

Brookfield Australia Pty Ltd
(ABN 95 126 164 145)

28 September 2010

Australian Energy Market Commission
PO Box A2449
Sydney South
NSW 1235Lodged online at: www.aemc.gov.au

Dear sir or madam

Response to the AEMC's Transmission Frameworks Review (Project No. EPR0019)

Brookfield is pleased to provide the attached submission to this important review. We would be pleased to meet with you to elaborate further on the issues raised.

Please contact Adriaan van Jaarsveldt on +612 9692 2823 or adriaan.vanjaarsveldt@primeinfrastructure.com in the first instance.

Yours sincerely

Jeff Kendrew
Chief Development Officer
Brookfield Infrastructure Group



THE INVESTOR PERSPECTIVE

RESPONSE TO THE AEMC'S TRANSMISSION FRAMEWORKS REVIEW

29 SEPTEMBER 2010

EXECUTIVE SUMMARY

Brookfield is an experienced global developer and investor in energy transmission infrastructure. With our acquisition of a significant equity interest in Prime Infrastructure we have established a future platform for infrastructure investment in Australia, where substantial new investment in energy transmission networks is required. We believe that the involvement of the private sector in this expansion is critical and we are keen to participate.

There are sound public policy reasons for taking a proactive approach to involving the private sector in the delivery of new transmission capacity. The advantages that private sector investors offer in terms of effective and efficient access to capital are clear. However, we believe that the advantages of private investment to a country or sector go well beyond access to funds. The private sector introduces transparency, innovation and efficiency. Risk management is enhanced by the speed of the private sector's risk feed-back loop. Whilst publicly held utilities tend to focus on meeting the needs of consumers in the short-term, private sector utilities are geared towards securing and enhancing investment returns over the long-term. Long term success in this regard can only come from a due regard to all stakeholders interests within an asset life cycle time frame.

We like the stability offered by the Australian political and economic environments. However, Brookfield operates and allocates funds on a global basis. Funds will flow more readily to areas where the investment frameworks support private sector investment and where the best risk/reward ratios can be obtained. Australia is competing with other countries that have an equal, or even greater, need for infrastructure development and where risk adjusted returns are often better. Such countries also often have a policy framework more conducive to private sector participation.

In our submission we have listed and elaborated on three matters that are key questions from the investor's perspective.

- 1. Can independent, stand-alone, greenfield transmission projects be accommodated under the current National Electricity Rules?***
- 2. Is there an additional role for government, either at State or Federal level, to more effectively facilitate transmission investment?***
- 3. Does the Australian Energy Regulator's current approach to determining the allowed rate of return for transmission networks encourage efficient investment?***

Addressing the three issues described above in a manner that provides rule flexibility, a clear road map and certainty of investment returns would significantly increase the amount of private equity funding made available to the energy transmission sector.

We would be pleased to work with the AEMC and other stakeholders to discuss and analyse these matters in detail.

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1. Introduction

Brookfield welcomes the opportunity to make a submission to the AEMC's Transmission Frameworks Review. Brookfield is an experienced global developer and investor in energy transmission infrastructure. With our acquisition of a significant equity holding in Prime Infrastructure we have established a significant platform for infrastructure investment in Australia, where substantial new investment in energy transmission networks is required. We believe that the involvement of the private sector in this expansion is critical and we are keen to participate.

2. Brookfield and Prime Infrastructure

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 electricity generation, 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.

3. Transmission investments

Internationally, Brookfield has a well established track record of working with governments and government-owned enterprises to develop, fund and operate energy transmission infrastructure. Our transmission developments include:

- ▶ Ontario Transmission - 550km of high voltage transmission lines in Northern Ontario, Canada
- ▶ Texas Transmission Developments - build, own and operate US\$600 million of transmission lines to facilitate delivery of renewable wind power to population centres in Texas
- ▶ Transelec - Chile's largest electricity transmission system, serving 98% of the population, significant expansion activity
- ▶ Cross sound Cable - commissioned in 2002, a High Voltage Direct Current (HVDC) transmission interconnector, linking the New England and New York electricity grids
- ▶ Natural Gas Pipeline – USA's largest pipeline and storage systems, with over 15,600 kilometres of pipeline and delivering approximately 2.2Tcf of natural gas.

Other energy network investments include:

- ▶ Tasmanian Gas Networks – developed Tasmania's first gas distribution network, now serving over 8,000 residential and industrial customers across Tasmania
- ▶ IEG UK connections business – high growth business providing "last mile" gas and electricity connections to around 600,000 customer sites across the UK

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- ▶ IEG distribution business – providing gas reticulation to the Channel Islands and the Isle of Man

4. The value of involving the private sector

There are sound public policy reasons for taking a proactive approach to involving the private sector in the delivery of new transmission capacity and connection assets.

Private sector investment does not necessarily require the sale/privatisation of any existing component of infrastructure. Private ownership can be limited to new expansions and extensions.

