimate |
|---|------------------------|
| Risk-free rate | 3.23% |
| Debt premium | 1.53% |
| Leverage | 44% |
| Equity beta | 0.61 |
| 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 | 5.11% |
| Cost of equity | 6.60% |
| Standard error of debt premium | 0.0015 |
| Standard error of WACC | 0.011 |
| Mid-point vanilla WACC | 5.95% |
| Mid-point post-tax WACC | 5.32% |

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. The mid-point post-tax WACC is calculated as the cost of debt \times (1 - corporate tax rate) \times leverage + cost of equity \times (1 - 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 June 2015 in respect of the 15 April 2020 and 15 May 2021 maturity bonds. The April 2020 and May 2021 maturity bonds have simple average annualised bid yields to maturity of 3.22% and 3.29% respectively.

17. 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 3.23% interest rate on a New Zealand Government bond with a five year term to maturity as at 1 July 2015.

Tax rates

18. 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

19. The standard error of the WACC is determined in accordance with the formula in the Transpower IM Determination, and is shown to three decimal places only in the table above.

Debt premium

20. The methodology for determining the debt premium is set out in clause 2.4.4 of the Transpower IM Determination.
21. 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:
- 21.1 is issued by an EDB or a GPB that is neither majority owned by the Crown nor a local authority;
 - 21.2 is publicly traded;
 - 21.3 has a qualifying rating of grade BBB+; and
 - 21.4 has a remaining term to maturity of five years.
22. In estimating the debt premium, clause 2.4.4(4) of the Transpower IM Determination provides that the Commission will have regard to:
- 22.1 bonds issued by an EDB or a GPB (that is neither majority owned by the Crown nor a local authority) with a rating of BBB+;
 - 22.2 bonds issued by another entity (that is neither majority owned by the Crown nor a local authority) with a rating of BBB+;
 - 22.3 bonds issued by an EDB or a GPB (that is neither majority owned by the Crown nor a local authority) with a rating other than BBB+;
 - 22.4 bonds issued by another entity (that is neither majority owned by the Crown nor a local authority) with a rating other than BBB+; and
 - 22.5 bonds that are investment grade credit rated and issued by an entity that is majority owned by the Crown or a local authority.

23. 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).
24. Table 3 below shows the debt premium we have determined as at 1 July 2015. This table includes a summary of information on the investment grade rated bonds we considered in determining the debt premium.
25. A spreadsheet showing the calculations for the debt premium (and the risk-free rate) is published on our website.⁸

Table 3: Five year debt premium on an EDB/GPB-issued bond rated BBB+⁹

| | Industry | Rating | Remaining term to maturity | Debt premium | Comment | | |
|--------------------------------|----------------|-----------|----------------------------|--------------|---|--------------|--|
| Determined debt premium | EDB/GPB | BBB+ | 5.0 | 1.53 | 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+ | 5.0 | 1.53 | Credit rating and term are an exact match |
| 4(c) | - | - | - | - | - | - | No data on applicable bonds |
| 4(d) | Spark | 2 | Other | A- | 5.0 | 1.07 | BBB+ debt premium would be higher |
| | AIAL | 3 | Other | A- | 5.0 | 1.00 | BBB+ debt premium would be higher |
| | Contact | 4 | Other | BBB | 4.9 | 1.60 | BBB+ debt premium would be lower 5 year debt premium would be slightly higher |
| | Fonterra | 5 | Other | A | 5.0 | 0.98 | BBB+ debt premium would be significantly higher |
| 4(e) | Meridian | 6 | Other | BBB+ | 1.7 | 0.94 | |
| | Genesis Energy | 7 | Other | BBB+ | 5.0 | 1.47 | |
| | MRP | 8 | Other | BBB+ | 5.0 | 1.47 | |
| | CIAL | 9 | Other | BBB+ | 5.0 | 1.39 | |
| | Transpower | 10 | Other | AA- | 5.0 | 0.91 | |

Notes on bonds analysed:

