Market Evidence on the Cost of Equity

Victorian Gas Access Arrangement Review 2013-2017

8 November 2012

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Enclosed is my expert report on the cost of equity in relation to the Australian Energy Regulator's review of each of Envestra's, Multinet's and SP AusNet's Access Arrangements for their respective gas distribution networks in Victoria, for Envestra's Access Arrangement for its Albury Distribution Network and for the APA Group's Access Arrangements for GasNet. My report has been prepared in accordance with the Federal Court of Australia expert witness guidelines.

Our engagement was performed in accordance with our engagement letter dated 5 November 2012, and our procedures were limited to those described in that letter.

As outlined in our engagement letter, our report is based on information and instructions provided by your engaging solicitor, Johnson, Winter & Slattery. Unless otherwise noted, we have not conducted an audit or other verification of any information we reviewed. We have assumed that the information we relied upon is accurately stated.

Neither my report nor any part of it may be published or distributed other than for the specified purpose without obtaining the written consent of Ernst & Young, unless disclosed in accordance with any law or by order of a Court of competent jurisdiction or as reasonably required for the purpose of the proceedings.

Yours sincerely

Craig Mickle
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Attachment
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This report was prepared at the request of Envestra Limited, Multinet Gas Pty Ltd and SPI Networks (Gas) Pty Ltd and the APA GasNet (Operations) Australia Pty Ltd (the client) solely for the purpose of providing advice to the client on aspect of estimating the cost of equity in the context of the Australian Energy Regulator's Draft Decisions for the Gas Businesses. In carrying out our work and preparing this report, we have worked on the instructions of the Johnson Winter & Slattery acting on behalf of the client only and we have not taken into account the interests of any other parties. Ernst & Young does not extend any duty of care in respect of this report to anyone other than the client.

The services provided by Ernst & Young do not constitute an audit in accordance with generally accepted auditing standards, or a review, examination or other assurance engagement in accordance with auditing and assurance standards issued by the Australian Auditing and Assurance Standards Board. Accordingly, we do not provide an opinion or any other form of assurance under audit or assurance standards.

Except to the extent that we have agreed to perform the specified scope of work, we have not verified the accuracy, reliability or completeness of the information we accessed, or have been provided with by the client, in preparing this report.

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A Introduction

Background

1. I am a Partner of Ernst & Young. My curriculum vitae is at Appendix E.

2. I do not provide independent expert valuation services as part my role. A subsidiary of my firm has a relevant financial services licence and provides valuation services, and acts as an independent expert. I have not been involved in any capacity in the independent expert reports produced. I regularly undertake work, however, that relates to the value the market might assign to particular assets, including advising on infrastructure asset transactions.

3. I have prepared this report to address the question as to the cost of equity to be used in determining prices for services provided by the Victorian gas distribution networks owned and operated by Envestra, Multinet, SP AusNet, the distribution network owned and operated by Envestra in Albury, and the Victorian gas transmission network owned and operated by the APA GasNet (the Gas Businesses).

4. I have been instructed by Johnson Winter & Slattery, who are acting as legal advisers to Envestra, Multinet and SP AusNet.

5. I have been instructed that the following is the relevant background to this matter.

   a. In accordance with the National Gas Law (NGL) and the National Gas Rules (NGR), each Gas Business has submitted proposed revisions to the Access Arrangement (Access Arrangement Revisions Proposal) for its gas distribution or transmission network as the case may be, to the Australian Energy Regulator (AER) for approval. In each case, the Access Arrangement Revisions Proposal sets out matters required under the NGL and NGR which are relevant to the terms and conditions on which the Gas Business proposes to provide access to its network during the period 1 January 2013 to 31 December 2017.

   b. Each of the Gas Businesses included in its Access Arrangement Revisions Proposal, a proposed rate of return estimated using the parameter values set out in Table 1.

Table 1: Initial rates of return proposed by the Gas Businesses

Parameter	Envestra	Multinet	SP Ausnet	GasNet
Nominal risk free rate				
- Cost of equity estimation	5.99%	5.99%	5.99%	3.99%
- Cost of debt estimation	3.99%	3.99%	3.99%	3.99%
Inflation	2.5%	2.5%	2.5%	2.5%
Equity beta	0.8	0.8	0.8	0.8
Market risk premium	6.0%	6.0%	6.0%	8.5%
Debt risk premium	3.92%	3.92%	3.92%	3.92%
Gearing	60.0%	60.0%	60.0%	60.0%
Rate of return proposal				
Nominal post-tax cost of equity	10.80%	10.80%	10.80%	10.79%
Nominal pre-tax cost of debt	7.91%	7.91%	7.91%	7.91%
Nominal vanilla WACC	9.06%	9.06%	9.06%	9.06%

   c. The AER has issued a draft decision on each Gas Businesses' Access Arrangement Revisions Proposal. The AER's draft decisions (Draft Decisions) are:

   - Access Arrangement draft decision Envestra Ltd 2013-17, September 2012;
   - Access arrangement draft decision Multinet Gas (DB No. 1) Pty Ltd, Multinet Gas (DB No. 2) Pty Ltd 2013–17, September 2012;

- Access Arrangement draft decision SPI Networks (Gas) Pty Ltd 2013-17, September 2012; and
- Access Arrangement draft decision APA GasNet (Operations) Australia Pty Ltd 2013-2017, September 2012.

d. In each draft decision, the AER advised that it would not approve the Access Arrangement Revisions Proposal.

e. For the Access Arrangement Revisions Proposals to be accepted, the AER has required (among other things) amendments to the rate of return proposals. The required amendments to those proposals are shown in Table 2.

Table 2: AER required amendments to the Gas Businesses' rate of return proposals

Parameter	Envestra	Multinet	SP Ausnet	GasNet
Nominal risk free rate				
- Cost of equity estimation	2.98%	2.98%	2.98%	2.98%
- Cost of debt estimation	2.98%	2.98%	2.98%	2.98%
Inflation	2.5%	2.5%	2.5%	2.5%
Equity beta	0.8	0.8	0.8	0.8
Market risk premium	6.0%	6.0%	6.0%	6.0%
Debt risk premium	3.76%	3.76%	3.76%	3.76%
Gearing	60.0%	60.0%	60.0%	60.0%
Rate of return proposal				
Nominal post-tax cost of equity	7.78%	7.78%	7.78%	7.78%
Nominal pre-tax cost of debt	6.74%	6.74%	6.74%	6.74%
Nominal vanilla WACC	7.16%	7.16%	7.16%	7.16%
Implied market cost of equity				
Risk free rate	2.98%	2.98%	2.98%	2.98%
Market risk premium	6.0%	6.0%	6.0%	6.0%
Market cost of equity	8.98%	8.98%	8.98%	8.98%

f. The Gas Businesses disagree with the AER's assessment of the nominal post-tax cost of equity. The principal issue in dispute is whether the cost of equity assessed by the AER is commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services.

g. The Gas Businesses have proposed the following rates of return in response to the AER's Draft Decisions.

Table 3: Rates of returns proposed by the Gas Businesses in response to the AER's Draft Decisions

Parameter	Envestra	Multinet	SP Ausnet	GasNet
Nominal risk free rate				
- Cost of equity estimation	5.00%	5.00%	5.00%	3.22%
- Cost of debt estimation	2.98%	2.98%	2.98%	3.22%
Inflation	2.5%	2.5%	2.5%	2.5%
Equity beta	0.8	0.8	0.8	0.8
Market risk premium	6.0%	6.0%	6.0%	8.72%
Debt risk premium	3.76%	3.76%	3.76%	3.46%
Gearing	60.0%	60.0%	60.0%	60.0%
Rate of return proposal				
Nominal post-tax cost of equity	9.80%	9.80%	9.80%	10.20%
Nominal pre-tax cost of debt	6.74%	6.74%	6.74%	6.68%
Nominal vanilla WACC	7.96%	7.96%	7.96%	8.09%
Implied market cost of equity				
Risk free rate	5.00%	5.00%	5.00%	3.22%
Market risk premium	6.0%	6.0%	6.0%	8.72%
Market cost of equity	11.0%	11.0%	11.0%	11.94%

The assignment

6. I have been instructed to prepare an expert report which contains:

   a. my opinion on the best market evidence available to assess the prevailing cost of equity in the market for funds in Australia; and

   b. an analysis of the available evidence including my opinion of the estimated prevailing cost of equity that can be drawn from that evidence.

7. Based on the analysis above, I am required to provide my opinion as to whether:

   a. the cost of equity estimated by the AER in the Draft Decisions, meets the requirement of Rule 87(1) of the National Gas Rules that it be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services; and

   b. the cost of equity proposed by the Gas Businesses in response to the AER's Draft Decisions meets the requirement of Rule 87(1) of the National Gas Rules that it be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services.

Information

8. In the preparation of this report I have relied on, reviewed or made reference to the documents listed in appendices A and B. I have not conducted an audit or other verification of any of the information in these documents. I have assumed that the information provided in those documents is accurately stated.

9. I have not had any communications with the independent experts who have produced the expert reports referred to in this statement about the content of their reports.

10. I do not warrant the accuracy or reliability of any of the information supplied to me or obtained by me.

11. The opinions set out in this report may alter if there is any change in the information supplied to me or obtained by me.

Reliance on this report

12. This report has been prepared, and may be relied on, solely for the purposes specified in paragraphs 6 and 7. Neither Ernst & Young nor I accept responsibility to anyone other than the Gas Businesses, or to the Gas Businesses, if they use the report for some other purpose.

