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resourcing the future

By email

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23 July 2010

Dr M. D. Nahan, MLA
Chair
Economic and Industry Standing Committee
Parliament of Western Australia
Parliament House
Perth 6000 W.A.

Dear Dr Nahan

Submission to Parliamentary Inquiry – Domestic Gas Prices

BHP Billiton Petroleum Pty Ltd is pleased to provide the attached submission to the Economic and Industry Standing Committee's inquiry into domestic gas prices in Western Australia (**Committee**).

We understand that the Committee's current intention is that submissions will become public documents once they have been tabled with the Committee's report in the Legislative Assembly. We would be grateful if you could advise if the Committee resolves that submissions are to be made public before then.

A hard copy of our submission will follow by courier.

Please contact me by phone (9338 4726) or email (**James.Ralph@bhpbilliton.com**) if you have any queries.

Yours sincerely

James Ralph

BHP Billiton Group Legal

Submission to Western Australian Parliamentary Inquiry

Economics and Industry Standing Committee Inquiry into domestic gas prices

23 July 2010

BHP Billiton Petroleum Pty Ltd

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1 Executive Summary

BHP Billiton is a major gas supplier and major gas consumer in Western Australia. Our businesses include the exploration, development and production of natural gas and LNG in ventures such as the North West Shelf Project and planned Macedon gas field development, as well as the purchase and consumption of gas in our Iron Ore, Alumina and Nickel West operations. We are also involved in prospective LNG developments planned by the Browse and Scarborough joint ventures as well as a number of major minerals development projects. BHP Billiton's dual roles as a supplier and consumer provide it with a unique understanding of the Western Australian gas market supported by our broader knowledge in a number of global gas markets including US, UK and Eastern Australia.

A fundamental premise of energy market reform and comprehensive energy policy development is that, in the absence of clear market failure, markets should be allowed to work. Through its global commodity businesses, BHP Billiton has significant exposure to commodity markets and believes that optimal outcomes are reached if markets are able to perform without external intervention. In the context of the Western Australia gas market, BHP Billiton supports greater market transparency and liquidity to drive competitive price outcomes that reflect the balance of supply and demand and enhance the security of supply for gas consumers. The price for gas needs to reach an equilibrium that encourages investment in both new upstream and downstream projects.

BHP Billiton has the following views regarding Western Australian market fundamentals:

- the availability of competitive supplies of natural gas for state economic development is very important when recognising that 55%[1] of Western Australia's energy consumption is met by natural gas;
- Western Australia is endowed with extensive gas resources to meet the needs of both a growing domestic market as well as capturing the opportunity to supply global LNG markets;
- due to a combination of increased gas demand stimulated by an increase in the global demand for commodities, rising oil prices, increased costs to develop offshore resources and limited new supplies coming on-stream in the last five years there has been a significant shift in gas prices;
- new gas supply sources are being developed in response to these new price levels with Reindeer and Gorgon recently approved and Macedon and Wheatstone under consideration to meet growing market demand;
- these new supply sources will improve the security of gas supply to Western Australian gas consumers and support sustained State economic growth. The planned Macedon gas field development will contribute an additional 15% of gas supply to the domestic market;
- the capital intensive nature of Western Australia's large offshore hydrocarbon developments and comparatively small domestic demand often requires unison between export and domestic gas development projects. Efforts to improve the competitiveness of the Western Australian domestic gas market should be synonymous with encouraging an improved investment environment for LNG projects;
- given the often unique set of supply and demand conditions across regional gas markets (especially when they are either not connected or there is an only an indirect linkage) like for like comparisons can either be very difficult or not valid;
- Government has an important role in encouraging and facilitating the entry of new domestic gas supply sources. Practical examples of these include:
    - policies to encourage greater supply diversity i.e. broadening gas specifications;
    - implementing economically sensible retention lease management;
    - pursuing opportunities to simplify approvals process; and

[1] Source: http://www.ret.gov.au/energy/facts/Pages/EnergyFacts.aspx

  - establishing frameworks that support efficient market outcomes (i.e. Bulletin Board, Gas Statement of Opportunities and spot market development);

- while Western Australia has a history of applying domestic gas reservation policies to LNG projects, the effectiveness and indirect costs of this policy are difficult to measure. There is the potential for policies of this type to lead to unintended consequences e.g. project delays.

Going forward, the offshore waters of Western Australia have significant undeveloped gas resources capable of supporting a large number of LNG projects in addition to meeting long term forecasts for domestic gas demand. BHP Billiton believes the interests of these two pursuits are aligned, particularly since without the influence of LNG investment drivers some offshore reserves would not be commercially justifiable for the small domestic gas market demand alone (e.g. Gorgon). Therefore, efforts to improve the competitiveness of the Western Australian domestic gas market should be aligned with encouraging an improved investment environment for LNG projects.

