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3 November 2010

Mid-West and South-West Distribution Systems
Gas Access
Economic Regulation Authority
PO Box 8469
Perth
WA 6849

By email: publicsubmissions@erawa.com.au

Dear sir or madam

Response to the Draft Decision On WA Gas Networks' Revisions Proposal for the Access Arrangement for the Mid-West And South-West Gas Distribution System

Please find attached a brief paper in response to the ERA's draft decision on the rate of return for WA Gas Networks.

We would be pleased to elaborate on any aspect of our submission. Please contact Adriaan van Jaarsveldt, our General Manager Regulation on +612 9692 2823 or adriaan.vanjaarsveldt@primeinfrastructure.com in the first instance.

Yours sincerely

Brian Kingston
Managing Director and Chief Executive Officer

PRIME INFRASTRUCTURE

COST OF CAPITAL
THE INVESTOR PERSPECTIVE

RESPONSE TO THE ECONOMIC REGULATION AUTHORITY'S DRAFT DECISION ON WA GAS NETWORKS' REVISIONS PROPOSAL FOR THE ACCESS ARRANGEMENT FOR THE MID-WEST AND SOUTH-WEST GAS DISTRIBUTION SYSTEM

EXECUTIVE SUMMARY

Prime Infrastructure (PIH) welcomes the opportunity to make a submission in response to the Economic Regulation Authority's (ERA) draft decision on WA Gas Networks' Revision Proposal for the access arrangement for the Mid-West and South-West Gas Distribution Systems.

We have focussed on responding to the ERA's draft decision on the regulated rate of return for WA Gas Networks. Our response is given from a practical, market orientated perspective. Our response is also given from the point of view of compliance with the National Gas Rules. The National Gas Rules impose an obligation to determine a rate of return commensurate with the regulatory and commercial risks involved in providing reference services.

We want to encourage the ERA to take a step back from the technical analyses and finance theory and instead draw attention to the commercial importance of the cost of capital and the role that it plays in the investment decisions made by private sector infrastructure investors, operating in a competitive and challenging capital market.

The relative flexibility allowed under the National Gas Rules for determining the regulated rate of return provides the ERA with an opportunity in making its final decision to take the lead and break away from the narrow, overly theoretical approach adopted by Australian regulators. It has the opportunity to make a decision that will underwrite and incentivise future investment.

We believe that the draft decision does not recognise the market realities faced by investors.

In particular, we address the following issues:

A formulaic approach to determining the rate of return

We think that the application of a formulaic approach to set WACC is causing regulators to consistently underestimate the real cost of capital faced by investors. The ERA in making its decision on WA Gas Networks is not constrained by the narrow prescription of the NER, but has greater flexibility under the National Gas Rules to move beyond a single-model CAPM and adopt an approach that considers a broader range of market parameters.

The limitations of a single theoretical model

There are multiple models which might be used to calculate an expected rate of return on equity. These models are all particular cases of intertemporal capital asset pricing which is a well-accepted financial model. Each of these models provides an important insight into the way in which asset prices are determined, but each also has specific limitations. The application of a single model cannot provide a reliable estimate of the expected rate of return on equity which is commensurate with prevailing conditions in the market for funds. A better estimate would be obtained by using multiple models to determine a range of outcomes.

Technological and regulatory risk

Even the application of multiple models will not necessarily result in an estimated return on equity that is commensurate with prevailing conditions in the market for funds. This is because accepted financial models are simplified descriptions of the market in question and of conditions in that market. There is no single financial model which can be used to estimate an expected rate of return on equity which properly takes into account all technical and regulatory risks. In practical terms this means that regulators must err on the side of caution in selecting a value from a possible range of returns and select a value towards the high end of the range.

Prevailing conditions in the market for funds

There are a number of factors that continue to cause uncertainty in the markets and are expected to do so for some time to come. Our observation is that market uncertainties continue to justify an uplift to the MRP. The uplift should remain in place until there is clear evidence that the level of market uncertainty and volatility have permanently returned to "normal" levels.

