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Thank you for the invitation to address today's forum and to engage in the debate about gas supply to Western Australia.

A lot of blame has been laid at the feet of suppliers

- that there is market failure;
- that there is no gas available at any price;
- that the price of gas is 'uncompetitive';

and that immediate, targeted government intervention is required to send the right signals to suppliers.

Today, I will explain the gas supply-demand picture as Woodside sees it and the implications of that picture for us all. It is important for you to understand the situation from the supply perspective to get some balance into the discussion, so we don't jump to solutions without really understanding some fundamental issues.

At the outset, I will make two assertions:

Firstly, the gas market is in transformation and we all need to come to grips with this, understand its implications and work together to manage them.

The second more harsh assertion is that the days of cheap gas – the so-called two dollar gas – are over. The "easy" gas has gone – it has been developed and produced or it is already contracted. The gas that's left is more expensive to produce.

Let me begin with the first assertion - market transformation.

First, it is important to be clear about what we mean by the domestic gas market. Our Western Australian gas market is made up of industrial, small commercial and residential gas buyers. Residential users are the mums and dads and small commercial users, the local baker for instance. Together, they use just 5% of WA's gas supply, but they are a big proportion of our state's population and therefore, we cannot ignore their political influence on gas market issues.

Industrial gas makes up the remaining 95% of the market and it goes to a handful of buyers. This area is rightly the focus of today's discussion.

Our WA gas market is modest, consuming about 960 terajoules a day (TJ/d) or 0.33 trillion cubic feet (Tcf) per annum. It is immature being contract-based with no spot market such as found in larger, more mature markets like Europe or the US. It has a low number of suppliers and buyers.

The North West Shelf Project, which supplies around two thirds of the state's gas, was developed in the 1980s, firstly with a domestic gas phase, followed by the liquefied natural gas (LNG) phase. We can have interesting debates as to which phase – domestic gas or LNG – underwrote which and our perspectives will change depending on which side we were on during the planning of the project.

But either way, we cannot ignore the fact that gas supply to WA was underwritten by taxpayers and their investment in the Dampier to Bunbury pipeline and the large take-or-pay contract. In hindsight,

this was a visionary step to provide infrastructure which has done much to develop our state. But it was a step that is unlikely to be repeated by government, and gas projects today must work on their own merits.

The Dampier to Bunbury pipeline linked the markets in the south-west to the North West Shelf Venture fields and encouraged further cost competitive gas supply that came later, such as the Varanus Island-based gas developments of the 90s.

A key observation is that up until very recently, gas supply capacity has always exceeded demand by a healthy margin. Price signals were infrequent because the market is contract-based, making it difficult to sense any underlying change.

Then, around 2001-2, our state's economy took off, underpinned by global demand for commodities. The impetus from the boom has fed through to all sectors of the state's economy and demand for gas has grown rapidly. Almost all available supply capacity has been taken and there is further unsatisfied medium term demand, causing an imbalance between supply and demand. We are experiencing short term disequilibrium.

The consequences of disequilibrium – such as price increases where supply needs to catch up with demand – do not imply 'market failure'. Rather, these consequences are precisely the means by which markets work to resolve imbalances. And the market is working – with higher gas prices, previously uncommercial developments are now being pursued such as Macedon, discovered in 1992, and Reindeer, discovered in 1997.

The market has not failed. Rather our gas market is experiencing the pains of rapid growth, triggered by the run down in inventories from the original take or pay contract, the reaching system supply capacity and market demand for new supply capacity. It is a market in transformation.

While we are touching on the boom, many of the large industrial gas users like Alcoa, Rio Tinto, BHP Billiton, make world class commodities and get world class prices for them. They are enjoying the benefits of booming commodity prices. But Western Australian gas suppliers are not.

WA gas prices have not even remotely kept pace with the rise in global energy prices that are causing the massive capital and operating cost increases in our industry. The claim that the price of WA gas is "uncompetitive" is grossly out of line.

And it brings me to my second, more harsh assertion – cheap gas and why that era is over.

Firstly, let's look at the State's gas resources. I will pay little attention to the Perth and Browse basins as significant supply regions at this stage – the former because of its relatively small volumes and the latter because of its distance from, or lack of, infrastructure and proximity to market. Browse gas, while significant in volume, will only be an option for the Western Australian market if it is developed on the back of LNG, or pipeline infrastructure is extended into the Kimberley.