13. Neither this report nor any part of it may be published or distributed other than for the specified purposes without obtaining the written consent of Ernst & Young.

Assistance by colleagues

14. In order to arrive at my opinions in this matter, I have selected colleagues to assist me. My colleagues carried out the work that I decided they should perform. I have reviewed their work and original documents to the extent I considered necessary to form my opinions. The opinions expressed in this report are mine.

Fees for this assignment

15. The fees received or receivable in relation to this assignment are based upon agreed hourly rates for time incurred.

Conduct of this assignment

16. In accordance with Federal Court Practice Note CM7, *Expert Witnesses in Proceedings in the Federal Court of Australia*, I state that I have made all the inquiries which I believe are desirable and appropriate; and that no matters of significance that I regard as relevant to my opinion have, to my knowledge, been withheld.

17. I understand that my report is to be prepared in respect of the Draft Decisions. I acknowledge that the report will be provided to the AER by the Gas Businesses in their respective responses to the Draft Decisions.

Structure of report

18. In Section B, I set out a summary of my opinions.

19. In Section C, I set out the bases for my opinions. This includes information on:

    a. the details of the approach that I have adopted to conduct the analysis of independent expert valuation reports;

    b. my observations on the data which underpin my analysis; and

    c. the results of my analysis of the data.

20. The report contains the following appendices:

    a. Appendix A Data source and sample selection

    b. Appendix B Reports analysed for cost of equity

    c. Appendix C Inferring the market cost of equity

    d. Appendix D How independent experts apply the CAPM

    e. Appendix E My curriculum vitae

    f. Appendix F My instructions

Abbreviations

In this report, I use the following abbreviations:

AER	Australian Energy Regulator
APA Group	APA GasNet (Operations) Australia Pty Ltd
ASIC	Australian Securities Investment Commission
ASX	Australian Securities Exchange
CAPM	Capital Asset Pricing Model
Gas Business	Each of Envestra, Multinet, SP Ausnet and GasNet
Gas Businesses	Envestra, Multinet, SP Ausnet and GasNet jointly
Envestra	Envestra Limited
HDUF	Hastings Diversified Utilities Fund
Multinet	Multinet Gas Pty Ltd (DB No. 1) and Multinet Gas (DB No. 2) Pty Ltd
NGL	National Gas Law
NGR	National Gas Rules
SP Ausnet	SPI Networks (Gas) Pty Ltd
WACC	Weighted Average Cost of Capital

B Summary of my opinion

21. In this section I summarise the opinions expressed elsewhere in this report, and the reasons for them. This summary should be read in conjunction with the full report.

22. To assess the prevailing cost of equity in the Australian market for funds I have undertaken a review and analysis of independent expert reports.

23. In my opinion these reports provide the best market evidence publicly available to assess the prevailing cost of equity in the Australian market for funds for the reasons outlined in paragraphs 36 to 51. In particular, this includes:

    a. the requirements for them to be prepared by experts in their field;

    b. the requirements for these experts to be transparent on the material assumptions underpinning their valuations; and

    c. that the report findings support numerous successful transactions.

24. The data which underpins my review covers 889 independent expert reports dated between 1 January 2008 and 10 October 2012 and published in the CONNECT 4 Expert Reports database. This timeframe was selected to provide a longer term perspective of how experts estimate the cost of equity and to capture any trends in the way independent experts estimate the cost of equity. Of the 889 independent expert reports, 132 reports qualified for more detailed analysis to assess how the forward-looking cost of equity is estimated and applied to derive the discounted value of the expected future cash flows.

25. Seventeen (17) of the 132 independent experts were issued in 2012 and these reports were further analysed in forming my view on the cost of equity that is expected to prevail over the period of the expected future cash flows given the market conditions at the time of the valuation. This is consistent with what the AER is obliged to reflect in its assessment of the cost of equity in the Draft Decisions (i.e. the prevailing cost of equity).

26. In assessing the prevailing cost of equity in the Australian market for funds, I have focussed on the market cost of equity (i.e. those components of the CAPM that are influenced by market-wide factors; namely, the risk free rate and market risk premium), as defined in paragraph 56.

27. The average implied market cost of equity based on the 17 reports issued in 2012 is 10.7%. This is 1.2 percentage points higher than the implied average market cost of equity of 9.5% which would result if the market cost of equity in each of these 17 reports were to be estimated by applying the methodology adopted by the AER and described in its Draft Decisions for the Gas Businesses. It is also 1.7 percentage points higher than the market cost of equity implied in the AER's Draft Decisions of 9.0%.

28. The 1.2 percentage point gap excludes the impact of the difference in the value assigned to imputation credits. Including the impact relating to imputation credits increases the gap by 1.0 percentage point, on average.

29. In my opinion, the difference in the prevailing market cost of equity implied by independent experts and the AER's implied market cost of equity[1] is therefore 2.2 percentage points, on average.

30. Based on the above results, in my opinion:

[1] As estimated based on the approach described in paragraph 63.b.

a. the cost of equity estimated by the AER in the Draft Decisions, does not meet the requirements of Rule 87(1) of the National Gas Rules that it be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services; and

b. the cost of equity proposed by the Gas Businesses in response to the AER's Draft Decisions meets the requirement of Rule 87(1) of the National Gas Rules that it be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services. This is because the costs of equity proposed by the Gas Businesses imply market costs of equity that are generally proximate with that observed from independent expert reports and are also within the range of values observed.[2]

[2] As set out in Appendix C.

C. Basis of my opinion

The cost of equity

31. Capital market practitioners, including those charged with preparing independent expert reports (independent experts) estimate the cost of equity for the purpose of valuing certain business and investment opportunities (transactions). The cost of equity is typically estimated and then blended with a cost of debt to establish a discount rate (often defined as a WACC) which is, in turn, used to discount future cash flows expected if a transaction were to proceed.[3] The discounted value of the future net cash flows, the present value of the transaction, is a measure of the market value of the business or asset. It may be compared with the present values of alternatives to the transaction, including the alternative of "doing nothing".

32. The cost of equity is the return that the market expects from an investment given the risks associated with it. The actual cost of equity may change during the period in which cash flows are expected to occur. However, most valuations typically apply a single discount rate which represents a best estimate (given the information available at the valuation date) of the forward-looking discount rate anticipated to prevail over the period of the expected cash flows.

33. The cost of equity is not directly observable, so it must be estimated or inferred from market data. Finance theory usually guides the process of estimation and the CAPM is often applied in this process.

34. The CAPM explains the expected rate of return on a financial asset as the sum of a risk free rate of return and a premium for risk:

    $k_e = r_f + \beta \text{ x } (r_m - r_f)$

    where:

    - k_e is the nominal post-tax expected cost or, rate of return on equity;
    - r_f is the nominal risk free rate of return. In Australia, it is generally measured based on the yield on the 10 year Commonwealth Government bond;
    - β (beta) is the contribution which the financial asset in question makes to the riskiness of an investor's portfolio;
    - r_m is the expected return on the market portfolio;[4] and
    - $(r_m - r_f)$ represents the excess return over the market portfolio. It is also commonly referred to as the market risk premium or MRP.

35. Independent experts widely use the CAPM to estimate the cost of equity. The AER also has applied the CAPM for this purpose in its Draft Decisions for the Gas Businesses.

Best market evidence available: independent expert reports

36. The Corporations Act and the ASX Listing Rules specify the circumstances where an expert report must be issued to those shareholders who are affected by certain types of transactions (e.g. takeover bids, mergers/schemes, related party transactions, buy-backs, acquisitions / divestments, and others). Even where there is no requirement for an expert report under the Corporations Act or the ASX Listing Rules, the directors of a company may still voluntarily commission an expert report to assist security holders in making informed decisions in relation to certain proposed transactions (e.g. as part of assessing a bid from a party which is associated but not considered a 'related party' due to not meeting certain shareholding thresholds).

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[3] The most commonly used WACC formulation is the after-tax nominal WACC which is calculated as the sum of [After-tax cost of Debt X Gearing] and [Cost of Equity X (1-Gearing)].

[4] As noted later in paragraph 56, the market cost of equity is the sum of risk free rate and market risk premium assuming a beta of 1.0.

37. Expert reports set out the expert's opinion on whether a proposed transaction is 'fair and reasonable' and / or 'in the best interests of' affected shareholders. These terms are not defined in the Corporations Act and the ASX Listing Rules, however, guidance on their meaning and the factors which an expert should consider in arriving at its opinion is provided by ASIC in Regulatory Guide 111, *Content of expert reports*. Regulatory Guide 112 provides guidance on the *Independence of experts.*[5]

38. An expert must consider the value of the benefit received versus value of the benefit provided to the counterparty in expressing an opinion on the fairness of the transaction. As such, the expert's report would generally (but not always) contain a valuation of the asset(s).

39. Most experts have regard to the results of more than one valuation methodology in arriving at their valuation of an asset. They typically consider the results from a primary valuation methodology against other valuation methodologies. The choice of valuation methodology to employ will depend upon the specific attributes of the asset as well as the availability of reliable information.

40. The cost of equity is typically estimated where a discounted cash flow method of valuation is employed by the expert to value the asset, either as the primary or secondary method of valuation. The expert may decide not to value an asset using a discounted cash flow methodology in instances where it is not possible to make reliable forecasts of the future net cash flows of the asset.

41. The independent expert reports are prepared by accredited independent experts, working within an explicit regime of regulation, comprising both formal statutory rules and less formal guidelines, which require that the experts be accountable for the results of their work.