2 Introduction

2.1 Terms of Reference

The Economics and Industry Committee (**Committee**), a standing committee of the Legislative Assembly of the Western Australian Parliament, has been directed by Parliament to inquire into domestic gas (domgas) prices in Western Australia and how they compare with prices elsewhere.

The terms of reference require the Committee to report on:

1 the price of gas for customers throughout Western Australia;

2 the comparison of the price of gas with other states, especially Victoria and whether there is a significant price differential and, if so, why; and,

3 the contrast between domgas prices in Western Australia and international liquefied natural gas (LNG) prices, supplied under export contracts.

The Committee has been asked to make recommendations on measures to reduce the price of gas in Western Australia.

2.2 Gas market fundamentals

Based on our experience in global commodity markets we believe that markets deliver better outcomes when independent from direct external intervention. In many cases the actual outcomes of government intervention have arguably not achieved the original intent. Historical examples include: the US gas market where price regulation resulted in a gas supply crisis in the 1970's, and the UK where a moratorium on gas used for power generation from 1997 to 2000 resulted in a delay in investment in the development of future gas supplies. BHP Billiton believes it is in this context that the gas price inquiry should focus on measures for improving future gas supplies for Western Australia. Forms of government market intervention that are intended to reduce gas prices below a market equilibrium price level; risk significantly reducing incentives to invest in gas supply, with the result being the potential for under-investment and future supply shortfalls – a situation that was close to occurring in Western Australia in recent years.

If gas markets are not connected to other markets (as is the case between Eastern and Western Australia), then it is the specific demand and supply conditions of the particular regional market that will determine price outcomes. Supply and demand conditions are influenced by a number of factors. This includes the cost of supply which can be significantly differentiated from one gas field to another. For example, the cost and minimum economic production rate of an onshore Coal Bed Methane development proximal to local infrastructure in Eastern Australian is widely different from the cost and minimum economic production rate of a significant offshore gas development. For large and remote offshore developments it is necessary to achieve relatively high production rates, which means the feasibility of these projects and the price at which they may be justified is highly dependent on the capacity of the market.

Even where there is an indirect linkage or influence across regional markets such as may develop with the Western Australian and LNG markets, comparisons are difficult as the level of influence will change over time dependent on the local supply and demand conditions. In the case of Western Australia the reliance on LNG markets to commercialise the vast offshore resources suggests that this linkage is likely to grow over time. The successful commercialisation of these projects will in turn encourage the development of new gas supply sources for the Western Australian gas market.

On the demand side, the price of gas is also influenced by the presence of gas on gas competition and customer's alternate forms of energy supply. This includes the number of alternate supply sources, the ability to substitute gas for alternative fuels and the infrastructure costs associated with the delivery of different forms of energy.

The ability to substitute gas for alternative fuels is different for different regional markets and for each customer segment within a market. It is also particularly dependent on location and the purpose of fuel use (electricity generation vs processing). Independent markets may also have different cost bases for comparable fuels due to market specific circumstances. For example, in some markets fuel supplies are imported and in others they are not, and in some markets particular fuels may attract certain market unique imposts e.g. the price of carbon.

It can be seen from the above that there is significant variability in the factors that impact supply and demand conditions within and across gas markets. It is for this reason BHP Billiton does not believe it is insightful to compare gas prices across regional gas markets that are not connected. Furthermore, as supply and demand balance, market prices will reflect the specific demand and supply conditions and will oscillate over time to allow gas supply to meet demand. In the Western Australian market in recent years, the marginal price of gas has been required to increase to underwrite the development of new supply sources.

It should also be noted when comparing gas prices it is important to be specific about what gas prices are being compared, particularly when comparing the difference between legacy and new contract prices. At any time, the weighted average cost of gas for the market represents a mix of both legacy and new contracts prices. Only current contract prices reflect the price required to bring new gas supplies to the market.

The other important aspect with respect to price comparisons across regional markets is the supply delivery chain specific to each market. In addition to the wholesale gas price, gas prices for consumers are made up of a number of elements including upstream costs, transportation costs, distribution costs and retail costs/margins all of which need to be considered. In markets, where gas resources are remote to demand centres then clearly the costs of the supply chain will be higher; as is the case in Western Australia. As such, it is very important in a review to focus on the entire delivery chain to understand what is impacting end user gas prices.

In the regulated parts of the gas supply chain, it is imperative that regulatory frameworks incentivise investment and market reform encourages open third party access. Importantly, it is also essential to align regulated services with the market's needs for flexibility and timeliness to ensure services meet project requirements.

