

Memorandum

To:AER WACC ReviewFrom:CEG – Asia PacificDate:26 February 2009Subject:MEU Submission

1. This memorandum provides a brief discussion of specific aspects of the Major Energy Users Inc (MEU) submission to the AER WACC review dated January 2009.

MEU submission

2. The key elements of the MEU submission we have been asked to discuss are well summarised in the following quote.

Consumers expected that the AER would address this review bearing in mind the need for a regulator to manage the regulatory bargain between consumers and network providers in a fair and reasonable way. The market as a whole has considered the Utilities over the long term as more attractive than the market as a whole. This is shown by the continued outperformance of the Utilities index compared to its equivalent general market index.





Source: CommSec, analysis by MEU

To illustrate the reasons for this outperfomance, we provide a table below which lists the comparative benefits and outcomes enjoyed by regulated businesses compared to businesses operating in a competitive market.

Competitive market	Regulated electricity networks
Variable revenue	Guaranteed revenue
Sales volatile, heavily dependent on variable demand	Consistently increasing sales low elasticity in demand
High risk of new competition	Little risk of competition
Capital investment at risk	Capital investments guaranteed
Major increases in costs (ETS, MRET, network charges, power, gas)	Opex consistently increased by regulators. Unforeseen events are usually treated as pass-through costs
Market average dividend lower	Sector dividend higher by ~30%
Market average share price lower	Sector share price higher by ~30%

The above highlights that the outperformance of the regulated energy sector has not been matched by the market as a whole while the financial situation has developed. This is particularly pointed when it is considered the regulated industry has a number of risk minimisation elements provided to it which are unique when compared to competitive industry. Therefore, our submission stated that on a holistic basis the currently used WACC parameters were set too high for the comparative risks faced by regulated firms. (MEU submission pp10-11)



CEG analysis

- 3. In reviewing the MEU submission we have three key conclusions:
 - i. That the MEU appears to have misinterpreted a number of important facts;
 - ii. The best interpretation of the historical data provided by the MEU is that firms in the utility index have a *higher* cost of equity than the average firm on the Australian stock market; and
 - iii. The confidence interval around this conclusion (and any other conclusion from this data) is so wide as to make it of questionable usefulness.

Errors of fact in MEU Submission

- 4. The MEU implicitly assume that the ASX Utility Index is a good proxy for the movements in the share prices of regulated electricity transport companies. This is not correct. For the purpose of this index the utilities sector encompasses those companies considered to be electric, gas or water utilities, or companies that operate as independent producers and/or distributors of power. That is, this index includes energy generators and retailers as well as regulated network businesses. This makes the ASX Utility Index a problematic place to start any analysis of regulated energy transport businesses.
- 5. We provide below a comparison between the movements in the ASX200 Index and an index of the equal weighted value of shares in six listed firms¹ who earn the majority of revenues from regulated energy businesses. However, because all of these firms have only been listed since late 2005 the time period shown only dates from then.

APA, DUET, Envestra, Hastings Diversified Utilities, SPAusNet and Spark Infrastructure.





Figure 1: Regulated Utility Index vs ASX200

- 6. In this figure and for the time period shown it is clear that share prices in regulated utilities did not rise by as much as the ASX200 but did fall by the same amount (relative to the starting point of December 2005). The net effect is that since December 2005 utility share prices have closely matched the change in the ASX200. In any event, as we describe below, even if the MEU's numbers were perfect the correct interpretation of these would be, if anything, the exact opposite of the MEU's interpretation.
- 7. The MEU also make a number of factual claims, or implied factual claims, for which no source is provided. These are summarised in the table quoted above. We deal with each of these claims in turn:



MEU claim re unregulated firm	MEU claim re regulated firm	CEG observations
Variable revenue	Guaranteed revenue	Revenue is not guaranteed for the majority of regulated businesses subject to a price cap. In any event, 'guaranteed revenue' creates risks because it means that revenues cannot expand if costs increase faster than expected.
Sales volatile, heavily dependent on variable demand	Consistently increasing sales low elasticity in demand	Even if we accept the MEU's propositions, it is variability in profits that matters to investors' risk perceptions. With a high level of fixed costs (such as regulated firms have), small variations in sales can result in large variability of profits. This is also compounded by high debt gearing (such as the NER assumes) and 5 year lags in revenue resets. It is far from obvious that profits for regulated firms will be less volatile than the average for ASX200 firms.
High risk of new competition	Little risk of competition	The market forces of competition are analogous to explicit regulation in that they both constrain the price, quantity and service performance of firms. Indeed, the explicit regulation of the energy network sector seeks to replicate the disciplines that competition would impose. In many ways, a competitive market provides greater certainty to industry participants than regulation by a statutory body such as the AER. Moreover, even in competitive markets firms contract with customers with the effect that the contract establishes prices with a similar effect as a regulatory determination. If regulation were preferable to competition then companies, including those that make up the MEU, should be lobbying government to be regulated. The fact that this is uncommon supports the proposition that, where firms have a choice, they view competition as a lower risk constraint on activities than regulation.



Capital investment at risk	Capital investments guaranteed	The value of equity provided to put regulated assets in place is not guaranteed. The value of that equity is only guaranteed if profits are guaranteed and the NEL and NER do not guarantee profits. Moreover, NER clause S5.2.3 allows the AER to remove assets from the regulated asset base under certain conditions.
Major increases in costs (ETS, MRET, network charges, power, gas)	Opex consistently increased by regulators. Unforeseen events are usually treated as pass-through costs	In the context of the regulatory framework, regulators undertake a detailed review of opex proposals in determining what they consider to be a reasonable allowance. These detailed reviews take into account demonstrated drivers such as the growth in assets, and increased legislative obligations (eg. safety, vegetation management, etc).
Market average dividend lower	Sector dividend higher by ~30%	It is unclear what this means.
Market average share price lower	Sector share price higher by ~30%	It is unclear what this means.

- 8. It is simplistic and incorrect to presume that regulation of natural monopolies makes the underlying equity returns in natural monopolies lower risk than other unregulated businesses. Regulation exists to moderate and restrict company behaviours. Unregulated businesses are subject to a different form of behaviour restriction, namely competition, but, in many respects, that form or behaviour restriction is more forgiving than regulation under the NER. If there is a cost increase for firms in a competitive market, say due to unexpectedly high input costs, then firms in that market will be able to quickly pass those cost increases onto customers in prices. By contrast, firms in regulated industries will generally not be able to do so for many years (up to five years).
- 9. We simply do not understand what point the MEU is attempting to make when they state that utility sector dividends are higher by 30% and that utility sector share prices are higher by 30% but that the 'market average' dividend and market average share price is lower. The MEU does not define the time period over which these measurements are taken. Nor does it explain what the measurements actually mean. For example, is it dividend yield or the absolute level of dividends that the MEU is referring to? If it is the absolute level of dividends what adjustment is made to normalise for the fact that the number of



firms in the Utility Index has grown over time? If no adjustment is made then what possible meaning can be applied to this number?

 Moreover, the claim regarding share prices are incorrect (to the extent we understand what the claim is). The below figure illustrates the course of the ASX Utility Index and the ASX All Ordinaries Index over the longest time period where both indices existed.

Historical Chart of XUJ Timeframe: 21/09/2001 to 16/02/200§ Date 25/10/2001 Open 3,241.396 High 3,309.9 Low 3,241.396 Close 3,309.9 +160% XUJ = XAO = +140% +120% +100% +80% +60% +40% -20% 0% -20% 02 03 04 05 06 07 08 09

Figure 2: ASX Utility Index vs All Ordinaries Index – longest time series

- 11. The Utility Index is higher by about 30% (since the starting date) and the All Ordinaries is higher by about 20% (since the starting date). While we can see how the MEU can reach the conclusion that the "Sector share price higher by around 30%" we cannot see how the MEU can conclude that the "market average share price is lower". As can be seen from Figure 2 these conclusions are very time sensitive for example a year ago, in early 2008, the ASX Utility Index was higher by about 90% (since the starting date) and the All Ordinaries was higher by about 100%.
- 12. The main conclusion that we would draw from this chart is that there is fairly strong correlation between the two indices although they do, at times, diverge. In any event, as discussed below, if anything the data supplied by the MEU supports the view that the utility sector is high risk not *vice versa*. This is explained below.