1. Introduction

1.1 Prime Infrastructure and Brookfield

Brookfield Asset Management Inc is a global asset manager focused on property, renewable power and infrastructure assets with over US$100 billion of assets under management. Brookfield invests globally in long-life, infrastructure assets that generate stable and growing cash flows with high barriers to entry and low maintenance capital requirements. Brookfield has over 80 years of experience owning and operating infrastructure assets. Its portfolio includes direct and indirect ownership interests in utilities, transportation, and timberlands in North and South America, Europe and Australasia. (www.brookfield.com)

Brookfield Infrastructure Partners (NYSE: BIP; TSX:BIP.UN), is a publicly traded partnership managed by Brookfield. BIP currently owns around 40% of the issued shares of Prime Infrastructure. (www.brookfieldinfrastructure.com)

Prime Infrastructure (ASX: PIH) is a specialist infrastructure operator, which owns and manages a portfolio of high quality infrastructure assets. Its portfolio of assets is primarily in the energy and transport sectors located in Australasia, North America and Europe. (www.primeinfrastructure.com)

PIH and BIP have entered into a merger agreement, which would increase Brookfield's ownership of PIH from 40% to 100% and create a leading global infrastructure company with a market capitalisation in excess of US$2.5 billion. The transaction is subject to the approval of PIH and BIP security holders, as well as regulatory and court approvals. Subject to these approvals, it is anticipated that the merger will be completed by the end of the calendar year.

74.1% of the share capital of the West Australian Gas Networks (WA Gas Networks) is currently held for sale by PIH. The remaining 25.9% is owned by the DUET Group.

1.2 Why is Prime Infrastructure making a submission?

In this submission we have focussed on responding to the ERA's draft decision on the regulated rate of return for WA Gas Networks. Our response is given from a practical, market orientated perspective as well as from the point of view of compliance with the National Gas Rules. The National Gas Rules impose an obligation to determine a rate of return commensurate with the regulatory and commercial risks involved in providing reference services. We do not seek to address technical parameter issues in detail, primarily because this is not the focus in market practice.

Given the essential nature of the services provided by PIH's assets, the majority of our revenue is subject to economic regulation. This regulation is applied by regulators in eight different international jurisdictions and varies in form from price monitoring to full revenue and access regulation. PIH therefore has a significant interest in the development of economic regulatory frameworks that provide certainty and incentive for investment. The regulated rate of return is a critical component of this, given that it typically accounts for at least 30% of regulated revenues.

With this submission we want to encourage the ERA to take a step back from the technical analyses and finance theory and instead draw attention to the commercial importance of the cost of capital and the role that it plays in the investment decisions made by private sector infrastructure investors, operating in a competitive and challenging capital market.

The relative flexibility allowed under the National Gas Rules for determining the regulated rate of return provides the ERA with an opportunity in making its final decision to take the lead and break away from the theoretical approach adopted by Australian regulators to ensure the determination of a rate of return which is commensurate with the regulatory and commercial risks involved in providing reference services. It has the opportunity to make a decision that will underwrite and incentivise future investment.

PRIME INFRASTRUCTURE

2. The regulated rate of return

2.1 Limitations of the approach adopted by the ERA

We believe that the draft decision on the rate of return does not recognise the market realities faced by investors.

In particular, we have the following concerns with the approach:

- it adopts a formulaic approach to determining the rate of return;
- the limitations of using a single theoretical model are not recognised;
- technological and regulatory risk is not accounted for; and
- the decision is not commensurate with prevailing conditions in the market for funds.

We elaborate below on each of these concerns.

2.2 A formulaic approach to determining the rate of return

Australian regulators, including the Australian Energy Regulator (AER), have adopted an increasingly formulaic approach to the setting of the regulated weighted average cost of capital (WACC). In its regulation of electricity networks the AER has adopted an approach of conducting WACC reviews at intervals of five years and thereafter applying the unadjusted WACC parameters to all network determinations during the period.

In making its WACC determination the AER applies the classical Sharpe-Lintner Capital Asset Pricing Model (CAPM) as prescribed by the National Electricity Rules (NER).

The CAPM, like all asset pricing models, is a simplified description of a complex reality. We think that the application of this model to set WACC is causing the AER to consistently underestimate the real cost of capital faced by investors.