42. The experts preparing independent expert reports which express an opinion as required by under the Corporations Act or ASX Listing Rules should be experts in their field. Section 9 of the Corporations Act defines an expert as *"a person whose profession or reputation gives authority to a statement made by him or her"*.[6] Independent experts are expected to state their qualifications and experience in the independent expert reports they prepare.

43. ASIC requires that experts who prepare an independent expert reports:

    a. cannot be associated with certain parties who have interests in the transaction for which the independent expert report is prepared;

    b. must disclose certain relevant interests and relationships when preparing reports required by the Corporations Act; and

    c. must hold an Australian financial services licence which imposes obligations to manage potential conflicts of interest.

44. In paragraph 111.128 of Regulatory Guide 111 ASIC advises that it will consider regulatory action if it considers there are material issues about the adequacy and completeness of an independent expert's analysis, or if it has concerns about the expert's independence. Regulatory action may include revocation or suspension of the independent expert's licence.

45. The assumptions and estimates made for the purpose of arriving at a cost of equity, and the reasons for using that cost, are usually explicitly documented in the independent expert report. ASIC's Regulatory Guide 111 recommends that an expert:

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[5] ASIC, Regulatory Guide 111: Content of expert reports, March 2011 and ASIC, Regulatory Guide 112: Independence of experts, March 2011. These guidelines superseded versions dated October 2007 and included some revisions to provide additional guidance on various matters.

[6] Commonwealth Government, Corporations Act 2001

a. justify its choice of methodology or methodologies and describe the method or methods used in its report;[7] and

b. disclose all material assumptions on which its report is based.[8]

46. Independent expert reports blend financial theory with day-to-day experience in capital markets in applying the CAPM. For example, independent expert reports often use the CAPM to estimate the cost of equity, but typically:

a. exercise discretion in the application of the CAPM and the interpretation of data (e.g. they vary how they may derive parameter estimates) in recognition of the limitations of the model; and

b. assess the valuation results obtained from the application of the CAPM with the values obtained from using other methods (or vice versa, depending on the respective quality of the relevant information). These other methods typically include capitalising earnings or (near term) prospective earnings using observed trading and / or transaction multiples, or estimating discount rates using the Dividend Growth Model.

47. Independent experts thereby corroborate the results obtained from the use of the CAPM to ensure the results accord with market expectations.

48. The valuation produced reflects the value at a point in time, sometimes referred to as the valuation date.[9]

49. I observe that these independent expert reports support numerous successful transactions (e.g. by providing a widely accepted valuation basis). For example, Appendix A provides some data in respect of takeovers.

50. The cost of equity provided in independent expert reports is the evidence of expert capital market practitioners acting independently in accordance with defined standards of independence, and based on documented and explicitly justified analysis.

51. In my opinion, it is the best market evidence publicly available to assess the prevailing cost of equity in the Australian market for funds.

Data and sample selection

52. To assess the prevailing cost of equity in the Australian market for funds I have undertaken a review and analysis of independent expert reports.

53. The data which underpins my review covers 889 independent expert reports issued between 1 January 2008 and 10 October 2012 and published in the CONNECT 4 Expert Reports database. This timeframe was selected to provide a longer term perspective of how experts estimate the cost of equity and to capture any trends in the way independent experts estimate the cost of equity. Of the 889 independent expert reports, 132 reports qualified for more detailed analysis to assess the prevailing cost of equity.

54. Appendix A provides further information on my sample selection process and Appendix B provides a summary list of these reports.

[7] ASIC Regulatory Guide 111, paragraph 111.67

[8] ASIC Regulatory Guide 111, paragraph 111.75

[9] The AER is estimating a rate of return which is applied to the value of the regulatory asset base to set prices for a period of time. This process is similar to applying a WACC to discount future expected cash flows to obtain a value for the business or asset.

Estimating the market cost of equity

55. In assessing the prevailing cost of equity in the Australian market for funds, I have focussed on how independent experts estimate those components of the CAPM which are influenced by market-wide factors, namely, the risk free rate and market risk premium. My analysis therefore focuses on the market cost of equity.[10] I also understand that the value assigned to equity beta is not an issue of contention between the parties.

56. The market cost of equity reflects the expected rate of return from investing in the Australian equity market as a whole. The Australian equity market has a beta of 1.0 so, in terms of the CAPM, the market cost of equity is the sum of the risk free rate of return and the market risk premium. Like the cost of equity, it cannot be directly observed.

57. Seventeen (17) of the 132 independent expert reports were issued in 2012 and these reports were further analysed in forming my view on the cost of equity that is expected to prevail over the period of the expected future cash flows given the market conditions at the time of the valuation. This is consistent with what the AER is obliged to reflect in its assessment of the cost of equity in the Draft Decisions (i.e. the prevailing cost of equity). Appendix C provides further details.

58. The views of the experts on the average market cost of equity in 2012 can be implied by:

    a. adding the risk free rate to the market risk premium as applied in these 17 reports;[11] and

    b. where I have identified in any of the reports that the cost of equity or the discount rate applied differs from that calculated by the expert[12], adding the difference to the sum of the risk free rate and the market risk premium in (a), taking into account the assumed gearing level.[13]

59. Using this approach, my analysis indicates that the average market cost of equity implied by independent experts is 10.7% in 2012. Appendix C provides further details.

60. I note that this approach attributes any difference between the cost of equity or discount rate applied and that calculated to the market cost of equity (i.e. in addition to the risk free rate and the market risk premium) rather than the cost of debt or the equity beta. I consider this approach appropriate because of the 4 reports that applied a different discount rate to that produced based on the calculated costs of equity and debt:

    a. one (1) applies a cost of equity different to that calculated; and

    b. one (1) assumes no debt. The other 2 do not recognise there is particular uncertainty in the cost of debt (e.g. the focus is on the debt ratings of comparable companies), which is not the case for the cost of equity.[14]

61. Appendix C shows that in 2012 independent experts have considered, in light of prevailing market conditions, whether:

    a. observed bond yields provide a suitable basis for measuring the risk free rate of return;

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[10] In making such inferences, I note that whilst the independent expert makes assumptions on the appropriate values for the risk free and market risk premium (i.e. the market cost of equity), these assumptions are made in the process of arriving at the overall cost of equity for the asset they are valuing. Appendix D provides further information how independent experts apply the CAPM to estimate the cost of equity.

[11] Where ranges are used, I have taken the mid-point value.

[12] As identified in Appendix C, this occurs in the case of 4 reports. This excludes instances where the independent expert has made rounding adjustments to the calculated discount rate. Some of those are, however, not symmetrical. Including them does not materially alter the results I have obtained. Where ranges are used, I have taken the mid-point value.

[13] There is one report where the applied discount rate appears to have taken into account issues associated with estimating the cost of debt, so these have not been included in the implied market cost of equity (see Appendix C).

[14] The equity beta appears to have been set independently and in at least three cases the applied equity beta appears to differ from the relevant data observed.

b. it is appropriate to adopt a market risk premium higher than commonly adopted particularly in response to what is implied by the observed bond yields; and / or

c. the overall cost of equity and / or discount rate calculated using the CAPM and the WACC formulae appropriately reflect market expectations.

62. Similar considerations are evident in the cost of equity assessments of independent experts in reports issued in late 2008 to mid 2009. In these periods, the yield on 10 year Commonwealth Government Bonds was or is below (and often well below) 5.0%.

Comparison with the AER's Draft Decisions

63. I have compared the market cost of equity implied from independent expert reports for 2012 to the market cost of equity implied in the AER's Draft Decisions in considering whether the AER's assessment meets the requirements of Rule 87(1) of the National Gas Rules. This involved:

a. taking the market cost of equity implied in each of the 17 reports in 2012;

b. re-estimating the implied market cost of equity in each of the 17 reports assuming that the approach adopted by the AER was applied in selecting the values for the risk free rate and market risk premium.[15] The implied market cost of equity obtained based this approach (averaged across the 17 expert reports) is hereinafter referred to as the 'AER's implied market cost of equity'; and

c. subtracting the AER's implied market cost of equity in (b) above, from the independent experts' implied market cost of equity in (a) above.

64. Appendix C provides the results of the above comparison for each of the 17 reports, and on average across the 17 reports. It shows that in 2012 the experts' implied market cost of equity is on average 1.2 percentage points higher than the AER's implied market cost of equity of 9.5%. It is also 1.7 percentage points higher than the market cost of equity implied in the AER's Draft Decisions of 9.0%.

65. Figure 1 and Figure 2 below highlight the discrepancy between the market costs of equity determined by independent experts and by the AER in its Draft Decisions.