Finally, when comparing markets, the level of market reform must also be taken into account. Truly liquid markets ensure consistent and more efficient outcomes via the most economic clearing prices being achieved for a marginal molecule of gas. In immature and illiquid markets such as Western Australia, there is less transparency with respect to gas prices. BHP Billiton is very supportive of gas market energy reform initiatives to support greater transparency and liquidity overtime.

3 The price of gas for customers in Western Australia

The Western Australia domestic gas price, like any other commodity price, is determined by the interacting forces of supply and demand. These forces include the cost and availability of supply, characteristics of gas market demand, competing energy alternatives and other factors such as the gas supply chain and supply terms.

Cost and availability of gas supply

Gas supply is driven by the underlying cost of development, which is made up of a number of factors, including:

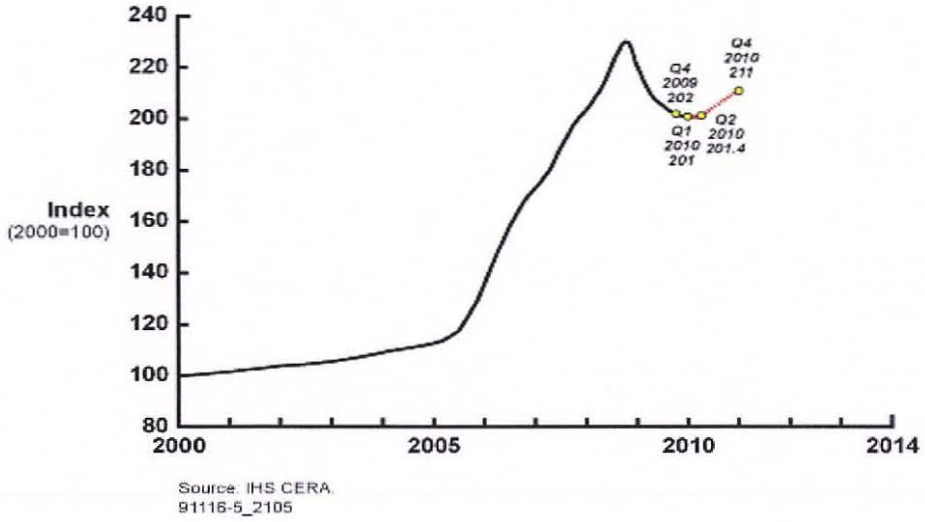
- the specific gas field development location – offshore vs onshore, water depth and distance to shore;
- the physical structure, size and properties of the gas resource which determines how much of the resource in place can be recovered, the type of well technology required, the potential production rates per well, the pressure of the gas recovered, rates of produced water etc.;
- the gas composition – whether or not the gas is high or low in associated liquids (high liquids help to support economic development) or whether a gas field has high levels of inert gases e.g. CO2 which requires additional processing;
- the required levels of peak capacity and redundancy in the facilities to meet the desired reliability and flexibility requirements of the market; and
- the ultimate size of a resource to enable customers/suppliers to commit to a supply contract for a reasonable term.

In the context of Western Australian, which currently has a limited diversity of gas supply sources, the development of new gas supply is paramount to meeting future demand projections. In order to achieve this, the price of gas needs to take into account the following industry environment:

- since 2000, the inflation of upstream oil and gas industry development costs, as evidenced by the CERA upstream capital cost index (chart below), has increased by more than 100%. Cost increases have been across all key inputs and have been particularly severe for significant offshore developments with the costs of rigs and subsea equipment having increased more rapidly than other inputs;

Figure 1

IHS CERA Upstream Capital Costs Index



Source: IHS CERA
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- the increased complexity of environmental legislation and approvals processes required to facilitate the development of large scale LNG projects in remote and often environmentally sensitive areas;
- the costs associated with investment in significant network and pipeline infrastructure to enable supply to reach expanded demand centres as a market develops; and
- the high costs associated with construction and development in remote areas due to high direct/indirect labour costs and skilled labour shortages.

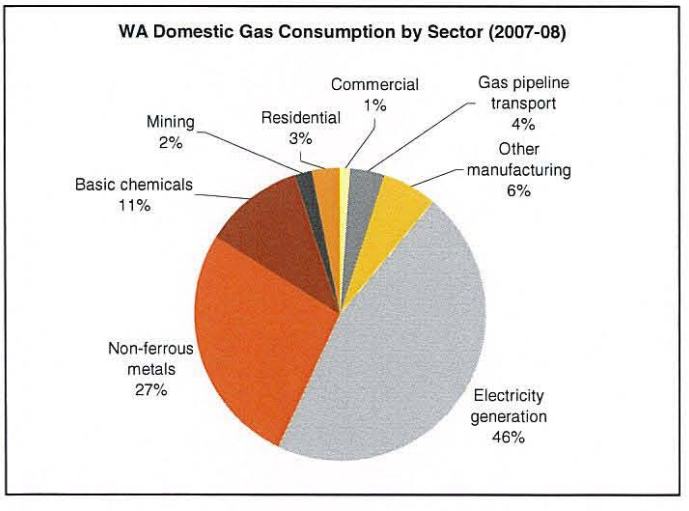
All these factors have contributed to significant cost increases and to significant delays for new gas and LNG projects in Western Australia as projects plans have been revisited to reduce costs or otherwise improve economic viability. The remote location of the next tranches of undeveloped gas supplies in Western Australia combined with their locations in deeper water or smaller offshore resources exacerbate the above factors. For example, the costs for the development of the Macedon project are currently around three times greater than they would have been; had the project been developed in 2000.