- 1 WIAL 5.27% bond maturing 11/06/2020; 6.25% bond maturing 15/05/2021.
- 2 Spark 5.25% bond maturing 25/10/2019; 4.5% bond maturing 25/03/2022.
- 3 AIAL 4.73% bond maturing 13/12/2019; 5.52% bond maturing 28/05/2021.
- 4 Contact Energy 5.277% bond maturing 27/05/2020.
- 5 Fonterra 5.52% bond maturing 25/02/2020; 4.33% bond maturing 20/10/2021.
- 6 Meridian 7.55% bond maturing 16/03/2017.
- 7 Genesis Energy 8.3% bond maturing 23/06/2020; 5.81% bond maturing 8/03/2023.
- 8 MRP 8.21% bond maturing 11/02/2020; 5.793% bond maturing 6/03/2023.
- 9 CIAL 5.15% bond maturing 6/12/2019; 6.25% bond maturing 4/10/2021.
- 10 Transpower 6.95% bond maturing 10/06/2020; 4.3% bond maturing 30/06/2022.

⁸ See www.comcom.govt.nz/cost-of-capital

⁹ The five-year debt premiums on the WIAL, Spark, AIAL, Fonterra, Genesis Energy, MRP, CIAL, and Transpower bonds are calculated by linear interpolation with respect to maturity.

26. Consistent with clauses 2.4.4(4) and 2.4.4(5)(a) of the Transpower IM Determination, greatest regard has been given to the interpolated debt premium on Wellington International Airport Limited's (WIAL's) bonds. These bonds are publicly traded, and are issued by an entity other than an EDB/GPB with a rating of BBB+.
27. As at 1 July 2015, the interpolated five year debt premium on the WIAL bonds is estimated at 1.53%. Given that the credit rating and remaining term to maturity match the requirements in clause 2.4.4(3)(d), we consider 1.53% to be the appropriate starting point when estimating the debt premium (noting that WIAL is not an EDB/GPB).
28. We have also had regard to the estimated debt premium on bonds from a range of other issuers including Spark (1.07%, 5 years, rated A-), AIAL (1.00%, 5 years, rated A-), Contact Energy (1.60%, 4.9 years, rated BBB), and Fonterra (0.98%, 5 years, rated A). Consistent with clause 2.4.4(5)(a) these debt premiums were given less weight as the issuers are not EDBs or GPBs, and the debt issues had different credit ratings than the BBB+ rating specified in clause 2.4.4(3)(d).¹⁰ Taking into account the likely impact of differences in credit rating and term to maturity, we consider that these debt premiums are generally consistent with an estimate of 1.53% for a BBB+ rated bond with a five year term to maturity.
29. The estimated debt premium on the Meridian bond (0.94%, 1.7 years, rated BBB+), the Genesis Energy bonds (1.47%, 5 years, rated BBB+), the Mighty River Power (MRP) bonds (1.47%, 5 years, rated BBB+), the CIAL bonds (1.39%, 5 years, rated BBB+), and Transpower bonds (0.91%, 5 years, rated AA-) were given less 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 1.47%.
30. Starting with the estimated debt premium on the WIAL bonds, 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 1.53% as at 1 July 2015.

¹⁰ 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 Transpower IM Determination).

WACC for GPB information disclosure year 2016

31. Under clause 2.4.1 of both the GDS and GTS IM Determinations, we have determined the following vanilla and post-tax WACCs for information disclosure year 2016.

31.1 A mid-point estimate of vanilla WACC of 6.65% for the five year period commencing on the first day of disclosure year 2016 (ie, 1 July 2015). Under clause 2.4.7, we have also determined a vanilla WACC range from 5.84% to 7.46%, where the endpoints are the 25th and 75th percentile estimates respectively.

31.2 A mid-point estimate of post-tax WACC of 6.02% for the five year period commencing on the first day of disclosure year 2016 (ie, 1 July 2015). Under clause 2.4.7, we have also determined a post-tax WACC range from 5.21% to 6.83%, where the endpoints are the 25th and 75th percentile estimates respectively.

