

Our Reference: SG0901

5th July 1999

Mr P McMahon
Committee Secretary
House of Representatives Standing Committee on Industry, Science and Resources
Suite R1-116, Parliament House
CANBERRA ACT 2600

Dear Mr McMahon

SUBJECT: INQUIRY INTO INCREASING VALUE-ADDING TO AUSTRALIA'S RAW MATERIALS

Thank you for the invitation to provide a submission to this inquiry by the House of Representatives Standing Committee on Industry, Science and Resources.

The North West Shelf Gas project is a major supplier of natural gas to Western Australia's resources processing industry and is actively seeking to attract new gas-intensive industries to this State. We therefore feel that we have a good understanding of the opportunities for new petrochemicals, chemicals and mineral processing investment and of the advantages and disadvantages of investing in Western Australia.

I note your request that submissions at this stage focus on the current state of value adding in Australia and how that compares internationally. I will also touch on what is being done by this project to attract new investment in gas intensive processing industries and the impediments to competitiveness which need to be addressed by Government. Members of my staff would be pleased to provide further information on these aspects as the inquiry progresses.

Minerals Processing in Western Australia

The natural gas market in Western Australia is the largest of any Australian State and more than any other is dominated by gas consumption within the industrial sector, particularly in electricity production and mineral processing. In 1998 gas consumption within WA totaled an average of 640 Terajoules per day (TJ/d) with gas consumed in the commercial, industrial and electricity generation sectors accounting for 97% of consumption. This compares with Victorian gas consumption of 540 TJ/d in 1998 with the residential sector accounting for around 40% of consumption.

Currently the North West Shelf Participants sell about 523 TJ/d to markets within WA accounting for about 72% of the State's domestic gas market.

Major resource processing gas consumers within WA include:

- Alcoa's alumina refineries with contracts for more than 200 TJ/d and producing some \$1.4 billion of alumina each year (18% of western world demand);
- WMC Resources using gas in their nickel smelter at Kalgoorlie and nickel refinery in Kwinana (around 50TJ/d);

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- BHP's Hot Briquetted Iron plant at Port Hedland (around 110 TJ/d).

Natural gas is also supplied by AlintaGas to a large number of smaller (but still nonetheless substantial) processing operations in the alumina, titanium minerals industry, specialist metals and elsewhere.

Government Departments such as the Department of Resources Development and industry bodies such as the Chamber of Commerce and Industry of Western Australia maintain comprehensive listings of possible new projects totaling many billions of dollars of potential new investment.

Expected Growth

Forecasts by the Office of Energy and Department of Resources Development suggest that the WA gas market could grow to around 1,800 TJ/d towards the end of the next decade as a result of the development of a number of major new mineral processing projects. However, the Asian economic downturn has meant that many of these projects have been deferred and gas demand will therefore not increase as rapidly as was expected. As with the Liquefied Natural Gas (LNG) industry, it is apparent that the competition for new minerals processing investment is also intensifying with a number of developing countries aggressively marketing themselves with a view to using this type of investment to underpin the development of their economies.

The International Competition for Resources Processing

Australia, particularly the North West region, has large undeveloped gas resources and considerable potential comparative advantage to value add to gas and minerals and then to export processed commodities to Asian markets. Other gas rich regions (Middle East and West Africa for example) have lower priced gas but Australia has a freight advantage, a skilled workforce (albeit at high cost), a stable social and political environment and a low level of government control (flexibility to build plant of choice, no government marketing rights or rights to plant ownership).

However, in the interests of minimizing infrastructure costs and in maximizing plant synergies and volumes much of the global investment in mineral processing capacity is being directed towards dedicated industrial estates or resource hubs. Through the provision of basic infrastructure and an attractive investment environment (including tax concessions) Trinidad and Tobago for example have turned sugar cane plantations into an estate for downstream processing industries using natural gas as an energy source and direct feedstock for petrochemical industries. Today Trinidad and Tobago supports eight ammonia plants, five methanol plants, two direct reduced iron (DRI) plants and a LNG plant, which began production in May 1999.

Other large resources processing hubs complete with land, infrastructure services and port facilities are also being developed in Venezuela and the Middle East (eg Ras Laffan in Qatar). Once they are fully established they will become very formidable competitors with access to infrastructure, low construction costs, a skilled and continuously employed construction workforce and rapid government approvals timelines. Australia's north west lacks such a facility which if not addressed will make it increasingly difficult for Australia to compete with these other centres.

North West Shelf Gas Marketing – Horizon Three

Despite the increasing competition, Woodside believes that considerable scope exists to develop major new downstream processing industries in the Pilbara based on the use of natural gas. The most attractive of these are iron ore upgrading to DRI and/or steel and

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petrochemical industries from which ammonia, methanol, gas to liquids, ethylene and a host of saleable by-products can be produced.

