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Energy White Paper
Department of Resources, Energy and Tourism
GPO Box 1564
Canberra ACT 2601

Via email: secretariat.ewp@ret.gov.au

ENERGY WHITE PAPER DISCUSSION PAPERS

Dear Energy White Paper Team

The Australian Pipeline Industry Association welcomes the opportunity to provide input to the Energy White Paper consultation process.

The Energy White Paper Discussion Papers are broad in scope and APIA's comments do not cover all the issues discussed in the Discussion Papers. Where appropriate, APIA has referenced its comments to the questions numbered in the consolidated list of discussion paper questions.

APIA's comments are focused primarily on the economic regulation of energy infrastructure, the drive for convergence and harmonisation of gas and electricity markets, natural gas and climate change policies and international energy.

A summary is included at the start of the submission.

APIA is happy to provide further information if necessary and looks forward to continuing the discussion with the Energy White Paper team over the course of the year.

Yours sincerely

CHERYL CARTWRIGHT

Chief Executive



SUMMARY

ECONOMIC REGULATION

Government policy should underpin continued and expanded investment in energy infrastructure and this is best encouraged by providing attractive returns to investors.

Decisions by economic regulators tend to focus on driving down infrastructure charges. This can devalue existing assets and discourage further investment. Underinvestment and inefficient investment in energy infrastructure has serious implications for the economy and cannot be redressed quickly.

THE AUSTRALIAN GAS MARKET

APIA is concerned by an apparent poor understanding of Australian gas markets. In particular, on page 24 of the Investment, Competition and Structural Reform paper: *“Gas markets in Australia have not yet evolved into highly competitive commodity markets along the lines found in North America for example”.*

Clearly, it is inappropriate to assume that Australian gas markets should evolve into the markets found in North America. While Australia has an equivalent land mass to the US, it has less than 7% of the population and different population distributions. Also, North American markets are served by numerous gas production centres that have access to significant, onshore gas reserves. By contrast, the majority of Australia’s domestic gas has been traditionally supplied from only three regions, two of which are offshore and one of which only supplies Western Australia.

Therefore, lessons from North American gas markets are not readily applicable to Australia and should not form the basis of Government’s thinking.

Page 37 of the same paper refers to: *“The current combination of tight supply conditions and further integration between gas and electricity poses significant risks to reliability and affordability where gas market arrangements remain underdeveloped and demand for gas increases sharply.”*

There is no evidence that existing gas markets are underdeveloped. To date, gas pipeline investment has been undertaken by private investors and has occurred in a timely manner in response to demand – this will continue if regulatory barriers are not increased and other “facilitative” measures are minimised.

CONVERGENCE OF GAS AND ELECTRICITY MARKETS AND REGULATION

Except in the distribution sector, gas and electricity markets are fundamentally different, but Government policy is failing to acknowledge this. The statement of page 37 of the Investment, Competition and Structural Reform paper that: *“In the period to 2030, the treatment of gas and electricity as an integrated energy market will improve energy system management, and therefore reliability, through the positive system resilience created by operational flexibility and diversity”* is unfounded and of major concern. Any intention to “integrate” the gas and electricity markets is a major policy shift that would be strongly opposed by the gas industry. Frankly, the imposition of electricity market mechanisms, such as instantaneous matching (which is physically impossible in the gas market) and centralised planning, would quite simply be impossible in the gas industry – gas and electricity are different products!

Also, investment in the gas market is currently underpinned by long term contracts, and any move away from this contract carriage system to a market carriage system would have serious consequences for investment. It is APIA’s view that the magnitude of the interaction between gas and electricity markets is not sufficient in relation to the total size of either market for there to be inefficiencies of major concern.

CLIMATE CHANGE POLICIES IMPACTS ON NATURAL GAS

APIA considers a strong, unfettered Carbon Pollution Reduction Scheme (CPRS) would have a positive impact on natural gas usage in the Australian economy, as natural gas power generation has clear environmental advantages over coal power generation.

The use of complementary measures such as the expanded Renewable Energy Target (RET), which will mandate 20% of Australia’s electricity supply be generated from renewable sources by 2020, has the potential to slow the uptake of natural gas for power generation, which does not assist the economy nor the environment. There is modelling available, particularly by CRA International, that predicts a 20% RET will actually result in much lower growth of gas fired power generation.