Parameters used to estimate the WACC for GPBs

32. The above estimates of vanilla and post-tax WACC reflect the parameters specified in the GDS and GTS IM Determinations. The risk-free rate and debt premium are also estimated in accordance with the GDS and GTS IM Determinations.

Summary of parameters

33. The parameters used to estimate the vanilla and post-tax WACCs for information disclosure year 2016 for GPBs with a June year-end are summarised in Table 4 below.

Table 4: Parameters used to calculate WACC for GPB 2016 disclosure year

| Parameter | 5 year estimate |
|---|------------------------|
| Risk-free rate | 3.23% |
| Debt premium | 1.53% |
| 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 | 5.11% |
| Cost of equity | 7.86% |
| Standard error of debt premium | 0.0015 |
| Standard error of WACC | 0.012 |
| Mid-point vanilla WACC | 6.65% |
| Mid-point post-tax WACC | 6.02% |

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 × (1 - investor tax rate) + the equity beta × the tax adjustment market risk premium. The mid-point vanilla WACC is calculated as the cost of equity × (1 - leverage) + the cost of debt × leverage. The mid-point post-tax WACC is calculated as the cost of debt × (1 – corporate tax rate) × leverage + cost of equity × (1 - leverage).

Risk-free rate

34. 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 June 2015 in respect of the 15 April 2020 and 15 May 2021 maturity bonds. The April 2020 and May 2021 maturity bonds have simple average annualised bid yields to maturity of 3.22% and 3.29% respectively.

35. 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 3.23% interest rate on a New Zealand Government bond with a five year term to maturity as at 1 July 2015.

Tax rates

36. 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

37. The standard error of the WACC is determined in accordance with the formula in the GDS and GTS IM Determinations, and is shown to three decimal places only in the table above.

Debt premium

38. The methodology for determining the debt premium is set out in clause 2.4.4 of the GDS and GTS IM Determinations.
39. 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:
- 39.1 is issued by a GPB or an EDB that is neither majority owned by the Crown nor a local authority;
 - 39.2 is publicly traded;
 - 39.3 has a qualifying rating of grade BBB+; and
 - 39.4 has a remaining term to maturity of five years.
40. In estimating the debt premium, clause 2.4.4(4) of the GDS and GTS IM Determinations provides that the Commission will have regard to:
- 40.1 bonds issued by a GPB or an EDB (that is neither majority owned by the Crown nor a local authority) with a rating of BBB+;
 - 40.2 bonds issued by another entity (that is neither majority owned by the Crown nor a local authority) with a rating of BBB+;
 - 40.3 bonds issued by a GPB or an EDB (that is neither majority owned by the Crown nor a local authority) with a rating other than BBB+;
 - 40.4 bonds issued by another entity (that is neither majority owned by the Crown nor a local authority) with a rating other than BBB+; and
 - 40.5 bonds that are investment grade credit rated and issued by an entity that is majority owned by the Crown or a local authority.

41. 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).
42. Table 5 below shows the debt premium we have determined as at 1 July 2015. This table includes a summary of information on the investment grade rated bonds we considered in determining the debt premium.
43. A spreadsheet showing the calculations for the debt premium (and the risk-free rate) is published on our website.¹¹