This finding is consistent with experience in other jurisdictions where regulators have adopted formulaic, "auto-pilot" approaches to determine WACC:

> *The apparent efficiency of bypassing case-by-case evidentiary proceedings with a generic formula may have foretold a new and more efficient method of deriving regulated rates generally—except for one thing. The current Canadian generic ROE formula appears to have created a persistent divergence between allowed gas utility returns in Canada and the US. Since 1998, ROEs used to make regulated tariffs have been, on average, 100 to 150 basis points lower than in the US. That is, in dozens of evidentiary proceedings since 1998, US regulators have allowed their companies to set tariffs reflecting ROEs that were on average substantially higher than for their Canadian formula-driven ROE counterparts.*[1]

The ERA in making its decision on WA Gas Networks is not constrained by the narrow prescription of the NER, but has greater flexibility under the National Gas Rules to move beyond a single-model CAPM and adopt an approach that considers a broader range of market parameters.

[1] Allowed Return on Equity in Canada and the United States, NERA, February 2008

2.3 The limitations of a single theoretical model

We believe that regulators are underestimating the limitations of using a single theoretical model to estimate the return on equity and should give consideration to a broader range of models to minimise the likelihood of model error.

We accept that the Share-Lintner CAPM is still widely applied. It continues to be used to provide an introduction to asset pricing theory in the teaching of, and in textbooks on, corporate finance.

However, there is a key difference in the way the CAPM is generally applied by regulators and the way it is applied by finance industry practitioners. The difference is that regulators tend to apply the CAPM as a complete model and accept the results as meaningful and accurate, while finance practitioners start with the CAPM and then adjust the results using their commercial judgement to ensure that the outcomes accord with market reality.

The Sharpe-Lintner CAPM, variants of the CAPM such as Black's and Brennan-Lally and the Fama-French three factor model are all specific forms of the multiple linear factor model derived from intertemporal capital asset pricing – models which acknowledge the fact that investors hedge against shortfalls in consumption or against changes in future investment opportunities. Each of these models provides an important and different insight into the way in which asset prices are determined. However, each also has recognised weaknesses, and each is no more than a partial representation (or starting point) focusing on particular determinants of asset prices.

All of these models are well accepted by financial economists, not necessarily because they correctly price financial assets, but because they each provide an important insight into the economic processes which generate expected rates of return.

The different models give different values for the expected return on equity. These different values reflect different views on the factors which are important in determining expected rates of return on financial assets.

The appropriate choice of the parameters used in the calculation of a WACC will take into account some aspects of prevailing conditions in the market for funds, but it cannot take into account all aspects of prevailing conditions. This is because the model takes into account only certain aspects of the economic processes through which returns on financial assets are determined. No single asset pricing model can, on its own, provide an estimate of expected rate of return on equity which is commensurate with all prevailing conditions in the market for funds.

A better estimate is obtained by explicitly recognising the uncertainty around the extent to which any specific model can indicate a rate of return which is commensurate with prevailing conditions in the market for funds. A practical way of doing this would be to use multiple models, properly estimated using current financial market data. The Sharpe-Lintner CAPM, variants of the CAPM such as Black's and Brennan-Lally and the Fama-French three factor model are all valid capital asset pricing models. A range of returns derived from these multiple models takes account of more and a broader range of available information. Determining this range will allow the regulator to select a rate of return which is likely to be the best estimate possible in the circumstances.

To summarise our views on using a range of models, rather than a single model:

- There are multiple models which might be used to calculate an expected rate of return on equity.
- These models are all particular cases of intertemporal capital asset pricing which is a well-accepted financial model.
- Each of these models provides an important insight into the way in which asset prices are determined, but each also has specific limitations.
- Intertemporal capital asset pricing (which includes the Sharpe-Lintner CAPM as a special case) does not – and cannot – provide an estimate of the expected rate of return on equity which is

commensurate with prevailing conditions in the market for funds because it is derived from a view of the economic processes generating expected returns which is incomplete.

- A better estimate would be obtained by using multiple models to determine a range of outcomes.

2.4 Technological and regulatory risks

From the perspective of the Sharpe-Lintner CAPM, the only type of risk for which investors are compensated by market rates of return is systematic risk. The CAPM does not price all risks:

- the Sharpe-Lintner CAPM in particular does not take into account the effects of idiosyncratic risks on asset prices; the effects of these risks are assumed to be eliminated by portfolio diversification, but the required diversification is not supported by the evidence;
- for derivation of the Sharpe-Lintner CAPM, investor expectations about investment opportunities and returns are assumed to be homogeneous; recent theoretical research, which examines the implications of the more reasonable view that investor expectations are heterogeneous, finds that optimal portfolios will not be well diversified, and idiosyncratic factors are important in explaining expected rates of return; and
- dissatisfaction with the naive psychological foundations of the rational actor framework of financial economics has led to the emergence of behavioural finance, which further challenges the adequacy of the Sharpe-Lintner CAPM as an explanation of the economic processes through which asset prices are generated.