66. Figure 1 shows the implied market costs of equity of independent experts from 2008-2012 and the AER's implied market cost of equity for 2012.[16] It shows that the AER's implied market costs of equity generally lie below the range implied by independent experts.[17]

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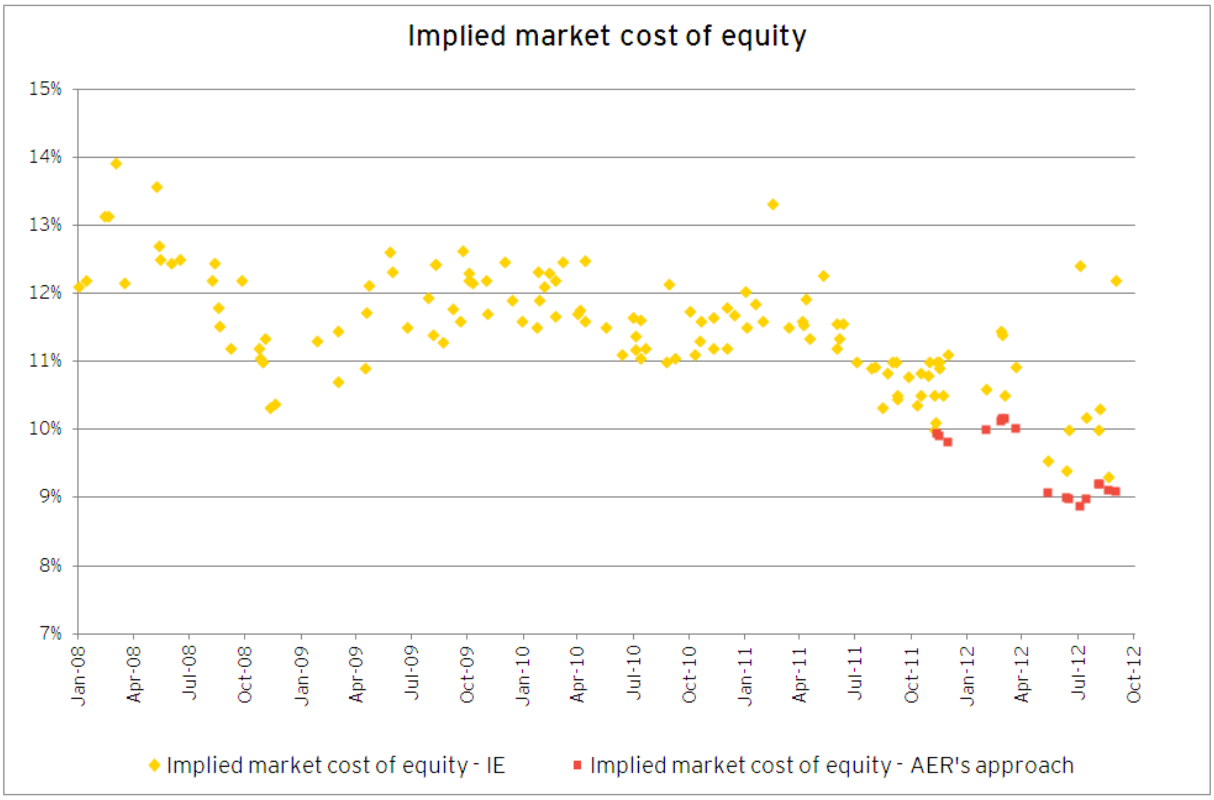
[15] This involves estimating the nominal risk free rate (which we sourced from the Reserve Bank of Australia statistics F2 Capital Market Yields – Government Bonds, sourced on 11 October 2012) using a previous twenty-day average period from the date where the expert observed the risk free rate or report date where the former was not identified. Because of the uncertainty over the precise period to apply, I have tested the sensitivity of the results using different measurement periods. It does not materially alter the results.

[16] Using the approach outlined in paragraph 63. This includes 6 instances out of 115 prior to 2012 where independent experts adopted a cost of equity or discount rate different to that calculated.

[17] This is prior to the consideration of imputation credits, which is discussed in paragraphs 76 to 82, and which have the affect of expanding the difference between the implied market cost of equity of independent experts and of the AER.

Figure 1: Implied market costs of equity

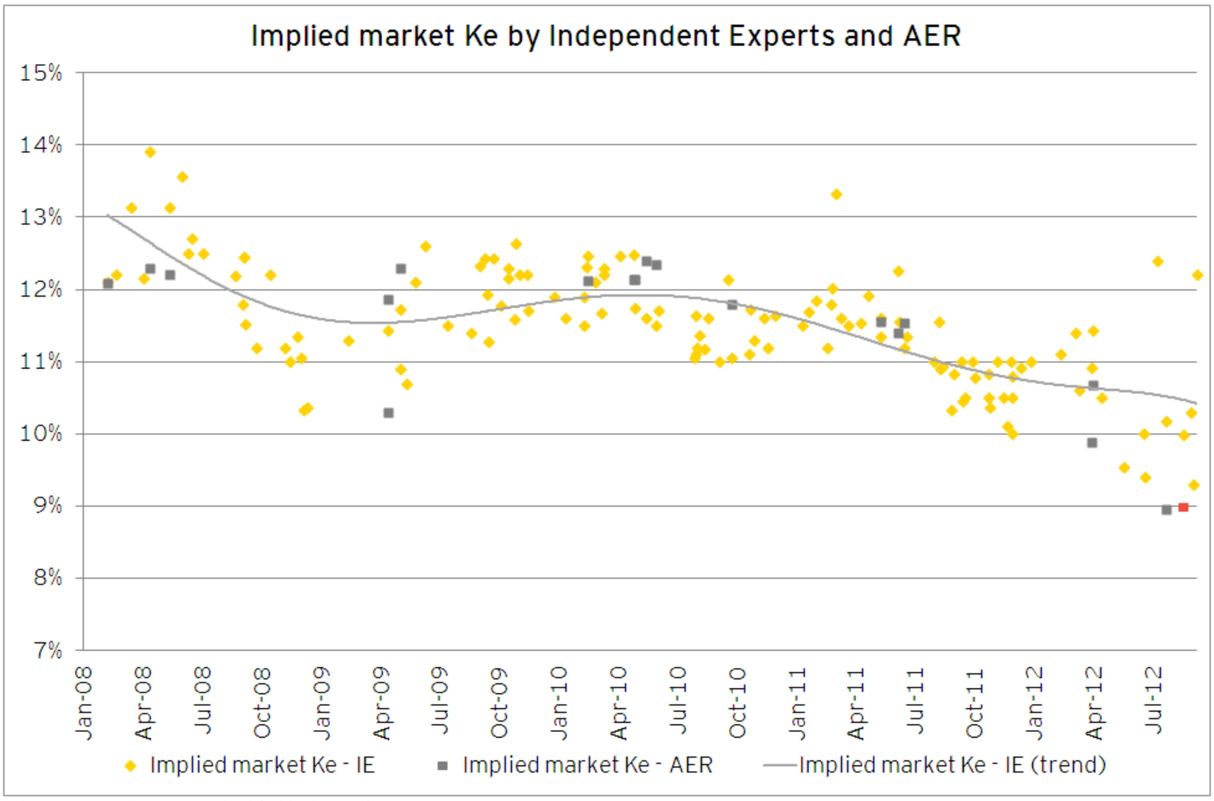


67. Figure 1 shows two recent data points in 2012 which relate to Grant Samuel's expert reports for the DUET Group and HDUF, where the implied market cost of equity is 12.2% and 12.4% respectively. This is the result of Grant Samuel applying a cost of equity and / or discount rate different to its calculated values. These implied market cost of equity estimates convert to costs of equity (i.e. once the expert's assessment of the equity beta is taken into account) of 11.0% and 11.2%, respectively. Paragraphs 70 to 72 provide Grant Samuel's explanation for its approach.

68. Figure 2 compares the implied market cost of equity from expert reports with the implied market cost of equity in the AER's gas and electricity decisions over the period and its recent Draft Decisions.[18]

[18] These decisions cover both the transmission and distribution sectors. A couple of the decisions in 2008 were made by the ACCC. We note that most of the electricity distribution decisions made since AER's first periodic WACC Review in March 2009 applied a value of 6.5% for the market risk premium and estimated the risk free rate based on the yield on 10 year Commonwealth Government Bonds. These approaches are explicitly set out in the AER's Statement of Regulatory Intent (SORI). The National Electricity Rules provide that the distribution businesses and the AER are permitted to depart from the approaches set out in the SORI provided there is persuasive evidence to do so. The AER first departed from applying a value of 6.5% for the MRP in its decision on Aurora Energy in April 2012, where it adopted an MRP of 6.0%.

Figure 2: Comparison of implied market costs of equity (Ke) from expert reports with AER decisions



Note: AER Draft Decisions highlighted in red.

69. It shows that the implied market cost of equity in most of the AER's previous decisions were in line with the views of independent experts, but this alignment has fallen away in the AER's recent Draft Decisions.[19] It also shows that the AER's Draft Decisions for the Gas Businesses are out of line with almost all of its previous decisions.

Specific comments made by independent experts

70. There are a few expert reports which warrant closer examination as they provide relevant examples of how market considerations affect an independent expert's assessment of the cost of equity and / or discount rate.