My focus is the gas rich Carnarvon Basin, which contains discovered recoverable gas resources of some 110Tcf with yet-to-find or undiscovered volumes estimated to be around 50Tcf. To put this in perspective, the massive North West Shelf Project is expected to recover probable reserves of around 33Tcf of raw gas.

I've subdivided the Carnarvon Basin offshore into three regions – the inboard region lying within 100 km of the coast, the outboard 100 to 200 km from the coast and the deepwater, greater than 200 km from the coast.

I said earlier that the Dampier to Bunbury pipeline provided incentive for explorers to pursue cost competitive gas fields. Typically this gas was inboard of the basin, the so-called low hanging fruit, close to the Pilbara coast, in shallow water, near infrastructure and low in carbon dioxide and nitrogen. This meant it was relatively cheap to produce and explorers went after it. However, 20 years on, it

appears that the major finds have been made in the inboard region and we are unlikely to find any other significant volumes within this region. Of the developed reserves, much of the gas has been committed at prices that cannot be repeated. Of the 2.3Tcf of discovered undeveloped volumes, the Reindeer and Macedon discoveries make up the lion's share.

The focus of exploration today is to the west in deeper water where there is significant exploration potential as evidenced by the extremely high bids in recent gazettal rounds.

This takes us then to the next area of interest for producers – the outboard region that is further offshore 100-200 km from the coast – where 78Tcf of gas has been discovered. Of this, 13Tcf has been produced with a further 19Tcf of developed gas remaining, leaving 46Tcf of discovered undeveloped gas in accumulations such as Gorgon, Dionysus, Geryon, Wheatstone and Pluto. But this is not cheap gas for several reasons. For starters, it is further offshore, in deeper water. The undeveloped gas is typically low in condensate, usually less than 10 barrels per million standard cubic feet (bbl/MMscf) of gas, compared to 30-120 for the North West Shelf Venture fields. Many fields, such as Gorgon, West Tryal Rocks, Pluto and Wheatstone, have either high carbon dioxide content or nitrogen content or both, requiring additional costly processing to meet pipeline specifications.

By definition it is more expensive to develop and, in today's environment has to be done in a world where the global oil and gas industry's project costs are 80% higher than they were several years ago, as widely reported by Cambridge Energy Research Associates. Since 2000, drill rig costs have risen by more than 300%, and steel prices are up by 210%. As many of you in this room will know, costs are subject to further significant upward pressures within Western Australia as companies compete fiercely for scarce construction resources.

So there are two important conclusions we can draw about the gas resources. First, the state has abundant gas – that should be obvious. Second, but more important, the cost of developing further gas supply has increased as the centre of gravity of reserves has moved further offshore.

To give you some sense of the impact of these issues on gas price, we have modelled a 1Tcf gas field, around 60 km from the coast producing 200TJ/d. The field has a condensate to gas ratio of 50bbl/MMscf. Its nitrogen and carbon dioxide content meets the pipeline specification. Costs are based on actual costs before the recent global cost escalation. We have then "morphed" the field, moving it further offshore to the outboard region, inflated costs in line with global escalation, lowered the condensate to levels to be typical of the outboard, and increased the nitrogen and carbon dioxide levels. We have also included the impact of purchasing carbon offsets for reservoir carbon dioxide, a recently applied government requirement for new field developments.

The results show the multiplier effect of the individual changes, assuming a very modest 12% return, normalised against the old gas price. The total impact is a 3-4 fold increase against the old gas price, with the increases split equally between capital cost increases and different reservoir characteristics.

While the economics of each new gas development will vary dependent upon its unique attributes, such as distance to infrastructure, facility size and gas quality, the underlying cost drivers of global cost escalation and generally poorer reservoir characteristics apply.

We are entering a new gas paradigm. The cost of supply has changed.

Now, coming back to the supply/demand picture, let's look to the future.

The picture can be characterised over three periods - short term from now until 2010, medium term from 2010 – 2013 and longer term beyond 2013. Looking first to demand, we estimate that there is a requirement for additional supply capacity in the order of 300 TJ/d by 2010-12. This is faster than Australian Bureau of Agriculture and Resource Economics projections which predict gas demand to grow at 4% per annum.

In the short term, supply is expected to be tight, as existing capacity is all but sold. De-bottlenecking of the North West Shelf domestic gas plant is being re-assessed after a failed attempt late last year, and this is a possible source of additional capacity in the short term.

In the medium term, the outlook is better. The good news is that price signals are working.