GOVERNMENT POLICY ON NATURAL GAS

It is essential that Government policy provide a level playing field for all energy sources, particularly for sources of electricity generation. Current policies providing assistance for both coal and renewable energy options have the potential to direct the economy away from natural gas options.

It would, therefore, be appropriate to introduce policies that recognise the benefits of natural gas, such as: a gas target; recognition of projects demonstrating that gas is a cleaner energy source; establishment of projects to reduce costs of “peaking power”; and/or carbon capture and storage for gas-fired power generation.

INTERNATIONAL ENERGY

The development of LNG facilities in Queensland has significant implications for domestic gas prices in the eastern states of Australia and short term domestic price differentials will need to be managed. There is a danger that domestic supply will be limited in the period before domestic and LNG prices reach parity, as suppliers ‘warehouse’ reserves holding out for higher prices or to supply long term LNG contracts.



Introduction

The Australian Pipeline Industry Association (APIA) welcomes the opportunity to provide input to the Department of Resources, Energy and Tourism's (RET) Energy White Paper consultations.

APIA is the peak national body representing the interests of Australia's transmission pipeline sector. APIA's current membership is predominantly involved in high-pressure gas transmission. APIA's members include contractors, owners, operators, advisers and engineering companies and suppliers of products and services.

APIA's members own, operate and service the gas transmission infrastructure that supply the gas market and are likely to be the key investors in new pipelines and capacity expansions of existing pipelines that will be required over the next 20 years and beyond. This investment in transmission pipeline infrastructure will be essential to Australia's economic growth and will contribute to the reduction of Australia's greenhouse gas emissions.

It should be noted that the clients of APIA's members' assets include some of Australia's largest companies, such as BHP Billiton, Origin, TruEnergy, Santos, Woodside, Xstrata, ExxonMobil, AGL and major power generators. This clearly demonstrates that transmission pipeline infrastructure differs from low-pressure distribution infrastructure that supplies households with water and natural gas. Given such a difference in the structure of these businesses, it is also quite clear that not all policies suited to distribution companies will apply to transmission companies.

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Investment in Energy Infrastructure

The comments in the section refer primarily to Q16, but also have implications for Q14, 15 and 17.

In reference to Q16 of the Energy White Paper Discussion Papers, posed in the Investment, Markets and Structural Reform Discussion Paper:

"What would most assist the long-term efficient provision of energy infrastructure and investment?"

In order to encourage the private sector to continue to invest in energy infrastructure, an appropriate rate of return is essential. Such an outcome is also likely to lead to lower energy

prices as increased investment will lead to increased competition and supply options for consumers.

To ensure consumers across Australia can benefit from the provision of reliable and competitively priced energy, it is critical that energy infrastructure is reliable and that investment in this infrastructure is maintained and increased.

Currently, it appears that the Australian Energy Regulator (AER) imposes tariffs for infrastructure owners that are as low as possible. While this provides a short term gain to the users of energy infrastructure (ie the large energy traders) and ultimately consumers, continuing pricing in this vein will over time, discourage investment in regulated infrastructure.

The most recent example of this AER approach is its recent review of the Weighted Average Cost of Capital (WACC) parameters for electricity infrastructure. The AER's decision did not adequately provide for a rate of return which will promote required energy infrastructure investment. The decision essentially reduces the incentive to invest in the sector at the same time Australian governments are seeking to stimulate spending on infrastructure.

The approach of allowing a low rate of return for pipeline investors, favouring the users of pipelines with low transportation tariffs, ignores several facts:

- unlike the relationships between energy retailers and consumers, which are also overseen by economic regulators, the relationship between gas transmission infrastructure and its users is a relationship between large, sophisticated entities and, in most cases, the users are the larger parties. **Therefore, the users of gas transmission pipelines do not require government intervention to ensure efficient outcomes;**
- the legal separation of the owners and operators of transmission pipelines from gas wholesalers and retailers mandated in early industry reforms has largely removed incentives for discriminatory behavior by transmission pipeline companies. **Government intervention in the gas transmission market is not required for the purpose of regulating competition between wholesalers and retailers in the energy market;**
- reducing the rate of return to gas transmission investors, will **decrease the attractiveness of investment in gas transmission infrastructure, which can in turn lead to underinvestment in this critical infrastructure;** and
- in order to avoid the risk of lower rates of return mandated by a regulator, **investors can minimise regulatory exposure through a variety of means, which often result in an inefficient use of funds for investments.**