71. Grant Samuel's recent assessment of the value of the management rights associated with the DUET Group appears to apply a cost of equity of 11.0% when its calculated cost of equity was 7.8%. It stated as follows:

"In Grant Samuel's opinion, these calculations understate the true cost of capital. In this context:

- *anecdotal information suggests that equity investors have substantially repriced risk since the global financial crisis and that acquirers are pricing offers on the basis of hurdle rates well above those implied by theoretical models. This can be evidenced through the decline in listed entity earnings multiples (relative to the peak in 2007) although it has yet to be translated into the measures of market risk premium (at least those based on longer term historical data). In this regard, an increase in the market risk premium of 1% (i.e. from 6% to 7%) would increase the calculated WACC range to 7.1-7.7%.*

Another way of looking at this is to note that while long term interest rates have fallen by approximately 150-200 basis points over the past 12 months there has been no corresponding lift in earnings multiples, suggesting investors have offset this reduction with an increase in their risk premium and/or a reduction in long term earnings growth rates; and

[19] Excepting the issue of imputation credits

- *global interest rates, including long term bond rates, are at very low levels by comparison with historical norms reflecting the very substantial amounts of liquidity being pumped into many advanced economies to stimulate economic activity. Effective real interest rates are now extremely low, if not negative in some cases (e.g. the United States). Grant Samuel does not believe this position is sustainable. Conceptually, the interest rates used to calculate the discount rate should recognise this expectation (i.e. they should be forecast for each future period) but for practical ease market practice is that a single average rate based on the long term bond rate is generally adopted for valuation purposes. Some academics/valuation practitioners consider it to be inappropriate to add a "normal" market risk premium (e.g. 6%) to a temporarily depressed bond yield and therefore advocate that a "normalised" risk free rate should be used."*[20]

72. Grant Samuel made similar statements in respect of its HDUF report (where it also applied a different discount rate to that estimated). This report also stated that:

> *"the market upheaval since 2007 has seen a repricing of risk by investors and global interest rates, including long term bond rates, are at very low levels by comparison with historical norms. The CAPM methodology does not readily allow for these types of events."*[21]

73. Deloitte adopted a value for the (equity) market risk premium which was different from the value adopted for the same parameter in an immediately prior expert report in four instances. Similar practices were also adopted by BDO and Lonergan Edwards. Deloitte cites similar reasons as Grant Samuel to explain why it adopted a value of 7.0% for the market risk premium (in its April 2012 report on Gloucester Coal Ltd).[22] Deloitte noted that:

> *"We have considered both the historically observed EMRP and the prospective approaches as a guideline in determining the appropriate EMRP to use in this report. Australian studies on the historical risk premium approach generally indicate that the EMRP would be in the range of 5% to 8%.*
>
> *The recent decline in equity m (sic) worldwide and the difficultly companies are experiencing in raising equity capital may be indicative of investors demanding a greater risk premium. In addition, with particular regard to expected future cash flows and observed bond default spreads, current prospective measures appear to indicate an increase in the EMRP.*
>
> *In recent years it has been common market practice in Australia in expert's reports and regulatory decisions to adopt an EMRP of 6%.*
>
> *Having considered the various approaches and their limitations, we consider an EMRP of 7% to be appropriate."*

74. The discussion by Grant Samuel at paragraph 70 around trading multiples raises a key issue relevant to the implied market cost of equity, particularly given the circumstances that relate to the dispute between the Gas Businesses and the AER (i.e. significant recent falls in the 10 year Commonwealth Government bond yield). It specifically provides corroborating evidence on the extent to which the market cost of equity might have changed in recent times.

75. Grant Samuel finds little evidence based on observed trading multiples over time that the recent falls in Government bond yields have been incorporated into market valuations, which may explain why they (and other independent experts) are reluctant to reflect that in their valuations.

Formulation of the discount rate and the value of imputation credits

76. It is evident from the independent expert reports I have reviewed that the formulation of the discount rate typically applied by independent experts is different to that applied by the AER. Independent expert reports typically apply a nominal post-tax discount rate. The AER estimates what is often referred to as a 'vanilla' discount rate. The AER's approach incorporates a pre-tax cost of debt with a post-tax cost of equity, which effectively means that all tax effects are accounted for within the net cash flows rather than in the discount rate.

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[20] Grant Samuel, Internalisation Proposal DUET, 3 October 2012, pages 26-27
[21] Grant Samuel, Independent Expert Report: Pipeline Partners Offer, 3 August 2012, page 2
[22] Deloitte, Independent Expert Report: Gloucester Coal Ltd, 26 April 2012, page 108

77. It is also evident that in calculating a discount rate, independent experts do not assign a value to imputation credits. The AER values imputation credits at 0.25 in its Draft Decisions.

78. The value of imputation credits can be taken into account by adjusting the discount rate applied to net cash flows, or by adjusting the net cash flows (in particular, by adjusting the tax cash flows)[23]. I note that under the AER's approach, the value of imputation credits is reflected in the allowance for the cost of tax. Notwithstanding that the value of imputation credits is made outside of the rate of return, it nevertheless has the effect of lowering the allowed cost of equity, and therefore the returns to equity holders. This is because:

    a. Imputation credits reflect the tax credit investors receive from the Government on dividends that have been paid on a franked basis (i.e. taxed at the corporate level). In effect, investors receive a credit against their personal tax liability for the corporate tax that the company has already paid on the dividends.

    b. To the extent that imputation credits have any value to investors, that value will be incorporated into the lower returns investors require from investing in equity (i.e. a lower market cost of equity). This is because investors will receive part of their required return in the form of the tax credit from the government.

79. To allow an "apples for apples" comparison between the market cost of equity implied from independent expert reports and the AER's implied market cost of equity, it is therefore necessary to include the difference in the value assigned to imputation credits by independent experts and the AER.

80. To estimate the difference in value for 2012 I have considered the proportion of the return which the equity holder receives from the government by way of a tax credit as follows:

    a. The company pays tax (T) at the rate of 30% on each dollar of pre-tax profits. As such it can distribute dividends worth \$1-T to the shareholder.

    b. As the dividends have been subject to corporate tax, the government provides imputation credits of T to the shareholder.

    c. If imputation credits are valued by investors, the credits provided by the government would be worth γT to the investor, where γ represents the value of imputation credits.

    d. The shareholder's total return is therefore the sum of (a) and (c) or 1-T(1-γ). Of this, the proportion provided by the company is (1-t) and the proportion provided by the government (or not required to be provided by the company) is γT.

81. If the corporate tax rate (i.e. T) is 30% (on average) and a value of 0.25 is assigned to imputation credits (i.e. γ) as the AER determines, this means that on average, the proportion of the cost of equity which the AER has assumed will not be provided by the company is 9.677% (i.e. $\gamma T/(1-T(1-\gamma))$).

82. This equates approximately to a 1.0 percentage point difference in the average market cost equity implied by independent experts and the average implied market cost of equity using the AER's approach.[24]

83. This amount should be added to the differences observed in paragraph 64 if an appropriate comparison is to be made between the market cost of equity implied from independent expert reports and the market cost of equity implied by applying the AER's approach.

[23] Where the adjustment is made in the net cash flows, it is necessary to use a consistently defined discount rate.
[24] In practice, it means that the AER's implied market cost of equity is, on average, overstated by this amount.

Conclusion

84. I have reviewed 132 independent experts dated between 1 January 2008 and 10 October 2012 and published on the CONNECT 4 Expert Reports database to analyse how independent experts estimate the cost of equity for use in valuing businesses based on the discounted cash flow methodology. My analysis shows that their focus is on establishing their best estimate of the cost of equity that the market would expect for the relevant business or asset at a point in time.

85. To assess the prevailing cost of equity in the Australian market for funds, I have focussed on:

    a. the 17 independent expert reports that were issued in 2012 (as listed in Appendix C); and

    b. the implied market cost of equity in these expert reports, as defined in paragraph 58.

86. The average implied market cost of equity based on the 17 reports issued in 2012 is 10.7%. This is 1.2 percentage points higher than the implied average market cost of equity of 9.5% which would result if the implied market cost of equity in each of these 17 reports were to be estimated by applying the methodology adopted by the AER. It is also 1.7 percentage points higher than the market cost of equity implied in the AER's Draft Decisions.

87. These differences exclude the impact of the difference in the value assigned to imputation credits. Including the impact relating to imputation credits increases the differences by 1.0 percentage point, on average.

88. In my opinion, the difference in the prevailing market cost of equity implied by independent experts and the AER's implied market cost of equity[25] is therefore 2.2 percentage points, on average.

[25] As estimated based on the approach described in paragraph 63.b.

Appendix A Data source and sample selection

1. In undertaking this review and analysis, I have relied on the independent expert reports from the CONNECT 4 Expert Reports database. CONNECT 4 is a web-based system, operated and maintained by the Thomson Reuters company, which provides information on companies listed on the ASX.[26]

2. The CONNECT 4 Expert Reports database contains specialist reports which have been produced on behalf of ASX Listed companies, dating back to 1992. The Expert Reports in this database deal with proposals including mergers/schemes, acquisitions, divestments, capital reductions, buybacks, reconstructions, de-mergers, takeovers, dual listings, spin-offs, and others. Expert Reports may also be found in other CONNECT 4 databases including the Takeovers database and Company Announcements database.

3. My choice of datasets was informed by a discussion with Thomson Reuters, who advised me that the Expert Reports database contains all Expert Reports that they have identified that were produced on behalf of ASX-listed companies, whereas the Takeover database only includes the subset of the Expert Reports in relation to Takeover proposals and the Company Announcements database only includes Expert Reports when available and relevant to the particular announcement.

4. CONNECT 4 specialises in providing information on companies listed on the ASX and, as advised by Thomson Reuters, makes the ‘best efforts’ to collect Expert Reports that were produced on behalf of ASX-listed companies. In cases where the relevant parties decided not to release the Expert Reports to public, the Reports might not be available in the CONNECT 4 databases.

5. I have therefore taken the set of reports in the CONNECT 4 Expert Reports database as being the population of reports appropriate for the purposes of my analysis and review.

6. Between 27 August 2012 and 23 October 2012 I extracted, from the CONNECT 4 Expert Reports database, all of the expert reports that were issued (based on the date of the expert report) between 1 January 2008 and 10 October 2012.

7. This period captures a period of time preceding the onset of the Global Financial Crisis up to the most recently available evidence. This sample (and subsets of it) may not necessarily reflect the entire market; indeed, it is likely to be more reflective of the type and level of transactional activity in the market. For example, during this period, a significant amount of that transactional activity has been in the resources sector. These sample issues, however, should not be a concern given that my analysis focuses on the market cost of equity.