The recent gas price increases have encouraged the Reindeer and Macedon venturers to re-evaluate these discoveries. Apache is well advanced on the Reindeer development concept and the recent Julimar discovery is a possible addition. Just yesterday, Apache announced the start of Front End Engineering and Design studies for the Reindeer gas field. First gas from Reindeer is targeted for mid 2010 and the production capacity will be around 110 TJ/d.

Likewise, the BHPB-operated Macedon field development planning is progressing with a start up targeted for 2011. Plant size is likely to be around 150 TJ/d. Pluto is another possible supplier, and the recent approval of the LNG phase can only help the likelihood of supply to WA. Supply could commence as early as the start of the LNG phase in late 2010 and studies are underway to evaluate local gas supply opportunities, although under our agreement with the state, the obligation to supply the WA market from Pluto is not until 2016.

Long term solutions may require different thinking. Obviously if a big LNG development with a large reserves base was to proceed, the developers would see value in creating a domestic gas supply. In the absence of this, or perhaps in addition, there may be merit in creating further common user infrastructure such as an onshore plant and offshore pipeline to create the efficiency of scale and duration that would be beneficial for gas prices. This would require co-operation and collaboration by buyers and sellers to accumulate sufficient demand to underpin such an investment.

In saying that the market is working, we need to acknowledge that the market is in transformation and we – as producers, shippers, customers and regulators – need to think and act differently. In this context, a few important issues present.

The first is the politics of carbon. Here we have the choice between energy pricing and greenhouse emissions. Decisions need to be made about further power generation in the state – gas or coal-fired – with the competing tensions of cost versus greenhouse emissions and climate change.

The second issue is the politics of the price impact on residential and small commercial users and how to transition them to the inevitability of price increases. Woodside believes that it has a strong obligation to make sure that the residential and small commercial gas users have a long term supply of gas.

And thirdly, there are a group of issues, many of which have been highlighted by the Domgas Alliance but which, we would caution, are not solutions such as retention leases and joint marketing.

I do want to comment on proposals to make it harder to get retention leases and suggestions that existing producers may be “hoarding” reserves for commercial advantage. This is not the case – the legislation simply does not allow it. It provides for challenge by the authorities on the commerciality of the resource. And I know from personal experience of the application and renewal process that this is robustly applied. And I know of examples where retention leases have not been granted or renewed because the authorities have taken a contrary view to companies on the commerciality of fields.

It is unclear to me how reducing investor certainty by making it harder to get a retention lease in a market characterised by high hurdle rates and risk would lead to an improvement in long term gas supply. It would reduce the incentive to explore. And any explorer here would know, for many years, a gas discovery was tantamount to a dry well because of a historic inability to find markets for the gas. This is not the case today.

There are things that should be done from a government policy point of view to encourage further exploration and development of the gas market.

Given quality issues associated with much of discovered gas volumes in the outboard Carnarvon, the gas pipeline specifications will need to be examined to see if increased inerts can be accommodated. Otherwise, additional processing costs will be incurred.

One of the greatest challenges that we face in developing new resources is a lack of infrastructure – roads, housing, medical care, education and child care. The need for infrastructure development is acute in the regional areas in which we develop and operate facilities and this needs to be addressed urgently.

Finally, a positive, albeit modest, impact could be made on short to medium term supply through encouraging further exploration inshore Carnarvon, and onshore Canning and Perth basins. This would encourage smaller companies into the market and increase the diversity of supply.

This brings me to my conclusions. I have argued that the gas market is in transformation. It is experiencing the pains of rapid growth, but it is responding.

Western Australia has abundant gas, but the cost of developing further gas supply has increased as the centre of gravity of reserves has moved further offshore. The “easy” gas has gone – it has been developed and produced or is already contracted. We are entering a new gas paradigm where the cost of supply has increased dramatically.

Large existing contracts, that have secured old gas prices out to 2020, will act to keep the average cost of gas to the state lower.

The existing gas supply is secure, however, there is likely to be only limited additional supply capacity available in the short term to 2010. Encouraged by recent price signals, new supply sources are likely to be developed in the medium term. These are being actively planned today.

Long term solutions may require different thinking such as common user infrastructure, and would require co-operation and collaboration by buyers and sellers to accumulate sufficient demand to underpin such an investment. Together, we need to develop a vision for energy use in the state and the role that gas will play, taking into account the competing tensions of cost versus greenhouse emissions and climate change.

Thank you.