The Productivity Commission, in its Review of the National Gas Access Regime, 2004, identified that the overarching objective of gas regulation should be:

*“To promote the economically efficient operation and use of, and **economically efficient investment in**, the services of transmission pipelines and distribution networks, thereby promoting effective competition in upstream and downstream markets.”¹*

¹ PC Review of the National Gas Access Regime, 2004, Recommendation 5.1, p180

Also, the Expert Panel on Energy Access Pricing established by the MCE recommended that the objects clause in the NGL should read:

“The object of this law is to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas”²

Demand responsive investment (see Regulatory Impacts on Investment Decisions on page 4 of this submission for further explanation) is not necessarily the result of successful regulation. Companies continue to invest inefficiently in order to avoid the risk of economic regulation. This might be considered “economic”, as it is a “commercial” decision to avoid regulatory risk; nevertheless, inappropriate tariffs will not discourage such investment.

The Productivity Commission has also correctly identified that economic regulators are faced with the problem of:

“the trade-off between regulatory errors that overcompensate service providers and those that undercompensate. Regulatory error that undercompensates service providers could discourage investments of considerable benefit, with flow-on effects for investment in related markets. On the other hand, regulatory error that overcompensates service providers distorts decision making. The Commission considered that both types of regulatory error are likely to distort investment and have adverse efficiency implications....

.....the Commission accepts that there is a potential asymmetry in effects:

- Over-compensation may sometimes result in inefficiencies in the timing of new investment in essential infrastructure (with flow-ons to investment in related markets), and occasionally lead to inefficient investment to by-pass parts of a network. However, it will never preclude socially worthwhile investments from proceeding.*
- On the other hand, if the truncation of balancing upside profits is expected to be substantial, major investments of considerable benefit to the community could be forgone, again with flow-on effects for investment in related markets.*

*In the Commission’s view, **the latter is likely to be a worse outcome.** Accordingly, it concurs with the argument that access regulators should be circumspect in their attempts to remove monopoly rents perceived to attach to successful infrastructure projects.”³*

In the current global financial crisis, and its impact on the availability of capital, Australia’s infrastructure investments require access to this capital and are competing for it globally. Australian companies must be able to demonstrate appropriate return on investment or they will be hampered in their attempts to raise capital.

² Expert Panel on Energy Access Pricing, Report to the MCE, April 2006, p40

³ PC Review of the Natural Gas Regime Position Paper, 2001, pp 82-83

The rate of return for energy infrastructure should be determined with a view to efficient long-term investment and policy objectives, not with a short term view to achieving immediate, lower costs. If more efficient investments are being made, this has the potential to result in lower gas transportation costs in the longer term.

It is preferable, and of lower cost to the Australian economy, for economic regulators to err on the side of overcompensating infrastructure investors in order to ensure that Australia's necessary infrastructure is provided. The economic regulators of this industry are erring on the side of undercompensating infrastructure investors, and do not appear to consider that the customers of gas transmission pipelines are sufficiently large and sophisticated to negotiate commercially with the gas transmission industry.

Regulatory Impacts on Investment Decisions

Gas transmission infrastructure is long-lived and capital intensive. Pipeline infrastructure investment is sunk, so transmission pipeline assets are particularly vulnerable to commercial and regulatory stranding and regulatory risk.

Regulatory risk is a key consideration for transmission investors and financiers. In general, the risk of low 5-year regulatory tariffs is a disincentive to build uncontracted capacity in gas transmission infrastructure. Any pipeline capacity that is not contracted or utilised can be subject to prices set by the economic regulator or, alternatively, can be subject to regulatory stranding. While regulatory risk is not the only issue, it is a real concern. Obviously, with each access arrangement:

- there is significant cost involved in the implementation and appeal processes;
- considerable time is taken to resolve those issues (up to 3 years);
- the revision of those documents starts every 5 years on a very long-term asset; and
- there is a lack of incentive for regulators to consider parties other than the notional "consumer" (who, in this case, is a large "user" such as a power generator, retailer or manufacturer).