Another key supply factor is that the Western Australia is a small market which does not typically support large offshore gas resource developments to achieve an economically viable production rate. Recognising that the global LNG market is much larger than distinct markets such as Western Australia's, LNG projects typically achieve three to five times the production rates that would be possible with a stand alone domestic gas project. These higher production rates for LNG generate the necessary economies of scale required for a commercial development.

It is imperative that the Government support measures that encourage new suppliers and facilitate existing suppliers in delivering new supplies of gas to the domestic market, including commercially sensible retention lease management, streamlined approval processes and efficient transmission network access. Greater supply source diversity will improve the competitiveness of Western Australia's domestic gas price.

Characteristics of gas demand

Western Australia is also very unique from a demand perspective. New demand is largely project driven and requires significant commitments and alignment of lead times to underwrite the development of new upstream supply and pipeline infrastructure investments. According to ACIL Tasman's "Nation Builder" report (October 2009), total domestic gas demand in Western Australia exceeded 350 PJ per annum (~1000 TJ/d) in 2008.



Source: ACIL Tasman "Nation Builder" Report (October 2009)

With average daily gas consumption of 1,000 TJ/d, Western Australia is a small regional market in global terms. In addition, the proportion of residential demand (3% of market) as a segment of market demand is also small, with the mining and industrial customer segments accounting for the majority of demand.

As a consumer of gas BHP Billiton's Iron Ore, Nickel West and Worsley businesses account for ~15% of the total gas demand in Western Australia. Natural gas is a key input for electricity generation and minerals processing for BHP Billiton minerals businesses and its availability at a competitive price is essential to sustain existing operations and to support new projects and/or expansion of existing projects. The US$2.2 billion Efficiency and Growth Project at Worsley Alumina and the US$5.5 billion Iron Ore Rapid Growth Project 5 are examples of key projects which require competitive supplies of natural gas to support their development. Collectively, such projects support the ongoing economic development of the state and reiterate the need to ensure competitive supplies of gas are available to meet downstream demand.

Given these supply and demand conditions, it is therefore not only a requirement to develop new upstream gas supply sources in parallel with new gas consuming projects, new supporting gas transmission infrastructure is also required. The need to align this supply chain given the small size of the market is a challenge and typically results in gas projects taking longer to be realised. Any opportunity for the government to streamline and improve regulatory and environmental approval frameworks will support more timely development.

Notably for LNG projects, the complexity of these factors is significantly increased, with projects only progressed if they can compete in global LNG markets. Until these projects are able to compete in this market they are unable to be developed on the back of just domestic market requirements.

Competing energy alternatives

The equilibrium price of gas is ultimately set by the demand for competing forms of energy, including gas on gas competition and other forms of primary energy i.e. oil and coal substitution. In relation to gas on gas competition, there are presently a limited number of suppliers in Western Australia. This outcome reflects the evolution of the Western Australian gas market to date, including:

- the relatively small size of the Western Australian gas market;
- historically demand has been adequately met by the North West Shelf project and the John Brookes/Harriet joint ventures; and
- the development of capital intensive offshore reserves has until recently been constrained by subdued global gas prices and legacy domestic gas prices.

Another market dynamic specific to Western Australia is the fuel substitution alternatives available to different customer segments. For the South West power generation market, coal vs gas substitution is a key determinant where the long run marginal cost of gas and coal fired power generation economics compete to meet available electricity demand. Given the limited scale of the Western Australia electricity market, new power generation development actually involves relatively small generation units (~300 MW) versus larger electricity markets (e.g. Eastern Australia) which can support higher capacity units (500 MW+). As such the cost of coal fired generation in Western Australia can be significantly higher than in Eastern Australia due to lower economies of scale. This in turn increases the price level that customers will consider the relative substitution of coal vs gas as a fuel source. Note: This excludes the possible imposition of a carbon price which has the potential to increase the relative competitiveness of gas vs coal fired generation over time.