To identify such opportunities and promote investment in Western Australia, The North West Shelf Joint Venturers have established a special, marketing initiative known as Horizon Three. An initial assessment of projects which could be attracted to Western Australia suggested that it is feasible for Horizon Three to generate extra sales of about 700 TJ/d by 2010 (ie an approximate doubling of the current WA gas market). There are relatively few (perhaps 100) truly global players who are prospective developers in WA's gas-intensive commodity industries and in a little over one year, our marketing team has made good progress in establishing a global presence among them.

The attached graph indicates that WA's gas prices are competitive with those available in Asia, the USA and Europe but are significantly above those available in Venezuela and the Middle East.

Greenhouse Gas Emissions and Value Adding

While the Greenhouse issue is currently not having a major impact on the drive to add value to Australia's raw materials, it is quite clear that Australia's signature of the Kyoto Greenhouse Gas Protocols poses a very real threat in the future.

The key to value addition in Western Australia has been the combination of freely available gas (at a progressively decreasing price) and the State's raw materials. The refinement of bauxite, iron ore and other raw materials in the State is increasing but a consequence is that greenhouse gas emissions in Australia are also increasing. The high environmental standards set in Australia have ensured, and will continue to ensure, energy and emissions efficiency to be world's best practice standards.

While substitution of coal and oil by LNG in consumer countries leads to an overall reduction in greenhouse gas emissions on a world scale, there is a small but still significant increase here in Australia due to the production and processing of the gas. Australia is the only significant LNG exporter to the SE Asian markets that is also an Annex B signatory to the Kyoto accord.

At the moment, there is no international protocol that allows the major benefits derived by the customer/consumer to be credited against the increased emissions within this country. Despite the fact that Australia negotiated an increase in its greenhouse gas emissions at the Kyoto Conference, value addition to raw materials in this country will be severely impacted if international protocols to transfer credits from consumers to producers are not put in place.

A second example in this dilemma is the Direct Reduced Iron (DRI) process where iron ore is partially refined using locally produced gas. Prior to the construction of the BHP DRI (or Hot Briquetted Iron) plant, all of Western Australia's iron ore was transported in bulk to the customer. Due to the standards set in Australia the total greenhouse emissions associated with that transportation and the subsequent refinement process, would certainly exceed those which will be incurred now here in Australia. However, the Kyoto protocols measure emissions within countries and therefore the net effect of refinement of iron ore in Australia is to increase our emissions while decreasing those associated with transportation and further refinement in the consumer countries. Unless these issues are addressed there will be

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pressure for Australia to retreat from its value-adding trend and to revert to being an exporter of raw materials. The world as a whole will not benefit from this outcome.

Viewed on a global basis, the processing of gas and other raw materials within Australia prior to export creates a measurable improvement in the total world environment.

Impediments to Competitiveness

While Australia has a number of advantages as mentioned above, it also presents a number of disadvantages that are adding to project risks and costs and are having a significant deterrent effect on new resource processing investment. Many of these are within the ability of Government to influence and include the following:

- Access to competitively priced infrastructure including utility services, transport corridors, telecommunications and port facilities;
- An uncompetitive fiscal regime including a relatively high company tax rate and an uncompetitive depreciation regime for capital intensive industries (see the attached graph);
- Greenhouse risk and the conflicting messages given by Government agencies about ensuring that new greenhouse policies and measures do not impact on the international competitiveness of emission intensive industries, particularly those which compete with projects in non Annex B countries;
- Protracted and unpredictable approvals processes particularly in relation to gaining access to land subject to Native Title and environmental approvals;
- Tariffs on equipment imports that not only represent a tax on investment but also send a strong negative signal to investors about the Government's commitment to attracting new globally competitive investment to Australia.

I trust that you will find these initial comments helpful and would be pleased to provide further information as the inquiry progresses. If I can be of any further help please contact me on Tel: (08) 9348 5180, Fax: (08) 9348 5240, email: erica.smyth@woodside.com.au

Yours sincerely

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(original signed sent via e-mail)