Regulatory risk increases the cost of providing gas transmission services, which imposes significant social costs through:

- *undermining the incentive to invest* – regulators approving low returns signals to investors that only limited capital should be invested in the gas transmission sector ;
- *delaying investment* – the increased risk associated with regulation means that investment can be delayed until, for example, greater throughput can be achieved (or a target level of throughput becomes more certain) making the investment less risky and, therefore, commercial. The benefits from the investment are, therefore, foregone for the duration of the delay; and
- *distorting investment* – regulatory risk will tend to result in smaller-capacity pipelines being built, or smaller pipeline augmentations being built, as a means of protecting investors against regulatory risk. Limiting pipeline size is prudent if there is a risk that regulators will strand any excess capacity without allowing an offsetting premium to be earned when at-risk capacity experiences high demand. However, reducing pipeline capacity imposes a cost on the community through foregone scale economy benefits and increased likelihood of capacity constraints.

Clearly, in increasing the regulatory risk, by driving down rates of return, economic regulators are providing an incentive to build smaller, unregulated pipelines initially, and subsequently expand capacity only when it is fully contracted. This investment style requires the use of greater amounts of capital than would have been required if spare capacity that was reasonably likely to be used in the foreseeable future was constructed in the initial investment phase, creating the perverse outcome of higher capital costs, which are recovered through higher transportation costs to end users of gas and which are established through long term contracts as the demand arises. If costs were lower, the demand – and construction – would occur sooner and the costs eventually passed to consumers would be lower.

In the current Australian gas market it is common practice to build for initial demand and then supplement additional demand with further compression and looping. In most cases it would be more economical to construct a larger diameter pipeline in the first place.

A rate of return from the upper end of the range may encourage some over-investment; however, this would result in spare capacity which, based on recent ABARE demand projections, is likely to be used in the near future.

Market Convergence

In its First Interim Report of the Review, the Australian Energy Market Commission (AEMC) put forward the view that the gas and electricity markets were broadly robust enough to limit inefficiencies in the interactions between gas and electricity markets. The AEMC noted that:

“gas and electricity markets, although very different in design, both appeared to facilitate efficient trading and appeared to support efficient development of the respective network infrastructure”

APIA agrees with the AEMC acknowledgement that gas and electricity markets are very different in design, and the increasing convergence of regulation of these markets, often justified through the convergence of the markets themselves, is a source of significant concern to APIA and is a policy that, in some instances, will be unrealistic and unworkable.

The CPRS may lead to an increase in gas fired generation, which, in turn, would lead to an increase in interactions between the two markets as integration between coal and electricity winds back. Natural gas fired energy generation in Australia currently provides approximately 12% of electricity⁴. This amount is not insignificant, but it is much less than the 80% of electricity generated from coal production. Also, if by 2020 renewable energy is to provide 20% of the nation’s electricity under the mandate of the Government’s Renewable Energy Target, clearly renewable energy would have a greater influence on the electricity market than would natural gas.

Further, approximately only 35% of Australia’s total natural gas is used for electricity generation.

⁴ Energy in Australia 2009, ABARE

The magnitude of the interaction between gas and electricity markets is yet not sufficient, in relation to the total size of either market, for there to be inefficiencies of major concern.

Regulatory Convergence of Energy Sectors

Q3: To what extent is further regulation reform needed to optimise outcomes for Australian energy by 2030?

Q4: Is there scope for further convergence of governance of electricity, gas, offshore and onshore energy resources?

APIA supports the energy market reforms as outlined in the Governance, Institutional, Legal and Regulatory Frameworks and Community Engagement Discussion Paper to the extent that they have (and will in the future) minimise the differences in approach to gas and electricity market regulation between state jurisdictions.

Unfortunately, these reforms have also seen a major drive toward converging regulatory approaches to the gas and electricity sectors, often introducing inappropriate and unworkable regulatory mechanisms. While such convergence, particularly in the regulation of gas and electricity infrastructure, can reduce policy complexities, it does not deliver efficiency in all cases and can increase the complexity of actual operations of businesses.