In addition, due to the significant minerals and industrial load in Western Australia, oil vs gas substitution economics have a significant role in determining relative price levels. In the context of mining projects this can be a significant proportion of their operating costs, however, this trade-off is potentially commercially justifiable dependent on the relative cost of installing gas infrastructure to service remote mine sites. In this regard, government support to expedite development approvals and develop gas infrastructure to remote

mining operations would enhance the greater utilisation of Western Australia's gas resources across the state and reduce reliance on imported oil.

Since approximately 2006, the Western Australian market, driven by commodity cycle demand and ongoing challenges to bringing on new gas supply has moved from surplus supply to a more balanced and at times constrained market. This has ultimately led to increased wholesale gas prices from historical levels. Increasing price levels have facilitated the development of new supply that would have otherwise been uneconomic to develop, with the Reindeer and potentially the Macedon project being examples of such new supply. This demonstrates that the market is working and supporting the development of new supply. New projects typically take three to four years to develop, so there is a natural lag between project commencement and the benefits of new supplies reaching the market which may contribute to periods of increased tightness.

Other Factors

Finally, gas price also need to reflect the risk sharing inherent in the supply of gas. This includes whether or not supply is firm vs interruptible and other terms and conditions that impact the reliability and ultimate commitment and risks (e.g. project and credit risk) associated with supplying or purchasing gas at a given price. In this regard, it is very difficult to compare relative prices across gas supply contracts if gas is not sold on the basis of standard supply terms as is the case in the immature Western Australian gas market.

As discussed earlier, ultimately the wholesale gas price is only one component of price of gas for end users. Other components, including pipeline transmission and distribution costs as well as retail costs/margins, are also very relevant and any analysis on gas prices should consider the entire gas value chain. For Western Australia, the wholesale gas commodity price estimated at A$6.50-8.50/GJ in the Office of Energy Gas Tariffs Review, (June 2009) represents only a portion of the overall residential tariff of A$25/GJ.

4 Comparison to other Australian domgas markets, particularly Victoria

Given that the Western Australian and Eastern Australian markets are not connected and that there are fundamental differences between supply and demand conditions in the two markets, it would not seem valid to make direct price comparisons across those markets. Supply and demand conditions in each market can be clearly differentiated on the basis of the level of development of the respective markets from both a resources and gas market demand and infrastructure perspective.

In term of supply, Eastern Australian is characterised by a lower cost of supply with conventional and unconventional resources that are more proximate to the multiple regional demand centres. Offshore gas developments have benefited from being relatively near to shore and in many cases having high liquids yields to offset the development costs. Whilst the current marginal cost of supply in Western Australia may range between A$7-10/GJ, Eastern Australia cost of new supply is now also trending upwards.

From a demand perspective there are a number of differentiating factors. These include:

- the more resource project driven nature of gas demand in Western Australia and the co-coordinated effort and timing required to align development across the gas value chain;
- the role of oil vs gas substitution in the Western Australian energy market;
- the higher cost of gas vs coal substitution in the Western Australian market due to the scale of the electricity market development and the higher relative cost of coal supplies;
- Western Australia's reliance on global LNG markets to underwrite the development of large scale, remote offshore resources that can only be monetized via LNG; compared to Eastern Australia where LNG developments are planned but are not a pre-requisite for the progressive commercial development of the resource base to meet the available domestic demand; and
- the significant gas infrastructure required in Western Australia to bring often very remote gas resources to the key demand centres. In this regard, delivered retail prices for Victoria are significantly lower than for Western Australia.

Overall, the combination of these factors in general will justify the absolute level of differences we see in wholesale[2] and retail gas prices between Western and Eastern Australia. As such, the focus from governments should be to develop an energy policy framework that supports the most efficient delivery of gas to the market in the context of the demand and supply conditions in each respective market.

[2] For the purpose of this document wholesale gas price is defined as that gas price payable at the entry into the transmission system (e.g. DBNGP).

5 International LNG market comparison

The same reasons that make direct comparisons of Western Australian domestic gas prices with Eastern Australia domestic gas prices superficial also need to taken into account when looking at global LNG markets. LNG and domgas projects can have different supply cost structures and the various LNG end user markets have a different set of demand drivers than the Western Australian gas market. And with both LNG contracts and domestic gas contracts freely negotiated between buyer and seller, the wholesale gas price will vary considerably overtime reflecting the supply and demand dynamics in each market at the time the contract was negotiated.