8. Through the above process I identified a total of 889 independent expert reports.

9. Of these 889 reports, 267 (30%):

    a. included a valuation of a transaction; and

    b. employed a discounted cash flow valuation method to value a company or its underlying assets/projects or a specific part of its operation, either as the principal method of valuation or as a cross-check on the results of the principal valuation method.

10. Of the 267 independent expert reports which included a discount rate that was used for the valuation, I identified 167 (63% of the 267 or 19% of the 889) reports in which the cost of equity was derived using the CAPM.

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[26] Further information is available at http://www.connect4.com.au/

11. The distribution of independent expert reports issued in the period 1 January 2008 to 10 October 2012, by calendar year, are shown in Table 4.

Table 4: Number of expert reports which used the CAPM to estimate the cost of equity

Year expert report issued	Number of experts reports	Number of expert reports which included a discount rate for valuation purposes (A)	Number of expert reports which applied the CAPM to estimate the cost of equity (B)	B/A (%)
2008	145	54	27	50%
2009	213	54	34	63%
2010	204	57	40	70%
2011	208	67	45	67%
2012 (to 10 October)	119	35	21	60%
Total	889	267	167	63%

12. The 167 independent expert reports which I identified as including an estimated cost of equity derived by applying the CAPM were prepared by 21 different independent experts. These experts are listed in Table 5, which shows the sample market share of the expert by number of reports produced and by transaction value, as sourced from CONNECT 4.

Table 5: Numbers of reports which used the CAPM to estimate the cost of equity by expert and by value

Name of expert	Number of reports issued	% of reports issued	% by reported transaction value
Deloitte	39	23.4%	24.41%
Grant Samuel	19	11.4%	34.91%
Lonergan Edwards	19	11.4%	18.98%
BDO	16	9.6%	0.66%
Grant Thornton	16	9.6%	1.34%
KPMG	13	7.8%	8.02%
Ernst & Young	10	6.0%	8.02%
RSM Bird Cameron	10	6.0%	0.26%
InterFinancial	6	3.6%	0.13%
PwC	5	3.0%	3.03%
Hall Chadwick	2	1.2%	0.03%
Leadenhall	2	1.2%	0.02%
PKF	2	1.2%	0.08%
Crowe Horwath	1	0.6%	0.00%
DMR	1	0.6%	0.03%
Haines Norton	1	0.6%	0.01%
Innovation Dynamics	1	0.6%	0.01%
Moore Stephens	1	0.6%	0.00%
VMC Global	1	0.6%	0.00%
WHK Horwath Securities Ltd	1	0.6%	0.04%
William Buck	1	0.6%	0.02%
Total	167	100%	100%

13. Table 6 provides the evidence of the number of successful transactions by year. Of the 167 reports, 76 related to takeovers of which 60 were identified as successful in the CONNECT 4 Expert Reports database.[27]

[27] As highlighted in paragraph A2 expert reports are prepared for a range of transactions other than takeovers. CONNECT 4 does not provide statistics on successful transaction other than for takeovers.

Table 6: Number of successful transactions[28]

Year	Successful bids	Unsuccessful bids	Withdrawn	Current
2008	8	3	0	0
2009	13	2	1	0
2010	13	1	4	0
2011	17	2	0	0
2012 (to 10 October)	9	1	1	1
Total	60	9	6	1

14. Of the 167 independent expert reports which used the CAPM to derive the cost of equity, 4 did not provide enough information on how the cost of equity was estimated and were therefore not considered further.

15. Out of the remaining 163:

    a. Twenty-seven (27) estimated a cost of equity and discount rate using data from offshore markets (e.g. used foreign bond yields when determining the risk-free rate). I have therefore excluded these independent expert reports given that my focus is on assessing the prevailing cost of equity in the Australian market for funds; and

    b. Four (4) relied on other Commonwealth Government bonds (e.g. 2 year bonds) as a proxy for the nominal risk free rate of return in their analyses. I have excluded these because this approach was chosen for specific purposes (e.g. the life of the asset relevant to the transaction) and do not provide an appropriate basis for comparison with the AER's approach.

16. Through the process outlined above, I identified 132 reports which qualified for further analysis on the prevailing cost of equity.

[28] As at 10 October 2012.

Appendix B Reports analysed for cost of equity

Company Name	Independent Expert	Expert report date
CMI Ltd	InterFinancial	20/02/2008
Anzon Energy Ltd	Deloitte	3/03/2008
Olympia Resources Ltd	BDO	26/03/2008
Austral Gold Ltd	InterFinancial	15/04/2008
CBD Energy Ltd	VMC Global	24/04/2008
DoloMatrix International Ltd	PKF	26/05/2008
Bemax Resources Ltd	Lonergan Edwards	13/06/2008
Sydney Gas Ltd	Grant Thornton	23/06/2008
ARC Energy Ltd	Deloitte	30/06/2008
Macquarie Capital Alliance Group	Deloitte	16/07/2008
Anzon Australia Ltd	KPMG	5/09/2008
Origin Energy Ltd	Grant Samuel	15/09/2008
ERG Ltd	Ernst & Young	17/09/2008
CMI Ltd	InterFinancial	17/09/2008
Sunshine Gas Ltd	Deloitte	19/09/2008
Portman Ltd	KPMG	7/10/2008
Grange Resources Ltd	Lonergan Edwards	28/10/2008
Mount Gibson Iron Ltd	KPMG	21/11/2008
Babcock & Brown Communities Group	Deloitte	28/11/2008
Australian Zircon NL	BDO	10/12/2008
Pacific Energy Ltd	BDO	16/12/2008
Gindalbie Metals Ltd	Deloitte	19/12/2008
Perilya Ltd	Ernst & Young	24/12/2008
Hutchison Telecommunications (Australia) Ltd	Lonergan Edwards	26/02/2009
Macquarie Communications Infrastructure Group	Deloitte	29/04/2009
Gloucester Coal Ltd	PwC	18/05/2009
Consolidated Rutile Ltd	Ernst & Young	18/05/2009
Dioro Exploration NL	KPMG	27/05/2009
Olympia Resources Ltd	BDO	11/06/2009
Macquarie Leisure Trust Group	Lonergan Edwards	25/06/2009
CBH Resources Ltd	Grant Thornton	31/07/2009
Macquarie Airports	KPMG	4/09/2009
CMI Ltd	InterFinancial	18/09/2009
Warwick Resources Ltd	BDO	25/09/2009
Felix Resources Ltd	Deloitte	30/09/2009
eBet Ltd	Grant Thornton	2/10/2009
WebSpy Ltd	BDO	9/10/2009
WestSide Corporation Ltd	Deloitte	20/10/2009
Fox Invest Ltd	BDO	1/11/2009
Lend Lease Primelife Group	Deloitte	2/11/2009
Macquarie Media Group	Ernst & Young	12/11/2009
Moly Mines Ltd	BDO	13/11/2009
United Minerals Corporation NL	Deloitte	19/11/2009
IOR Group Ltd	Deloitte	30/11/2009
Drummond Gold Ltd	InterFinancial	3/12/2009
Alinta Energy Group	Grant Samuel	12/01/2010

Company Name	Independent Expert	Expert report date
Dioro Exploration NL	KPMG	28/01/2010
CBH Resources Ltd	Grant Thornton	26/02/2010
Macarthur Coal Ltd	Lonergan Edwards	26/02/2010
Gloucester Coal Ltd	Deloitte	3/03/2010
Victoria Petroleum NL	Deloitte	5/03/2010
Seven Network Ltd [The]	Deloitte	16/03/2010
CBH Resources Ltd	Grant Thornton	26/03/2010
KFM Diversified Infrastructure and Logistics Fund	Deloitte	29/03/2010
Entellect Solutions Ltd	RSM Bird Cameron	30/03/2010
Consolidated Media Holdings Ltd	Deloitte	23/04/2010
CVC Property Fund	Haines Norton	14/05/2010
CBH Resources Ltd	Grant Thornton	17/05/2010
Arrow Energy Ltd	Deloitte	2/06/2010
Gloucester Coal Ltd	Deloitte	19/06/2010
Jupiter Mines Ltd	Ernst & Young	22/06/2010
Centennial Coal Company Ltd	Ernst & Young	16/08/2010
iiNet Ltd	Lonergan Edwards	18/08/2010
Australian Power and Gas Company Ltd	Grant Thornton	19/08/2010
Healthscope Ltd	Grant Samuel	20/08/2010
Gloucester Coal Ltd	Deloitte	24/08/2010
Mosaic Oil NL	PwC	1/09/2010
Nullarbor Holdings Ltd	Hall Chadwick	7/09/2010
Prime Infrastructure Group	Grant Samuel	24/09/2010
Mako Energy Ltd	RSM Bird Cameron	8/10/2010
Intoll Group	Ernst & Young	14/10/2010
MAC Services Group Ltd [The]	Grant Samuel	9/11/2010
Copper Strike Ltd	RSM Bird Cameron	11/11/2010
Northern Energy Corporation Ltd	Lonergan Edwards	17/11/2010
Sigma Pharmaceuticals Ltd	Deloitte	3/12/2010
Dominion Mining Ltd	KPMG	9/12/2010
Engin Ltd	Lonergan Edwards	20/12/2010
Alinta Energy Group	Grant Samuel	1/02/2011
ING Industrial Fund	Deloitte	10/02/2011
White Energy Company Ltd	Deloitte	22/02/2011
Tower Australia Group Ltd	Lonergan Edwards	11/03/2011
RHG Ltd	Deloitte	16/03/2011
Rialto Energy Ltd	RSM Bird Cameron	18/03/2011
Mintails Ltd	Hall Chadwick	24/03/2011
Redflex Holdings Ltd	Lonergan Edwards	31/03/2011
Spark Infrastructure Group	Lonergan Edwards	13/04/2011
Gloucester Coal Ltd	Deloitte	1/05/2011
Copper Strike Ltd	RSM Bird Cameron	13/05/2011
Cellestis Ltd	Deloitte	1/06/2011
Engin Ltd	Lonergan Edwards	1/06/2011
Global Petroleum Ltd	BDO	28/06/2011
QMASTOR Ltd	BDO	1/07/2011
Centrebet International Ltd	Lonergan Edwards	8/07/2011
Qube Logistics	Deloitte	11/07/2011