Table 5: Five year debt premium on an EDB/GPB-issued bond rated BBB+¹²

| | Industry | Rating | Remaining term to maturity | Debt premium | Comment | | |
|--------------------------------|----------------|-----------|----------------------------|--------------|---|--------------|--|
| Determined debt premium | EDB/GPB | BBB+ | 5.0 | 1.53 | 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+ | 5.0 | 1.53 | Credit rating and term are an exact match |
| 4(c) | - | - | - | - | - | - | No data on applicable bonds |
| 4(d) | Spark | 2 | Other | A- | 5.0 | 1.07 | BBB+ debt premium would be higher |
| | AIAL | 3 | Other | A- | 5.0 | 1.00 | BBB+ debt premium would be higher |
| | Contact | 4 | Other | BBB | 4.9 | 1.60 | BBB+ debt premium would be lower 5 year debt premium would be slightly higher |
| | Fonterra | 5 | Other | A | 5.0 | 0.98 | BBB+ debt premium would be significantly higher |
| 4(e) | Meridian | 6 | Other | BBB+ | 1.7 | 0.94 | |
| | Genesis Energy | 7 | Other | BBB+ | 5.0 | 1.47 | |
| | MRP | 8 | Other | BBB+ | 5.0 | 1.47 | |
| | CIAL | 9 | Other | BBB+ | 5.0 | 1.39 | |
| | Transpower | 10 | Other | AA- | 5.0 | 0.91 | |

Notes on bonds analysed:

- 1 WIAL 5.27% bond maturing 11/06/2020; 6.25% bond maturing 15/05/2021.
- 2 Spark 5.25% bond maturing 25/10/2019; 4.5% bond maturing 25/03/2022.
- 3 AIAL 4.73% bond maturing 13/12/2019; 5.52% bond maturing 28/05/2021.
- 4 Contact Energy 5.277% bond maturing 27/05/2020.
- 5 Fonterra 5.52% bond maturing 25/02/2020; 4.33% bond maturing 20/10/2021.
- 6 Meridian 7.55% bond maturing 16/03/2017.
- 7 Genesis Energy 8.3% bond maturing 23/06/2020; 5.81% bond maturing 8/03/2023.
- 8 MRP 8.21% bond maturing 11/02/2020; 5.793% bond maturing 6/03/2023.
- 9 CIAL 5.15% bond maturing 6/12/2019; 6.25% bond maturing 4/10/2021.
- 10 Transpower 6.95% bond maturing 10/06/2020; 4.3% bond maturing 30/06/2022.

¹¹ See www.comcom.govt.nz/cost-of-capital

¹² The five-year debt premiums on the WIAL, Spark, AIAL, Fonterra, Genesis Energy, MRP, CIAL, and Transpower bonds are calculated by linear interpolation with respect to maturity.

44. Consistent with clauses 2.4.4(4) and 2.4.4(5)(a) of the GDS and GTS IM Determinations, greatest regard has been given to the interpolated debt premium on WIAL's bonds. These bonds are publicly traded, and are issued by an entity other than an EDB/GPB with a rating of BBB+.
45. As at 1 July 2015, the interpolated five year debt premium on the WIAL bonds is estimated at 1.53%. Given that the credit rating and remaining term to maturity match the requirements in clause 2.4.4(3)(d), we consider 1.53% to be the appropriate starting point when estimating the debt premium (noting that WIAL is not an EDB/GPB).
46. We have also had regard to the estimated debt premium on bonds from a range of other issuers including Spark (1.07%, 5 years, rated A-), AIAL (1.00%, 5 years, rated A-), Contact Energy (1.60%, 4.9 years, rated BBB), and Fonterra (0.98%, 5 years, rated A). Consistent with clause 2.4.4(5)(a) these debt premiums were given less weight as the issuers are not EDBs or GPBs, and the debt issues had different credit ratings than the BBB+ rating specified in clause 2.4.4(3)(d).¹³ Taking into account the likely impact of differences in credit rating and term to maturity, we consider that these debt premiums are generally consistent with an estimate of 1.53% for a BBB+ rated bond with a five year term to maturity.
47. The estimated debt premium on the Meridian bond (0.94%, 1.7 years, rated BBB+), the Genesis Energy bonds (1.47%, 5 years, rated BBB+), the MRP bonds (1.47%, 5 years, rated BBB+), the CIAL bonds (1.39%, 5 years, rated BBB+), and Transpower bonds (0.91%, 5 years, rated AA-) were given less 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 1.47%.
48. Starting with the estimated debt premium on the WIAL bonds, 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 1.53% as at 1 July 2015.

¹³ Telstra is not included in category 4(d) of Table 5 because it is not a New Zealand resident limited liability company (as required by the definition of "qualifying issuer" in the GDS and GTS IM Determinations).