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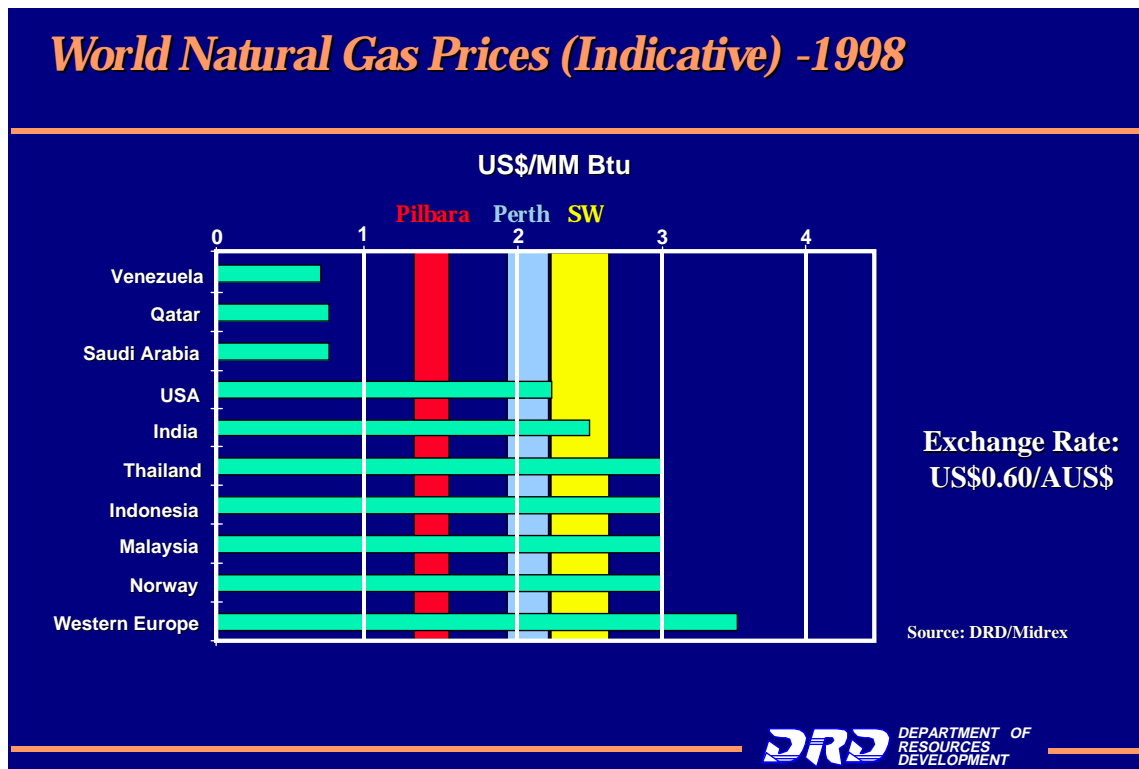
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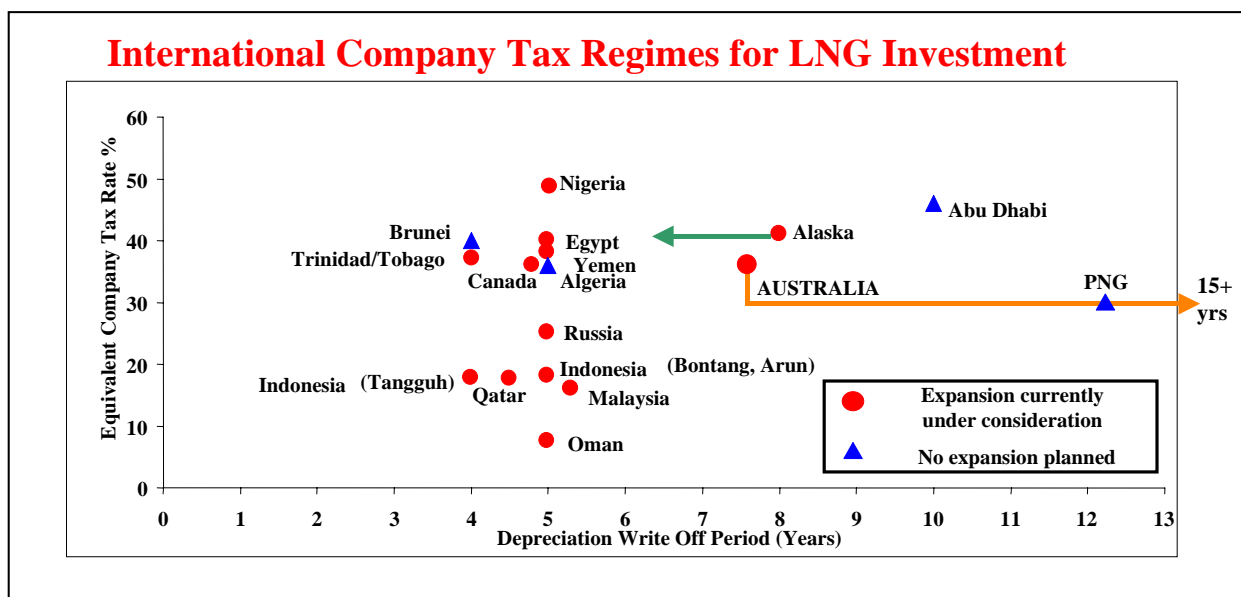
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Australia's natural gas prices are competitive with those available in the USA, Europe and Asia but significantly higher than those available in the Middle East and parts of South and Central America



Australia's company tax rate and depreciation rates for LNG capital (write-off over 7.6 years) are uncompetitive with those available to its major competitors for new LNG investment, particularly Indonesia, Malaysia, Oman and Qatar (4 to 5 year write-off).



Sources: Review of Petroleum Fiscal Regimes, Petroconsultants (UK) Ltd., 1997
 Suggestions for New Terms for the Alaskan North Slope LNG Project, Dr P H van Meurs.
 World LNG Trade, WA Department of Resources Development, April 1998,
 Petroleum Economist, April 1998; Shell International Gas

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