Source: etrade



Best interpretation of MEU data is that investment in ASX Utilities Index is higher than average risk

- 13. When a stock market is in equilibrium² the observed return on investment in equity will exactly equal the investors' required return on equity. Only where equity investors are 'surprised' should the observed return deviate from their required return. It follows that if investors regard utilities as lower than average risk then, over time, one should expect the average return from investment in utility shares to be less than the average return from investment in other shares.
- 14. However, the MEU data, and Figure 2 above, appears to shows the exact opposite result.³ Over the longest time period investment in the ASX Utility Index provides a higher return than investment in the average share market. This time series evidence supports the view that the market considers firms in the utility index to be higher risk than average and, therefore, demands a higher return on investment in these firms.
- 15. This conclusion is even more strongly supported by decomposition of the above graph into 'boom' and 'bust' periods. With the 'boom' relating to the pre August 2007 period (ie, prior to the US subprime credit crunch of August 2007 and what has since turned into a global financial crisis) ⁴ and the 'bust' period relating to the post August 2007 period.
- 16. If we accept the predictions of the Sharpe CAPM we should expect to see the return from investment in high beta stock (ie, firms that are high risk because their returns are correlated with the health of the underlying economy) is higher than average in the boom period and lower than average in the bust period. This is precisely what we see for investment in the Utility Index.

² That is, when investors expectations turn out to be accurate (ie, investors are not 'surprised' by future events).

³ Although the MEU's focus on share indices means the dividend component of returns are not captured in any analysis. This is a further reason to regard the analysis as imperfect.

⁴ For example, the IMF, World Economic Outlook, April 2008 states: "The financial market crisis that erupted in August 2007 has developed into the largest financial shock since the Great Depression, inflicting heavy damage on markets and institutions at the core of the financial system"





Figure 3: Utility Index vs All Ordinaries Index – Boom





Figure 4: Utility Index vs All Ordinaries Index – Bust

- 17. As can be seen from figures 3 and 4, the Utility Index outperformed the All Ordinaries in the boom period and underperformed the All Ordinaries during the bust period. Thus, if anything, the evidence that the MEU presents supports the view that investors regard the Utility Index as higher risk than the All Ordinaries.
- 18. The reason that the MEU makes this mistake in its implied logic is that it interprets high returns on the ASX Utility Index as evidence of lax regulation. But this is the wrong interpretation. If regulation is perceived to be lax then this laxity will already be reflected in high share prices at the time that firm is listed (eg, if the regulated WACC is perceived to be high this won't result in a faster increase in the share price it will just result in a higher share price to start with). With the



perceived laxity or otherwise of regulation already built into starting share prices, *ex post* returns from investing in shares provides most information on equity investors' required returns (ie, the rate at which they discount future profits).

Ultimately such analysis is of questionable usefulness

- 19. Notwithstanding our above conclusion, a graphical comparison of time series for returns on utilities and the ASX200 over the last 7 years provides only very weak basis to conclude that investment in utilities is higher than average risk. The problem with the above analysis is that it assumes that there are no net positive or negative surprises for investors over time. If there are net positive or negative surprises then these will also drive equity returns. It is precisely because the net 'surprise' in each period is very difficult to know that the MEU style analysis is ultimately of limited value.
- 20. By way of illustration, it may be that the outperformance of utilities in the boom period was due, not to higher discount rates by investors, but due to utilities continually surprising investors with higher than expected cost reductions. However, whether this is true can only be tested if we know what cost reductions investors were expecting a factor that we cannot know with any certainty.
- 21. This means that the analysis becomes an exercise in *ex post* conjecture where the conjectures are almost impossible to empirically test (eg, whether or not share price movements reflect higher discount rates of investors or higher than expected cost reductions by firms). For this reason attempting to draw a conclusion based on a historical time series of the Utilities Index and the market as a whole is, in our view, close to futile.

Conclusion

22. The MEU paper is based on explicit and implied factual assertions that are not borne out by inspection of those facts. Ultimately the data provided is of limited value in throwing any light on the required return for investment in regulated utilities. However, to the extent that any conclusion can be drawn from that data it is the exact opposite of the conclusions that the MEU draws. Specifically, the fact the historical outperformance of the ASX Utility Index relative to the ASX200 in the 'boom' and under performance in the 'bust' suggests higher risk for firms in the ASX Utilities Index not lower risk.