Even the application of multiple models will not necessarily result in an estimated return on equity that is commensurate with prevailing conditions in the market for funds. This is because accepted financial models are simplified descriptions of the market in question and of conditions in that market. Any model which is used to estimate the cost of equity takes into account only some aspects of the market for funds, leaving others aside because:

i. they are outside the scope of the conceptual framework within which the model has been developed; or
ii. the way in which they are to be taken into account within that framework is not, at present, well understood; or
iii. from the perspective of the conceptual framework within which the model is derived, they are unimportant to the economic processes determining the cost of equity.

There is no single financial model which can be used to estimate an expected rate of return on equity which properly takes into account all technical and regulatory risks. In these models, the only risk that matters for asset pricing is investor consumption risk as measured by the covariance of asset return with investor expectations about consumption growth.

This is because the underlying theoretical scheme of each of the models is limited to investors buying and selling financial assets. This scheme is that of a simple exchange economy. It does not incorporate production, technological change, government and the regulation of economic activity, or economic growth. Because the models are derived by assuming a simple exchange economy, they cannot provide a complete explanation of the determinants of asset prices. In particular, they cannot explain asset prices in terms of economy-wide technological and regulatory risks.

The risks involved in providing regulated gas pipeline services can be broadly classified as:

a. *commercial risks*, which include:
   i. supply risk: risk that the availability of the energy commodity could affect the network's revenue-earning capability;
   ii. market risk*:* competition from alternative forms and methods of energy supply, such as small scale renewable, remote generation, electric heating substituting for gas, etc.; and

b. *operating risk:* risk to the income-earning capability that arises from technical and operational factors; and

c. *regulatory risk*: risk to the revenue-earning capability of the network which arises from changes to regulation.

As described above, the theoretical basis underlying the accepted asset pricing models does not ensure that these risks are factored into the rate of return. This gives rise to a disconnection between the rates of return allowed by regulators and the rates of return that infrastructure investors require. Empirical evidence indicates that investors in large infrastructure business with significant regulated energy or utility activities require rates of return on equity in the range 13.0% to 14.0%. These rates of return on equity take into account the risks to which investors are exposed through the provision of regulated services.

In practical terms this means that regulators must err on the side of caution in selecting a value from a possible range of returns and select a value towards the high end of the range.

2.5 Prevailing conditions in the market for funds

The ERA draft decision sets the Market Risk Premium (MRP) at 6.0%, a level that is often quoted as the long-run average under stable market conditions. This implies that the ERA believes that the market uncertainties recognised by the AER when it set the MRP at 6.5% in its decision on WACC parameters for electricity networks[2] in May last year are now over. Whilst we agree that there are definite signs of a return to more stable conditions, we would urge caution on dismissing the longer term fall-out of the crisis too hastily.

There are a number of factors that continue to cause uncertainty in the markets and are expected to do so for some time to come. These factors include:

- Ongoing frailty in major property markets including in the United Kingdom and United States. Fears continue to emerge that further steep decline may occur in property prices, which would put renewed pressure on economic and financial market conditions.
- The potential impact of fading fiscal stimulus packages in a number of countries, particularly the United States, where the continued avoidance of contraction will now increasingly depend on growth in private investment and consumption.
- A marked increase in investor aversion to risk continues.

Few analysts are prepared to predict how long the impact of the global financial crisis will continue to be felt but there seems to be general consensus that it may be for some time to come. Research by Kenneth Rogoff of Harvard and Carmen Reinhart of the University of Maryland into the longevity of economic changes driven by financial crises emphasises this point. They conclude that[3]:

"An examination of the aftermath of severe financial crises shows deep and lasting effects on asset prices, output and employment."

Our observation is that market uncertainties continue to justify an uplift to the MRP. We submit that the uplift should remain in place until there is clear evidence that the level of market uncertainty and volatility have permanently returned to "normal" levels.

[2] AER, Final Decision, Review of WACC Parameters, May 2009

[3] Reinhart, C, Rogoff, K., "The Aftermath of Financial Crises"