WACC for AIAL and CIAL information disclosure year 2016

49. Under clause 5.1 of the Airports IM Determination, we have determined the following vanilla and post-tax WACCs for information disclosure year 2016.
- 49.1 A mid-point estimate of vanilla WACC of 6.90% for the five year period commencing on the first day of disclosure year 2016 (ie, 1 July 2015). Under clause 5.7, we have also determined a vanilla WACC range from 5.91% to 7.88%, where the endpoints are the 25th and 75th percentile estimates respectively.
- 49.2 A mid-point estimate of post-tax WACC of 6.68% for the five year period commencing on the first day of disclosure year 2016 (ie, 1 July 2015). Under clause 5.7, we have also determined a post-tax WACC range from 5.69% to 7.66%, where the endpoints are the 25th and 75th percentile estimates respectively.

Parameters used to estimate the WACC for AIAL and CIAL

50. The above estimates of vanilla and post-tax WACC reflect the parameters specified in the Airports IM Determination. The risk-free rate and debt premium are also estimated in accordance with the Airports IM Determination.

Summary of parameters

51. The parameters used to estimate the vanilla and post-tax WACCs for AIAL and CIAL information disclosure year 2015 are summarised in Table 6 below.

Table 6: Parameters used to calculate WACC for AIAL and CIAL 2016 disclosure year

| Parameter | 5 year estimate |
|---|------------------------|
| Risk-free rate | 3.23% |
| Debt premium | 1.00% |
| Leverage | 17% |
| Equity beta | 0.72 |
| 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 | 4.58% |
| Cost of equity | 7.37% |
| Standard error of debt premium | 0.0015 |
| Standard error of WACC | 0.015 |
| Mid-point vanilla WACC | 6.90% |
| Mid-point post-tax WACC | 6.68% |

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. The mid-point post-tax WACC is calculated as the cost of debt \times (1 - corporate tax rate) \times leverage + cost of equity \times (1 - leverage).

Risk-free rate

52. 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 June 2015 in respect of the 15 April 2020 and 15 May 2021 maturity bonds. The April 2020 and May 2021 maturity bonds have simple average annualised bid yields to maturity of 3.22% and 3.29% respectively.

53. 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 3.23% interest rate on a New Zealand Government bond with a five year term to maturity as at 1 July 2015.

Tax rates

54. 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

55. The standard error of the WACC is determined in accordance with the formula in the Airports IM Determination, and is shown to three decimal places only in the table above.

Debt premium

56. The methodology for determining the debt premium is set out in clause 5.4 of the Airports IM Determination.
57. Clause 5.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ\$ denominated bond that:
- 57.1 is issued by an airport that is neither majority owned by the Crown nor a local authority;
 - 57.2 is publicly traded;
 - 57.3 has a qualifying rating of grade A-; and
 - 57.4 has a remaining term to maturity of five years.
58. In estimating the debt premium, clause 5.4(4) of the Airports IM Determination provides that the Commission will have regard to:
- 58.1 bonds issued by an airport (that is neither majority owned by the Crown nor a local authority) with a rating of A-;
 - 58.2 bonds issued by another entity (that is neither majority owned by the Crown nor a local authority) with a rating of A-;
 - 58.3 bonds issued by an airport (that is neither majority owned by the Crown nor a local authority) with a rating other than A-;
 - 58.4 bonds issued by another entity (that is neither majority owned by the Crown nor a local authority) with a rating other than A-; and
 - 58.5 bonds that are investment grade credit rated and issued by an entity that is majority owned by the Crown or a local authority.