Certainly, as gas and electricity are both provided to residential dwellings by means of distributed infrastructure, there are similarities in the operation of these industries. However, the electricity industry is far larger than, and is very different from, the gas industry, so it should not be assumed that gas infrastructure regulations should be amended to fit a regulatory template based on electricity infrastructure regulations.

There is an increasing tendency for electricity regulatory mechanisms to be inappropriately applied to the gas transmission market. Market structures and processes such as the planned gas Short Term Trading Market (STTM) and Gas Statement of Opportunities (GSOO) seek to replicate in the gas market electricity market structures and procedures, even though there are no identified inefficiencies or market failures that would justify these policies.

For example, when the initial independent forecast of quantifiable benefits of the STTM is compared against the costs incurred in its implementation to date, it is debatable whether any net benefit will arise. Initiatives that result in debatable net benefits are not the best use of government or industry resources, and should be set aside in favour of reforms that have clearly identified and agreed benefits.

The assumption that gas and electricity infrastructure are fundamentally similar industries is incorrect. While the residential retail interface with the gas and electricity industries may be similar to some extent, at other points in the supply chain the differences between the two industries are very clear and quite dramatic.

A simplistic view that favours gas and electricity infrastructure regulatory convergence ignores the reality that the broad energy sector comprises several distinct industries with each component having many unique characteristics and issues. In particular, there are clear differences between the gas and electricity markets and between gas transmission and electricity transmission.

The differences between the gas and electricity industries and infrastructure outlined in Attachment A mean that regulatory convergence will result in inappropriate regulations, and consequently inappropriate and distorted policy outcomes, as a “one size fits all” policy is not appropriate for different industries. Industries should be regulated on the basis that the regulation produces the best outcome for the economy and that industry, rather than on the basis that the regulation is used in another industry.

The imposition of inappropriate regulation on the gas infrastructure industry will discourage investment, as, unlike the electricity infrastructure industry, investments in gas infrastructure are underpinned by long term contracts. There is no evidence or analysis that regulatory convergence of the gas and electricity infrastructure industries will provide benefits to either industry. This convergence undermines confidence to make investments in gas infrastructure underpinned by long term contracts, as there are concerns that such contracts may be compromised or otherwise impacted by moving even further towards electricity-centric regulatory models and processes.

A fair comparison can be made with the regulation and management of the transportation sector. Air, road and rail transport ultimately have the same purpose, moving goods and people from A to B. Just as gas and electricity are different, air, rail and road transport are entirely different industries and, therefore, have different economic and technical regulatory regimes and markets. There appear to be no plans for convergence in this sector. While electricity and gas are both parts of the energy sector, in the same way that air, road and rail are industries in the transport sector with similar businesses and occasional competition, there is sufficient difference in these markets to demonstrate that there are few or no efficiency gains to be made through convergence. Indeed, the imposition of electricity style regulatory mechanisms on the gas market can result in significant inefficiency being introduced to the gas market through.

The Renewable Energy Target and the Carbon Pollution Reduction Scheme’s impact on Gas Usage

Australia is an energy intensive economy and will continue to be so. The Carbon Pollution Reduction Scheme (CPRS) places an economic value on carbon emissions and a cap on the total amount of emissions permissible by the Australian economy. In its most effective and efficient form, the CPRS would be implemented in a way which would minimise the economic impact of achieving greater carbon efficiency. The most efficient CPRS, to a large extent, would simply introduce a price on carbon emissions and allow the market, and therefore the emitters, to determine the best way to reduce emissions.

The national Renewable Energy Target (RET) mandates that 20% of Australia’s electricity must be provided by renewable sources by 2020. This will require a legislated increase of renewable electricity generation to 45,000GWh in 2020, compared to the requirement of 9,500GWh under the existing MRET scheme.

The creation of an unfettered carbon market under the CPRS will fundamentally affect the investment and operating decisions of Australia’s electricity generation industry. It is to be expected that this impact will include substantially increasing the use of low and zero emissions electricity generation alternatives. As mentioned, an efficient CPRS would allow

the market to establish economically efficient methods of reducing emissions and it would be expected that many generators would introduce natural gas generation under a “pure” CPRS in order to reduce their carbon emissions.