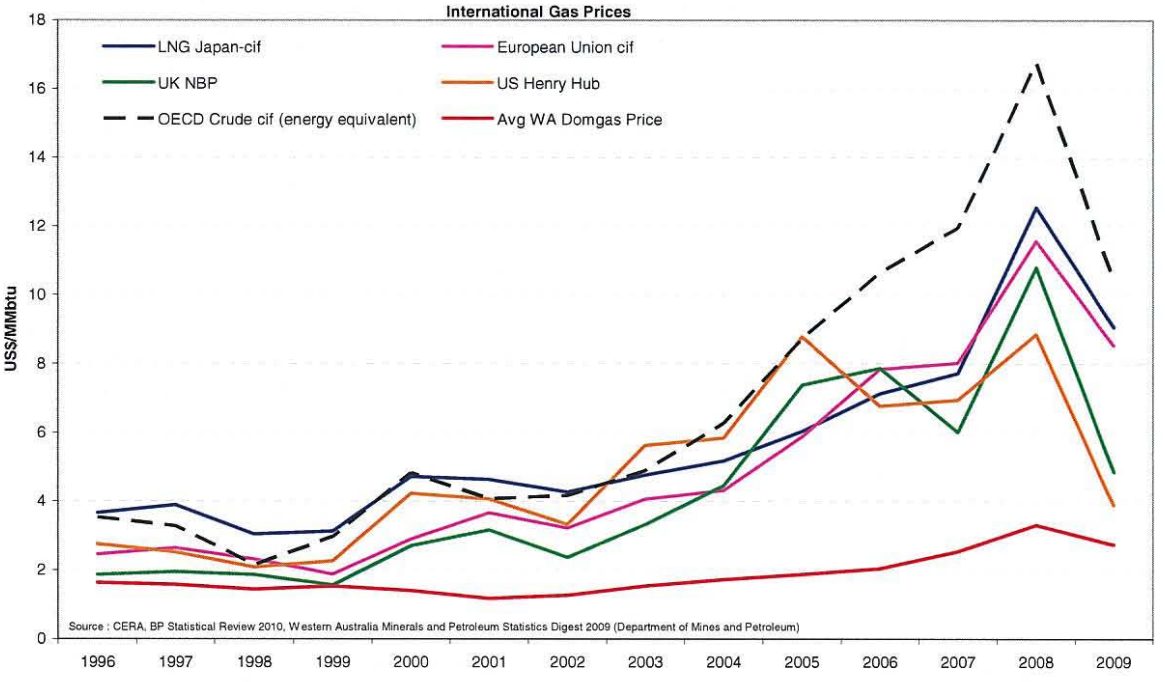
However, LNG markets can be connected through freight differentials and in the case of LNG there is an indirect link between Western Australia and the Asia Pacific LNG market through the development of the vast Western Australian gas resources for supply to these markets. As the Western Australian domestic market is too small to allow for cost effective development of these resources they can often only be progressed if the gas is co-developed for both LNG and domestic gas. Therefore from a supply perspective LNG can act to increase the availability of domestic gas.

The most relevant LNG markets for Western Australia are those within the immediate region, being Japan, Korea, Taiwan, China and India with other developing markets (e.g. Thailand, Singapore). These markets have provided the long term contracts that are necessary for the substantial investments that are required for LNG (upstream, liquefaction, shipping and regasification). Prices for these markets have been negotiated on a contract-by-contract basis and the LNG price formulae reflect the market circumstances at the time the negotiation was held. All significant long term sales have had an LNG price that is linked to the price of oil (typically the Japan Crude Cocktail or JCC). The extent of the linkage has ebbed and flowed over time, however LNG contracts signed in recent years have been at close to oil parity. That means that the price of LNG, in energy terms, is close to the price of oil and that the LNG price rises and falls in line with changes in the oil price.

As more and more WA LNG projects progress, there is the potential for the linkage (as adjusted for the differences in the supply cost chain) to grow between the two markets, with the level of influence dependent on the specific supply and demand conditions in each of the markets at any point in time. What this means is that over time domestic gas prices may be greater than or less than LNG prices as a result of many and varied market factors specific to both the Western Australian gas market and the global LNG market.

The chart below shows a comparison of major international gas prices across a number of locations. This includes commonly quoted US Henry Hub, UK NBP, average European and Japanese LNG import prices. The chart has several features. Firstly, it shows international prices have followed similar trends at times when common factors have affected prices across all markets, in particular the price of oil and the effect of economic growth. Secondly, these markets are volatile with peaks and troughs in individual markets that are not always reflected in other markets, which is due to local factors (e.g. hurricanes in the Gulf of Mexico, or energy policy developments specific to certain markets). If the linkage between Western Australian and LNG markets grows, similar dynamics would be expected in Western Australian markets.

Also shown is the OECD oil price on an equivalent energy basis which shows how international gas prices typically trend with oil prices. In particular in the case of Asian LNG prices which are directly linked to oil prices being historically driven by oil vs gas substitution. As a reference, but as stated earlier not readily comparable, is Western Australian average domestic gas prices (which also includes legacy prices).