59. Clause 5.4(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 5.4(4)(a) to (e).
60. Table 7 below shows the debt premium we determined as at 1 July 2015. This table includes a summary of information on the investment grade rated bonds we considered in determining the debt premium.
61. A spreadsheet showing the calculations for the debt premium (and the risk-free rate) is published on our website.¹⁴

Table 7: Five year debt premium on an Airport-issued bond rated A-¹⁵

| | Industry | Rating | Remaining term to Maturity | Debt premium | Comment |
|--------------------------------|----------|--------|----------------------------|--------------|--|
| Determined debt premium | Airport | A- | 5.0 | 1.00 | AIAL is an exact match. Regard to results of 4(b), 4(c), 4(d) and 4(e). |

| Subclause | Issuer | Note ref. | Industry | Rating | Remaining term to Maturity | Debt premium | Comment |
|-----------|----------------|-----------|----------|--------|----------------------------|--------------|--|
| 4(a) | AIAL | 1 | Airport | A- | 5.0 | 1.00 | Linearly interpolated debt premium for AIAL is an exact match |
| 4(b) | Spark | 2 | Other | A- | 5.0 | 1.07 | See paragraph 64 |
| 4(c) | WIAL | 3 | Airport | BBB+ | 5.0 | 1.53 | A- debt premium would be lower |
| 4(d) | Contact | 4 | Other | BBB | 4.9 | 1.60 | A- debt premium would be significantly lower 5 year debt premium would be slightly higher |
| | Fonterra | 5 | Other | A | 5.0 | 0.98 | A- debt premium would be higher |
| 4(e) | Meridian | 6 | Other | BBB+ | 1.7 | 0.94 | |
| | Genesis Energy | 7 | Other | BBB+ | 5.0 | 1.47 | |
| | MRP | 8 | Other | BBB+ | 5.0 | 1.47 | |
| | CIAL | 9 | Airport | BBB+ | 5.0 | 1.39 | |
| | Transpower | 10 | Other | AA- | 5.0 | 0.91 | |

Notes on bonds analysed:

- 1 AIAL 4.73% bond maturing 13/12/2019; 5.52% bond maturing 28/05/2021.
- 2 Spark 5.25% bond maturing 25/10/2019; 4.5% bond maturing 25/03/2022.
- 3 WIAL 5.27% bond maturing 11/06/2020; 6.25% bond maturing 15/05/2021.
- 4 Contact Energy 5.277% bond maturing 27/05/2020.
- 5 Fonterra 5.52% bond maturing 25/02/2020; 4.33% bond maturing 20/10/2021.
- 6 Meridian 7.55% bond maturing 16/03/2017.
- 7 Genesis Energy 8.3% bond maturing 23/06/2020; 5.81% bond maturing 8/03/2023.
- 8 MRP 8.21% bond maturing 11/02/2020; 5.793% bond maturing 6/03/2023.
- 9 CIAL 5.15% bond maturing 6/12/2019; 6.25% bond maturing 4/10/2021.
- 10 Transpower 6.95% bond maturing 10/06/2020; 4.3% bond maturing 30/06/2022.

62. Consistent with clauses 5.4(4) and 5.4(5)(a) of the Airports IM Determination, greatest regard has been given to the estimated debt premium on AIAL's bonds. These bonds are issued by an airport, are publicly traded, are rated A- and have a

¹⁴ See www.comcom.govt.nz/cost-of-capital

¹⁵ The five-year debt premiums on the AIAL, Spark, WIAL, Fonterra, Genesis Energy, MRP, CIAL, and Transpower bonds are calculated by linear interpolation with respect to maturity.

debt premium of 1.00% when linearly interpolated to give a remaining term to maturity of five years.

63. We have also had regard to the estimated debt premiums on bonds from a range of other issuers, but none of these match the requirements in clause 5.4(3)(d) as well as the AIAL bonds. The estimated debt premiums from these other bonds are, in general, not inconsistent with the debt premium on the AIAL bonds when consideration is given to different credit ratings and terms to maturity.
64. The yield on the Spark bonds (rated A- with a 5 year term to maturity) is slightly higher than the yield on the AIAL bonds. However, the AIAL result exactly matches the requirements in clause 5.4(3)(d) and the Spark bonds does not. Therefore, we have determined the debt premium on airport-issued bonds rated A- with a remaining term to maturity of five years to be 1.00% as at 1 July 2015.