Company Name	Independent Expert	Expert report date
ConnectEast Group	Deloitte	22/08/2011
Telstra Corporation Ltd	Grant Samuel	31/08/2011
Mikoh Corporation Ltd	RSM Bird Cameron	1/09/2011
Copper Strike Ltd	RSM Bird Cameron	6/09/2011
Northern Energy Corporation Ltd	Deloitte	19/09/2011
Eastern Star Gas Ltd	Grant Samuel	22/09/2011
Centro Properties Group	Grant Samuel	5/10/2011
Bondi Mining Ltd	InterFinancial	7/10/2011
Oceania Capital Partners Ltd	Deloitte	10/10/2011
Coal & Allied Industries Ltd	Lonergan Edwards	21/10/2011
Fosters Group Ltd	Grant Samuel	26/10/2011
Wentworth Holdings Ltd	Leadenhall	15/11/2011
Bow Energy Ltd	Grant Samuel	16/11/2011
Syngas Ltd	Grant Thornton	17/11/2011
Centro Retail Group	Grant Samuel	29/11/2011
AUSTAR United Communications Ltd	Grant Samuel	8/12/2011
Brockman Resources Ltd	Deloitte	14/12/2011
Living and Leisure Australia Group	Grant Thornton	20/12/2011
DoloMatrix International Ltd	Lonergan Edwards	22/12/2011
Murchison Metals Ltd	KPMG	23/12/2011
My Net Fone Ltd	Leadenhall	23/12/2011
KIP McGrath Education Centres Ltd	Crowe Horwath	5/01/2012
oOh!media Group Ltd	Grant Thornton	20/01/2012
Aston Resources Ltd	PwC	6/03/2012
CMI Ltd	Lonergan Edwards	29/03/2012
Ludowici Ltd	Grant Thornton	3/04/2012
ING Real Estate Community Living Group	Deloitte	24/04/2012
Gloucester Coal Ltd	Deloitte	26/04/2012
Nexbis Ltd	Grant Thornton	9/05/2012
Genesis Resources Ltd	RSM Bird Cameron	13/06/2012
Norton Gold Fields Ltd	Grant Thornton	13/07/2012
Spotless Group Ltd	Grant Samuel	15/07/2012
Hastings Diversified Utilities Fund	Grant Samuel	3/08/2012
Westgold Resources Ltd	BDO	16/08/2012
Arafura Resources Ltd	BDO	13/09/2012
Consolidated Media Holdings Ltd	KPMG	24/09/2012
Bremer Park Ltd	Moore Stephens	28/09/2012
DUET Group	Grant Samuel	3/10/2012
Total (reports)	**132**	

Appendix C Inferring the market cost of equity

Company Name	Independent Expert	Expert report date	Risk-free rate applied	Mid-point MRP	Diff. between applied and calculated Ke / discount rate[29]	Mid-point gearing	Implied market cost of equity[30]	AER implied market cost of equity - 20day average
			(A)	(B)	(C)	(D)	A+B+C/(1-D) [31]	
KIP McGrath Education Centres Ltd	Crowe Horwath	5/01/2012	4.91%	6.00%			10.9%	9.9%
oOh!media Group Ltd	Grant Thornton	20/01/2012	5.00%	6.00%			11.0%	10.0%
Aston Resources Ltd	PwC	6/03/2012	5.10%	6.00%			11.1%	9.8%
CMI Ltd	Lonergan Edwards	29/03/2012	4.50%	6.00%	0.90% (Ke)		11.4%	10.2%
Ludowici Ltd	Grant Thornton	3/04/2012	4.60%	6.00%			10.6%	10.0%
ING Real Estate Community Living Group	Deloitte	24/04/2012	3.92%	7.00%			10.9%	10.0%
Gloucester Coal Ltd	Deloitte	26/04/2012	4.44%	7.00%			11.4%	10.1%
Nexbis Ltd	Grant Thornton	9/05/2012	4.50%	6.00%			10.5%	10.2%
Genesis Resources Ltd	RSM Bird Cameron	13/06/2012	3.04%	6.50%			9.5%	9.1%
Norton Gold Fields Ltd	Grant Thornton	13/07/2012	4.00%	6.00%			10.0%	9.0%
Spotless Group Ltd	Grant Samuel	15/07/2012	3.00%	6.00%	0.30% (WACC)	25%	9.4%	9.0%
Hastings Diversified Utilities Fund	Grant Samuel	3/08/2012	3.00%	6.00%	1.70% (WACC)	50%	12.4%	8.9%
Westgold Resources Ltd	BDO	16/08/2012	3.18%	7.00%			10.2%	9.0%
Arafura Resources Ltd	BDO	13/09/2012	2.99%	7.00%			10.0%	9.2%
Consolidated Media Holdings Ltd	KPMG	24/09/2012	4.30%	6.00%			10.3%	9.2%
Bremer Park Ltd[32]	Moore Stephens	28/09/2012	3.30%	6.00%			9.3%	9.1%
DUET Group[33]	Grant Samuel	3/10/2012	3.00%	6.00%	3.2% (Ke)		12.2%	9.1%
Average							**10.7%**	**9.5%**

[29] Excluding rounding adjustments

[30] Except as noted in footnote 31, the adjusted market cost of equity is calculated as: risk free rate applied + mid-point MRP + difference between applied and calculated cost of equity or WACC. This is based on the approach outlined at paragraph 58.

[31] The gearing level is only relevant where there is a difference between the WACC applied by the expert and the WACC calculated based on the inputs selected. Where this occurs, the adjusted market cost of equity is calculated as: risk free rate applied + mid-point MRP + difference between applied and calculated cost of equity or WACC / (1 – mid-point gearing).

[32] This is the only report that takes the observed yield on 10 year Commonwealth Government Bonds and applies a market risk premium of 6.0% to imply its market cost of equity, and makes no other adjustment which can be attributed to the implied market cost of equity. However, it does include a specific risk premium of 9.0-14.0% in calculating the cost of equity.

[33] Grant Samuel appears to have applied a cost of equity of 11.0% instead of using the calculated cost of equity of 7.8% when determining the WACC (i.e. a difference of 3.2 percentage points). It also appears to make further upward adjustments for the cost of debt, gearing (and potentially for the cost of equity or tax) in arriving at its discount rate.

Appendix D How independent experts apply the CAPM

1. My observations on how independent experts apply the CAPM to estimate the total cost of equity is drawn from the independent expert reports in Appendix B.

2. Independent experts focus on establishing their best estimate of the cost of equity that the market would expect for the asset at a point in time.

3. In applying the CAPM to estimate the cost of equity in the Australian market independent experts as a starting point commonly:

   a. Estimate the risk free rate based on the yield on a long term (typically 10 years for Australian assets) Commonwealth Government bond observed as at the valuation date (or in the immediate period preceding it).

   b. Apply a value for the market risk premium that is consistent over time, with 6% being the minimum and most commonly applied point estimate.

   c. Select a value for beta that is, where sufficient information is available, consistent with the observed range for beta and gearing levels of comparable publicly listed companies.

4. It is also apparent that most independent experts consider the CAPM as a tool which provides guidance to derive the appropriate cost of equity and discount rate. This is evident from how the discount rate and, the cost of equity in particular, are defined and estimated. For example:

   a. The discount rate and the cost of equity are often defined as a range as opposed to a point estimate to avoid spurious precision. There is also generally more uncertainty (and hence, room for estimation error) associated with estimating a value for each component of the cost of equity compared to the cost of debt.

   b. Independent experts consider a range of factors in their selection of parameter values to achieve the key objective, including the reliability of the data they observe and the degree to which the data is consistent with their knowledge of the asset they are valuing.

   As a result, independent experts modify their application of the CAPM to ensure that it yields costs of equity and / or discount rates which are consistent with market expectations.

Craig Mickle
Partner, Economics, Regulation and Policy

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Experience

Craig has about 20 years experience in providing strategic advice and economic analysis in the infrastructure sector. Craig has provided policy and regulatory due diligence or advice on a large number of infrastructure asset transactions and has particular experience on issues associated with assessing risk and returns for a wide variety of industries.