Access to capital

The advantages that private sector investors offer in terms of effective and efficient access to capital are clear. Private investors can provide access to growing pools of cash, such as retirement funds, and are generally good at matching the source and application of funds so as to minimise the overall cost of capital. This means that the government's objective for reliable and safe infrastructure can be met without increasing demands on public funds.

A competitive private sector ensures lowest returns on a risk adjusted basis which generally reflects the true cost of capital for a given investment opportunity.

However, we believe that the advantages of private investment to a country or sector go well beyond access to funds.

Increased transparency, innovation and efficiency

The profit motive is a very effective driver for innovation and efficiency in any industry. This is particularly useful in a sector where there is a mix of private and public ownership. Through the regulatory and political process, publicly owned firms are benchmarked, either directly or indirectly, against their private sector peers. Inefficiencies in the publicly owned part of the sector become apparent and the private companies become a driver for efficiency across the whole of the sector. This is particularly evident and well established in the United States energy sector, where publicly and investor owned utilities are routinely compared.

Australian consumers have faced significant increases in delivered energy prices in recent times. Further increases are likely to flow from climate change policies and changing energy market dynamics. Electricity transmission businesses have obtained regulatory approval for record setting levels of capital expenditure over the next five years. All of this makes critical the introduction of increased efficiency in the sector.

Enhanced risk management

Private companies also act as the proverbial “canary in the coal mine” for new or increased levels of risks entering an industry. The risk feed-back loop in the private sector is very quick and effective. Risks tend to flow quickly through to the cost of capital. This again enhances risk management for the sector as a whole where there is a mix of public and private ownership.

A longer-term planning horizon

Private sector investors tend to be more forward looking in their investment outlook. Whilst publicly held utilities tend to focus on meeting the needs of consumers in the short-term, private sector utilities are geared towards securing and enhancing investment returns over the long-term. Investment decisions are based on anticipated discounted cashflows over the long term and generally a significant value contribution is attributed to the ‘back end’ of investment lives, meaning private sector investors in making asset decisions are acutely aware of the need to maintain cashflow over the long term. Sustainability is critical. In developing investment plans, private sector utilities tend to look harder for growth opportunities and are less likely to under

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invest or allow an investment backlog to form. Again this provides an important balance in sectors where a mix of ownership occurs.

5. Our objectives and opportunities in Australia

Opportunities

The creation of a true national energy market is recognised by Infrastructure Australia as one of the nation's seven infrastructure priorities. More extensive energy grids are required to enable greater flexibility and competition in the nation's electricity and gas systems, whilst creating opportunities for the development of renewable energy sources.

Key priorities for further development of the electricity transmission grid include:

- ▶ The interconnection of the National Energy Market with the South West Inter-connector system in Western Australia.
- ▶ Connection of the substantial wind and wave resources along the southern coast.
- ▶ Connection of the geothermal and solar thermal resources of inland Australia.
- ▶ Progressive extension of the grid to development areas, such as the North West Mineral province in Queensland, the Olympic Dam region in South Australia, and the Pilbara in Western Australia.

Brookfield's objectives

We want to invest in long-life, physical assets that provide essential products or services. We are not averse to greenfield developments in energy transmission. This is consistent with the proactive approach that we take to originating transactions and our focus on complex opportunities where we can add value. Brookfield is an active operator and manager, not just a passive provider of equity.

Our investment objectives for Australia include electricity and gas transmission, particularly greenfield expansions, including grid connection of renewable sources, remote mining loads and coal seam gas production. Other energy sector opportunities on our radar include:

- ▶ gas storage, facilities that we believe will be essential for Australia's future energy security;
- ▶ renewable energy sources; and
- ▶ large scale community energy projects – central heating, co-generation and solar panels.

6. Issues for consideration

We like the stability offered by the Australian political and economic environments. However, Brookfield operates and allocates funds on a global basis. Funds will flow more readily to areas where the investment frameworks support private sector investment and where the best risk/reward ratios can be obtained. Australia is competing with other countries that have an equal, or even greater, need for infrastructure development, where risk adjusted returns are often better, and where policy frameworks are often more conducive to our participation.

In this section we have listed and elaborated on three matters that are key questions from the investor's perspective. If the AEMC's review can constructively address these issues it will go a long way towards creating a more favourable environment for private investment in transmission infrastructure.

Can independent, stand-alone, greenfield transmission projects be accommodated under the current National Electricity Rules (NER)?

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The framework for economic regulation set out in Chapter 6A of the NER was predominantly designed for use by existing Transmission Network Service Providers (TNSPs) and does not cater well for new entrants. In fact, as far as we can see, it is impossible to develop a stand-alone, greenfields transmission project in a way that will independently attract private equity without significantly derogating away from the current NER requirements. Perplexingly this is also a stark contrast to the approach to gas transmission development.

The process for obtaining derogations is complex and time consuming, involving consultation with State Ministers, preparation of formal rule change submissions, public consultation and then draft and final Rule Determinations by the AEMC. The standard process takes at least twelve months and involves risks, and the application of resources, generally beyond the appetite of most private equity investors.