Prices in all these markets are volatile. The global LNG market also has a relatively small volume (10%-20%) that is traded on a short term (spot) basis. These short term prices are often set by reference to prices in the more liquid and seasonally volatile traded markets of the UK or the US. Since the global financial market downturn in 2008, short prices have typically been depressed, while new long term contract prices for uncommitted LNG have remained at levels close to oil energy parity.

Furthermore, LNG contracts associated with LNG project FID's are typically larger in volume and longer term (20-30 years) than domestic supply contracts. This is required by developers to underpin the investment decision in a highly capital intensive project. Due to economy of scale effects on the economics of production, LNG and domestic gas market opportunities are not readily substitutable by a potential developer. This distinction is very important for large, remote offshore resources. It is not a choice, it is a necessity to target LNG to get a project off the ground, which means that any additional burden that makes a LNG project less viable, in effect reduces the viability of potential domestic gas supplies.

Clearly, from Western Australia's point of view, robust LNG prices are required to underwrite Western Australian LNG projects which have a higher cost (primarily due to remote offshore locations and low liquids yields) than competing international LNG projects. This is particularly important as expanding LNG exports is not a threat to domestic supply but rather an enabler, increasing domgas supply diversity and competition.

6 Measures to reduce the price of gas in Western Australia

Western Australia's recent trend to higher gas prices has created a necessary incentive for the development and exploration for new gas resources. Higher gas prices required to support new field developments are evidence of the market working to respond to market requirements.

As an example of the market functioning, BHP Billiton and Apache are close to committing to the development of the Macedon gas field which is expected to increase

the State's natural gas supplies by approximately 15%. This investment of more than a billion dollars is based on our confidence in the market fundamentals

Subsidised commodity prices typically produce cycles of under-investment and future scarcity that can otherwise be avoided. There are many examples of gas markets such as India, China, and Malaysia where government controls over gas pricing maintained prices at unsustainably low levels contributing to increasing levels of unmet demand. In a number of these markets, it has been necessary to introduce significant price increases to encourage investment in new supply.

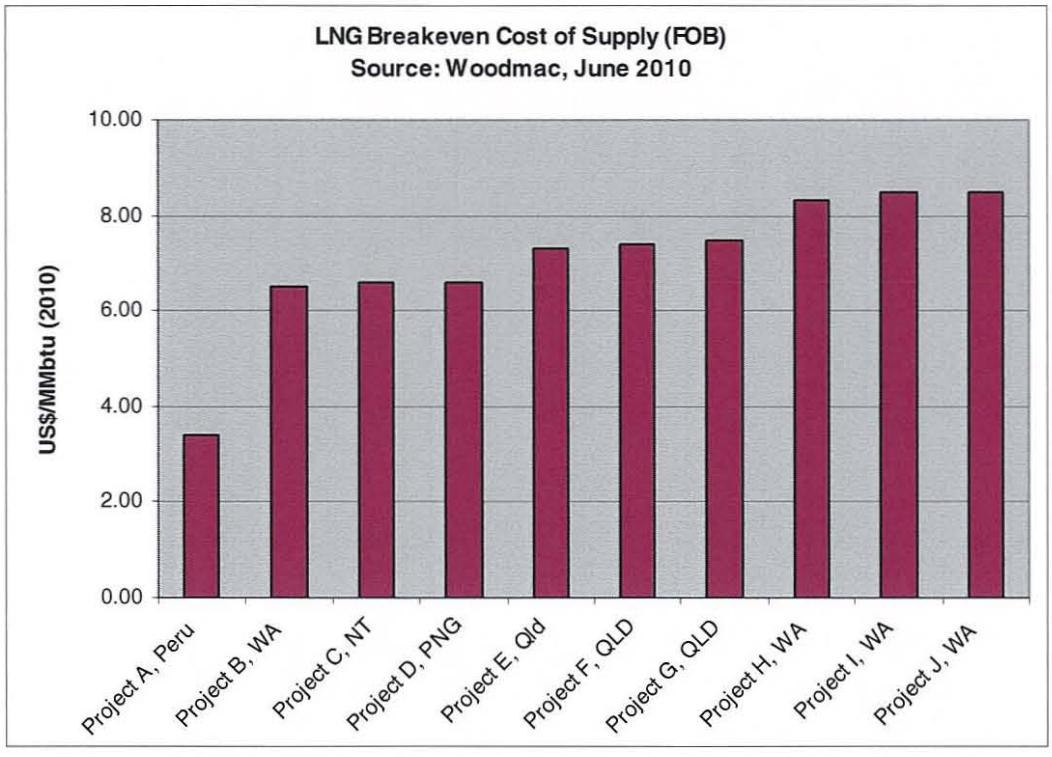
Reservation policy development

In Western Australia there is a history of applying domestic gas reservations to LNG project developments. The reservations have been negotiated between project proponents and Government on a case by case basis as a condition for the State's approval of the onshore facilities.