Relevant experience

Client	Value to client
Infrastructure asset transactions	Provided policy and regulatory due diligence (VDD and buy side) or advice on numerous infrastructure asset transactions, including: ▶ The sale of the Port Botany and Port Kembla (current) ▶ Expression of Interest for the Abbott Point Coal Terminal T4-T7 ▶ Sale of the Abbott Point Coal Terminal X50 ▶ APA Group – sale of assets to the Energy Investment Trust ▶ Spark Infrastructure – strategic review ▶ Sydney Water – preparing for the sale of the desalination plant ▶ Queensland Government - Sale of Queensland Rail ▶ North Queensland Gas Pipeline ▶ Spark Infrastructure – UK water asset due diligence ▶ Origin Energy Networks ▶ Allgas ▶ Murraylink ▶ Duke Energy's Australasian energy assets ▶ DUET Group on several acquisitions opportunities ▶ SP AusNet on its IPO ▶ AMP Henderson/Alinta on the acquisition/ownership reorganisation of United Energy, Multinet and AlintaGas ▶ CitiPower ▶ The sale of several energy retailers (various) ▶ The sale of various renewable energy assets
Infrastructure investor	Currently providing advice on issues associated with the potential acquisition of infrastructure assets in the water industry, including rate of return issues
Private equity	Currently leading work assessing the returns that may be available from direct investment in Australian agriculture
Infrastructure Investor	Assessed the relationship between required returns and the various types of assets it is invested in, or is proposing to invest in, including regulated assets.
Confidential	Assessed the potential issues associated with the estimation of the Maximum Reserve Capacity Price in the Western Australian Wholesale Electricity Market, including the cost of capital

Confidential	Led a "market testing" project on a government owned superannuation business. This included assessing the returns it is earning and benchmarking what it ought to be earning.
Confidential	Led a "market testing" project on a government owned project management business. This included assessing the returns it is earning and benchmarking what it ought to be earning.
Confidential	Led a "market testing" project on a government owned registry business. This included assessing the returns it is earning and benchmarking what it ought to be earning.
Various resource companies	Advised on rate of return aspects of the application of the Minerals Resource Rent Tax in respect of downstream infrastructure.
Infrastructure industries	Craig regularly advises a wide range of businesses in infrastructure sectors that are either subject to regulation or to the risk of regulation in relation to cost of capital, risk and a range of other related issues (e.g. pricing)
Financial Investor Group	Advised the eight major energy asset owners in Australia (APA Group, Brookfield, CKI, DUET, Hastings Funds Management, Hong Kong Electric, Singapore Power, Spark Infrastructure) on the AER's first review of the cost of capital to apply to regulated energy network businesses, particularly in light of the Global Financial Crisis.
NSW Department of Treasury and Finance	Advised on the preparation of NSW Lotteries for privatization including addressing issues of the appropriate rates of return.
Fosters Group	Advised on the assumptions underpinning valuation of certain hotel assets in respect of the application of new taxes applying to gaming machines.
NSW Crown Lands	Led a review of the rate of return component of a rental formula previously set by IPART, which is applied in establishing licence fees for domestic waterfront tenancies located on Crown Land

Qualifications

- Bachelor of Business, Curtin University, Western Australia
- Diploma in Applied Finance and Investment, FINSIA
- MBA (Hons) Middlesex University Business School, London UK

Appendix F My instructions

Partner:	Roxanne Smith +61 8239 7108
Email:	roxanne.smith@jws.com.au
Senior Associate:	Christopher Beames +61 8239 7143
Email:	christopher.beames@jws.com.au
Our Ref:	A8059
Your Ref:	
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5 November 2012

Mr Craig Mickle
Partner
Ernst & Young
Level 33, Ernst & Young Centre
World Square, 680 George Street
SYDNEY NSW 2000

BY EMAIL

Dear Sir

Victorian Gas Access Arrangement Review 2013-2017: Envestra, Multinet and SP AusNet

We act for Envestra Limited (**Envestra**), Multinet Gas (DB No. 1) Pty Ltd and Multinet Gas (DB No. 2) Pty Ltd (together, **Multinet**) and SPI Networks (Gas) Pty Ltd (**SP AusNet**) in relation to the Australian Energy Regulator's (**AER**) review of each of the Gas Access Arrangements for Victoria.

Envestra, Multinet and SP AusNet as well as APA GasNet (Operations) Australia Pty Ld (together the **Gas Businesses**) wish to jointly engage you to prepare an expert report in connection with the AER's review of the Victorian Gas Access Arrangements. The report will also be used by Envestra for the AER's review of Envestra's Access Arrangement for its Albury Distribution Network.

This letter sets out the matters which the Gas Businesses wish you to address in your report and the requirements with which the report must comply.

Terms of Reference

The terms and conditions upon which each of the Gas Businesses provides access to their respective networks are subject to five yearly reviews by the AER.

The AER undertakes that review by considering the terms and conditions proposed by each of the Gas Businesses against criteria set out in the *National Gas Law* and *National Gas Rules*.

Rule 76 of the *National Gas Rules* provides that the Gas Businesses' total revenue for each regulatory year is to be determined using the building block approach, in which one of the building blocks is a return on the projected capital base for the year.

Rule 87(1) provides that the rate of return on capital is to be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services. Rule 87(2) provides that a well accepted approach incorporating the cost of equity and debt (such as the Weighted Average Cost of Capital (**WACC**)) is to be used along with a well accepted financial model (such as the Capital Asset Pricing Model (**CAPM**)) in determining the rate of return on capital.

The Gas Businesses are seeking expert assistance in respect of their proposed estimates of the cost of equity to be used in the calculation of the WACC (through the CAPM) and the approach of the AER in the Draft Decisions recently published for each of the Gas Businesses.

In this context the Gas Businesses wish to engage you to prepare an expert report which contains:

(a) your opinion on the best market evidence available to assess the prevailing cost of equity in the market for funds in Australia;

(b) an analysis of the available evidence including your opinion on the estimated prevailing cost of equity that can be drawn from that evidence;

(c) based on your analysis above, your opinion as to whether the cost of equity estimated by the AER in the Draft Decisions for the Gas Businesses, meets the requirement of Rule 87(1) of the *National Gas Rules* that it be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services; and

(d) based on your analysis above, your opinion as to whether the cost of equity proposed by the Gas Businesses in response to the Draft Decision meets the requirement of Rule 87(1) of the *National Gas Rules* that it be commensurate with prevailing conditions in the market for funds and the risks involved in providing reference services.

Use of Report

It is intended that your report will be included by each of the Gas Businesses in their respective responses to the AER's Draft Decisions in respect of their access arrangement revision proposals for their Victorian networks (and in the case of Envestra, Albury network) for the access arrangement period from 1 January 2013 to 31 December 2017. The report may be provided by the AER to its own advisers. The report must be expressed so that it may be relied upon both by the Gas Businesses and by the AER.

The AER may ask queries in respect of the report and you will be required to assist each of the Gas Businesses in answering these queries. The AER may choose to interview you and if so, you will be required to participate in any such interviews.

The report will be reviewed by the Gas Businesses' legal advisers and will be used by them to provide legal advice to the Gas Businesses as to their respective rights and obligations under the *National Gas Law* and *National Gas Rules*. You will be required to work with these legal advisers and the Gas Businesses' personnel to assist them to prepare the Gas Businesses' respective responses to the Draft Decisions and submissions in response to the Final Decisions made by the AER.

If any of the Gas Businesses choose to challenge any decision made by the AER, that appeal will be made to the Australian Competition Tribunal and the report will be considered by the Tribunal. The Gas Businesses may also seek review by a court and the report would be subject to consideration by such court. You should therefore be conscious that the report may be used in the resolution of a dispute between the AER and any or all of the Gas Businesses as to the appropriate level of the respective Distributor's distribution tariffs. Due to this, the report will need to comply with the Federal Court requirements for expert reports, which are outlined below.

You must ensure you are available to assist the Gas Businesses until such time as the Access Arrangement Review and any subsequent appeal is finalised.

Timeframe

The AER's Draft Decisions in respect of the Gas Businesses' respective access arrangement revision proposals have now been released. The Gas Businesses will then have until 9 November 2012 to respond to the Draft Decisions (including the provision of any expert reports).

Compliance with the Code of Conduct for Expert Witnesses

Attached is a copy of the Federal Court's Practice Note CM 7, entitled "*Expert Witnesses in Proceedings in the Federal Court of Australia*", which comprises the guidelines for expert witnesses in the Federal Court of Australia (**Expert Witness Guidelines**).

Please read and familiarise yourself with the Expert Witness Guidelines and comply with them at all times in the course of your engagement by the Gas Businesses.

In particular, your report prepared for the Gas Businesses should contain a statement at the beginning of the report to the effect that the author of the report has read, understood and complied with the Expert Witness Guidelines.

Your report must also:

1 contain particulars of the training, study or experience by which the expert has acquired specialised knowledge;

2 identify the questions that the expert has been asked to address;

3 set out separately each of the factual findings or assumptions on which the expert's opinion is based;

4 set out each of the expert's opinions separately from the factual findings or assumptions;

5 set out the reasons for each of the expert's opinions; and

6 otherwise comply with the Expert Witness Guidelines.

The expert is also required to state that each of the expert's opinions is wholly or substantially based on the expert's specialised knowledge.

It is also a requirement that the report be signed by the expert and include a declaration that "*[the expert] has made all the inquiries that [the expert] believes are desirable and appropriate and that no matters of significance that [the expert] regards as relevant have, to [the expert's] knowledge, been withheld from the report*".

Please also attach a copy of these terms of reference to the report.

Terms of Engagement

Your contract for the provision of the report will be directly with the Gas Businesses. You should forward to each of the Gas Businesses any terms you propose govern that contract as well as your fee proposal.

Please sign a counterpart of this letter and forward it to each of the Gas Businesses to confirm your acceptance of the engagement by the Gas Businesses.

Yours faithfully

Johnson Winter & Slattery

Enc: **Federal Court of Australia Practice Note CM 7, "Expert Witnesses in Proceedings in the Federal Court of Australia"**

……………………………………………………
Signed and acknowledged by Craig Mickle

Date …………………………………..