Based on a case study of an actual transmission project under our consideration, we have listed below some areas where derogations from the NER would be required in order to attract private equity funding. These derogations would be required to mitigate risks for a new entrant. This is because those risks differ significantly from the risks faced by an incumbent TNSP for which the NER were designed.

The opening value of the Regulated Asset Base (RAB)

In the normal course of events the Australian Energy Regulator (AER) would not make a final determination on the maximum allowed revenue of a new transmission project until up to fourteen months after practical completion of the project. This means that equity investors would have to commit to the project and operate the transmission line for up to fourteen months with no revenue certainty.

Clearly this would not be acceptable. Derogation would be required to specify the RAB at a value which will cover the estimated cost of construction. The developer bears significant risk of construction cost overruns, so where a specific RAB value is derogated in advance of project completion, it will have to include a reasonable uplift to allow for the risk of overrun.

The Regulatory Investment Test for Transmission (RIT-T)

It is likely that the majority of independent transmission projects would fail the RIT-T. Indeed, the RIT-T effectively eliminates independent projects entirely, as all projects that pass the test will be constructed by the incumbent TNSPs.

We agree with the concerns that have been raised in other forums, and noted in the AEMC Issues Paper, that the test is likely to lead to insufficient investment in transmission to support new entry by generators or to facilitate the timely build-out of intra-regional congestion.

A new, independent transmission project would likely have to derogate away from the application of the test.

Timing of the first regulatory determination

To mitigate against the risk of having to operate the transmission line for up to fourteen months without a regulatory determination in place, further derogation will be required to enable early submission, review and approval of regulatory proposals, including the Cost Allocation Methodology, the Revenue Proposal, the Pricing Methodology and the Negotiating Framework.

Generally, the NER need to be reconsidered from the perspective of a new entrant TNSP.

Is there an additional role for government, either at State or Federal level, to more effectively facilitate transmission investment?

Brookfield has significant experience of developing and investing in energy transmission infrastructure in other countries. The need for additional transmission capacity in Australia is obvious. Yet, to us, the road map to participation in the sector is not clear.

Planning and regulatory frameworks appear to be designed to facilitate only incremental expansion by the incumbent TNSPs.

No one appears to be taking a longer-term strategic view. A longer-term vision would include giving consideration to projects that may not be immediately commercially viable, but will provide market benefits, energy security and the expansion of energy supply over time. Such projects may initially require an element of government funding to make them viable. It is likely, however, that a government that is proactively facilitating such a project will not have to fund the equity entirely from public funds, but will find private investors that are ready to co-invest.

Government is not taking the initiative to engage with the private sector and there is also very little incentive for the private sector to take the initiative. There are no clear frameworks for the evaluation and award of unsolicited project proposals. Proponents that make the significant investment required to develop credible proposals find that probity requirements mean that they end up competing on an equal footing with other developers to implement their own idea. A mechanism is required to recognise and reward proponents' intellectual property and innovation.

We are by no means advocating a return to central planning, however without clear leadership on the strategic planning and facilitation of transmission investment:

- ▶ Projects that would be in the long-term interest of the nation and the development of the National Electricity Market (NEM) are not being built.
- ▶ All of the incremental expansion that is taking place is in the hands of a small number of, mainly government owned, incumbent TNSPs. There is little benchmarking or incentive for innovation or increased efficiency.
- ▶ The benefits of private sector participation are lost as we are effectively locked out of the sector.

Does the Australian Energy Regulator's current approach to determining the allowed rate of return for transmission networks encourage efficient investment?

A narrow, formulaic approach to determining the rate of return

The AER has adopted an increasingly formulaic approach to the setting of the regulated weighted average cost of capital (WACC). Reviews are conducted at intervals of five years and thereafter the decided WACC parameters are applied unadjusted to all transmission determinations during the period.

In making the WACC determination the AER applies the Capital Asset Pricing Model (CAPM) as prescribed by the NER.

The CAPM, like all asset pricing models, is a simplified description of a complex reality. We think that the slavish 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

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

Regulators are underestimating the limitations of using a single theoretical model to estimate the cost of capital and should give consideration to a broader range of models to minimise the likelihood of model error.

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 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.

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. 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:

- ▶ they are outside the scope of the conceptual framework within which the model has been developed; or
- ▶ the way in which they are to be taken into account within that framework is not, at present, well understood; or
- ▶ 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 technological 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 electricity lines and gas pipeline services can be broadly classified as:

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- 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.

Investors in greenfield transmission projects would, of course, require significantly higher returns to compensate for the additional development and commercial risk.

We think the NER may require amendment to allow regulators greater flexibility around the setting of the rate of return for transmission assets, particularly to support and incentivise the development of new projects. Approaches that could be considered include setting higher incentive rates of return during the initial years of a project's life or allowing regulation-free periods in the initial years.

7. Conclusion

Addressing the three issues described above in a manner that provides rule flexibility, a clear road map and certainty of investment returns would significantly increase the amount of private equity funding made available to the energy transmission sector.

We would be pleased to work with the AEMC and other stakeholders to discuss and analyse these matters in detail.