One example includes the NWS domestic gas project and related onshore pipeline developments which played a vital role in establishing natural gas as one of the major energy sources in the State. However, this project suggests the role of the reserves reservation may be over-emphasised. The NWS domestic gas project and related onshore pipeline investments was underpinned by a 20 year term gas sales agreement negotiated on a fully commercial basis between SECWA and the NWS participants. The NWSJV has since entered contact commitments that exceed its reservation obligations. These additional NWS domestic gas sales in excess of reservation obligations are direct evidence of a business driven by market fundamentals rather than the reservation.

In determining domestic reservations, we need to consider the intense competition that exists for available LNG markets and for the necessary investments of capital and human resources between competing projects. Therefore, consideration needs to be given to the relative competitiveness of the Western Australia's LNG projects and the potential impact of a domestic reservation policy upon those investments. Placing additional obligations on marginal LNG projects increases their risk of delay or cancellation. The impact of a delay is to reduce the supplies of gas potentially available to the Western Australian domestic gas market, because the size of the domestic market is too small to underpin a commercial scale development of these resources which in its own right when the minimum economic production rate for the gas resources is likely to be to 50% of the total current WA market or higher.

As discussed above, Western Australia already suffers from very high unit costs for onshore developments relative to its competitors. When high costs for onshore developments are combined with costly offshore developments due to long distances from shore and deep water developments, the economics of LNG projects become challenging. Industry analysts such as Wood Mackenzie regard Western Australia's planned and currently under construction projects as the highest cost LNG sources in the region (refer chart below).



Note: the above chart includes regional projects that are either completed in 2010, currently under construction or in advanced planning stage e.g. FEED has commenced.

As also shown in the high level comparison below, Western Australia's current 15% domestic gas reservation policy appears more onerous when compared to Queensland and Northern Territory, Western Australia's closest competitors. If we compare Western Australia with other sources of LNG supplies in the Pacific basin, the 15% domestic reservation again appears high with the single exception of Indonesia, which has a very large growing population and is moving to a position of being a net energy importer.

Domestic Gas Obligations Comparison Pacific LNG exporters / Australian States			
	LNG project based domestic resource dedication	**PSC or upstream licence based domgas obligations**	**Domestic price subsidy induced in upstream PSC licence**
Western Australia	15%	N	N
Queensland	N	licence specific upon acreage release	N
Northern Territory	N	N	N
Brunei	N	Up to 10% of gas produced	10% of arms length market value
Indonesia	approx. 25% for new projects	up to 25%	N
Malaysia	N	N	N
Peru	N	N	N
PNG	N	N	N
Russia	~ 7%	N	N
USA	N	N	N

Notes:

1. After a review of stakeholder submissions in late 2009, the Queensland Government rejected the adoption of a direct percentage reservation policy, deciding instead to develop a Prospective Gas Production Land Reserve to efficiently

manage the release of land for gas production. Under this approach, land released for tenure may be conditioned to require that gas produced is made available only to the Australian market, if needed.

2. Recent Indonesian Government announcements regarding Donggi and Senora decision indicates 25-30% will be dedicated to internal LNG markets as energy shortages in Java have created the internal demand for LNG

For the reasons outlined above, BHP Billiton believes that the current policy of 15% domestic gas reservation may be counter-productive. The current policy may contribute to otherwise viable WA gas resources for export remaining undeveloped, with the impact of the potential for lower domestic gas supply, moving potential jobs and other project economic benefits interstate or outside of Australia.

Market efficiency measures

The recently introduced Western Australian legislation allowing broader specification gas into WA's natural gas transmission pipelines provides a **leading** example of effective Government action to eliminate barriers to entry and encourage new competing supply sources. Without these measures, the Macedon gas field, which is anticipated to supply approximately 15% of the State's gas requirements, would not have been able to be developed.

The Government should also focus attention on additional measures to reduce barriers to entry and improve market efficiency such as:

- more efficient and timely project approvals processes;
- improved flexibility and liquidity of pipeline transportation services; and
- development of the market Bulletin Board, Gas Statement of Opportunities and Short Term Trading market to a more liquid and transparent market.

In our view, the most efficient approach would be for the Government to work with the Australian Energy Market Operator to implement these initiatives.

Infrastructure development support

There may be a role for Government in facilitating the development of critical infrastructure. As noted previously, the NWS domestic project and related onshore pipeline transmission infrastructure would not have been developed at the time without the financial underpinning of a large take or pay contract with the Government owned energy utility SECWA. While the market has since trebled in size, its evolution has seen the disaggregation of SECWA into a smaller set of utilities and major wholesale customers. Given the mismatch between the market's size and the level of sales required to support a typical offshore gas development, there may be a role for the State in providing additional financial support to major gas infrastructure projects.