Currently, renewable energy is significantly more expensive than alternative, low emission electricity generation options such as natural gas. By its nature the RET will not necessarily accelerate Australia’s carbon emissions reduction, but it will certainly increase the use of renewable energy sources.

With the mandating of the use of expensive, renewable energy sources for electricity generation, the national level of emissions saved through renewable energy use will remain available to other emission intensive industries.

The RET forces the electricity generation industry to significantly contribute to national emissions reduction through an economically expensive option and allows other industries and sectors to have a lesser share of the burden in reducing emissions. Because of the expense of renewable technology, the electricity generation industry will also look to the least expensive method of generation for the remaining 80% of its output, which obviously could lead to continuing use of coal and less inclination to use natural gas.

It is estimated that a CPRS without the RET would see natural gas as the fastest growing energy source to 2029/30, almost doubling from its 2006/07 consumption of 1158 PJ to an annual consumption of 2000PJ in 2029/30.⁵ ABARE attributes the majority of this growth to an increase in gas fired electricity generation.

With the RET at 20%, it has been estimated that gas consumption in the electricity sector will be below what it otherwise would be in the absence of the RET.⁶ Through the RET, Government is forcing the electricity sector away from low cost, reliable generation options and towards expensive, intermittent options that mean the sector is shouldering more than its share of the nation’s total emissions reduction. This is despite the fact that there are many other, lower cost means of improving efficiency and reducing emissions across the economy, including encouraging electricity generators to move to gas fired generation.

Government policy on natural gas

As the merits of natural gas are obvious, there should not be a need for Government policy to encourage its use. Policies such as the CPRS should result in a marked increase in the use of natural gas, particularly for electricity generation.

However, in the presence of significant government policies supporting the use of coal and renewables in electricity generation, there is no longer a ‘level playing field’ on which all energy options compete and it is appropriate that Government give consideration to developing policies to ensure the growth of gas an appropriate fuel for electricity generation. The symbolic nature of such a policy is as important as any gains it might achieve. Often in the climate change and energy debate, gas is not mentioned, let alone the subject of specific policies. Such a policy is required in order to provide appropriate

⁵ ABARE Energy Projections

⁶ CRA International

recognition of gas as a relatively clean, relatively cheap fuel that is abundant in Australia and utilises mature technology, thus providing energy security for Australia well into the future.

Private sector investment has been successful in providing the necessary infrastructure to meet the demand for gas in Australia, and this is an area Government policy does not need to specifically address. There are opportunities for Government to improve the environment for energy supply infrastructure investment, many of these are mentioned above and do not relate specifically to natural gas.

Potential new policy options include:

Gas Energy Targets

Given that the Government has chosen to mandate that 20% of Australia's electricity supply is to be generated from renewable sources by 2020, the Government should also develop policy for the remaining 80% of electricity supply, including a "target" for use of natural gas.

Gas Projects recognised as Clean Energy

A variety of Government programs are focused on clean energy. Eligibility of gas projects for these programs would recognise that gas is a low emission fuel capable of delivering significant carbon pollution abatement.

Distributed Gas Electricity Generation

There is the potential for small scale, distributed gas electricity generation to offset summer peaking loads in major demand regions. Peaking loads for gas occur in winter, so rather than overbuild electricity infrastructure to cope with summer peaking loads, it would be possible to use existing gas infrastructure to power small generators located throughout cities in times of peak electricity demand. A pilot project conducted in Sydney several years ago was successful in demonstrating the viability of such a system. However, due to various risks and commercial interests, it was not pursued on a permanent basis.

Clean Coal Projects

The majority of Government policy regarding coal focuses on Carbon Capture and Storage and Clean Coal technologies. There should be greater recognition that these technologies can, for the most part, be applied to gas fired power generation.

International Issues

Q10. What opportunities and challenges are these developments likely to present for the Australian energy sector and economy?

The presence of LNG facilities in Queensland has significant implications for domestic gas prices in the eastern states of Australia. These prices are currently substantially lower than international prices. Government policy makers and regulators should consider the implications for domestic energy use and the impact of short term price differentials on domestic supply that will occur when the first LNG facility comes on line.

It is quite possible that domestic supply could become limited in the period before domestic and LNG prices reach parity, as suppliers 'warehouse' reserves holding out for higher domestic prices or to supply long term LNG contracts.