



Memorandum

To: Greg Meredith
Cc: Chris Harvey and Rob Lewis
From: CEG – Asia Pacific
Date: 27 March 2008
Subject: Review of Vic Gas Final Decision

Terms of reference

CEG has been asked by Envestra, Multinet and SPAus Net to review the Essential Services Commission of Victoria (‘ESCV’) final decision “Gas Access Arrangement Review 2008-2012”. Specifically we have been asked to review the reasonableness or otherwise of the ESCV’s treatment of our 2007 report *Estimating relative risk in the market for funds*. This memo provides our findings.

1.1. Our findings are not disputed

In our report we concluded that the weight of empirical and theoretical evidence from the finance literature showed that the ESCV’s methodology would underestimate the cost of equity for the distributors.

The ESCV acknowledges our conclusion when it that our report concluded that “*the CAPM as applied by the Commission underestimates the return on low beta stock*”.¹

One can reasonably conclude that the ESCV accepted our finding that their methodology will underestimate required returns. This conclusion can be drawn based on the following facts:

- The ESCV did not dispute our conclusion;
- The ESCV did not ask ACG to critique our conclusion;
- The ESCV describes our report as “comprehensive”;²
- The ESCV acknowledges that the Sharpe CAPM has “come in for considerable criticism in recent years”;³
- The ESCV states that its approach is “despite its shortcomings, consistent with common regulatory and finance practice”;⁴

¹ Second dot point on page 473 of the final decision.

² Second last full paragraph on page 473 of the final decision.

³ Third last full paragraph on page 473 of the final decision.



If one cannot conclude from the above that the ESCV accepts our conclusion, one can definitively conclude that the ESCV presented no grounds to reject our conclusion. That is, the ESCV's failure to contest our central findings and its failure to ask ACG to investigate those findings demonstrate, if not acceptance, that the ESCV did not present, or attempt to discover, any basis for rejecting those findings.

1.2. ESCV does not have regard to our report in setting the equity beta

Notwithstanding that our findings are not disputed, the ESCV does not have regard to our findings when setting the equity beta. The ESCV directly states that it has not had regard to our report when it states at page 476 that:

“Further the proposition that the Commission revisit the application of the Sharpe CAPM, on the grounds that there are theoretical considerations that call into question the reasonableness of the calculated rate of return, have not been accepted.”

We note that there is an error in the description of our report's recommendations embodied in the above quote. Specifically, our report summarised a primarily empirical (not just theoretical) literature showing the Sharpe CAPM underestimated required returns for low beta firms.

This is the only reference to our report, or any of the evidence and findings therein, in the conclusion section of the ESCV's equity beta discussion. The entirety of the rest of the discussion in that conclusion section is given over to discussion of measurement of proxy betas.

At no point when setting a range for the equity beta does the ESCV have regard to our conclusion that using measured proxy betas applied within the Sharpe CAPM will underestimate the required equity *“return which is commensurate with prevailing conditions in the market for funds and the risk involved in delivering the Reference Service”*. That is, the ESCV's use of proxy betas will underestimate the return required under section 8.30 of the Gas Code.

1.3. The ESCV misinterprets the economic meaning of section 8.30

The ESCV makes two statements, at the beginning and the end of its conclusion section, that demonstrate a misunderstanding of the economic content of section 8.30. These are provided below.

“The initial task for the Commission is to determine the ‘best estimate arrived at on a reasonable basis’ for the equity beta that is consistent with ‘prevailing conditions in the market for funds and the risk involved in delivering the Reference Services’.”
(Page 475)

“Given the Commission’s finding that the ‘best estimate arrived at on a reasonable basis’ for the beta that is consistent with ‘prevailing conditions in the market for funds

⁴ Last paragraph on page 474, first paragraph on page 475.



and the risk involved in delivering the Reference Services' lies between 0.5 and 0.8, it concludes that the distributors' proposed betas and beta ranges do not meet the requirements of the Code." (Page 476)

In the above statements the Commission relies on a partial quote from section 8.30. In doing so, it links its estimation of "proxy betas" to the "prevailing conditions in the market for funds". The effect of this is to interpret section 8.30 as requiring that the ESCV adopt a "*beta that is consistent with 'prevailing conditions in the market for funds...'*". The ESCV's interpretation of section 8.30 is confirmed in the remainder of the ESCV's discussion in the conclusions section – a discussion which is entirely given over to the accurate estimation of a range for proxy betas.

However, in doing so it commits an error of economic/finance theory. Section 8.30 is repeated here in full.

8.30 *"The Rate of Return used in determining a Reference Tariff should provide a return which is commensurate with prevailing conditions in the market for funds and the risk involved in delivering the Reference Service (as reflected in the terms and conditions on which the Reference Service is offered and any other risk associated with delivering the Reference Service)."*

Section 8.30 states that the **return** allowed must be "commensurate with prevailing conditions in the market for funds". The ESCV confuses this with a requirement that the **proxy beta** determined must be "commensurate with prevailing conditions in the market for funds".

Given that the ESCV uses its measured proxy beta in a Sharpe CAPM model the ESCV's interpretation of section 8.30 is, as a matter of finance, only correct if using the measured **proxy beta** in the Sharpe CAPM will provide an adequate **return** on equity. However, this was precisely the subject of our report which showed that the Sharpe CAPM, when used in combination with a proxy beta of less than 1.0, underestimates the required return on equity.

Given that our findings are undisputed in the final decision, there does not appear to be any basis on which the ESCV can sustain the assumptions of finance that are implicit in its interpretation of section 8.30.