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The Eastern Australian Gas Market: A Point in History

Jim McDonald*

SUMMARY

Australia is at a critical juncture in its history of gas supply. Two pressures are acting concurrently to raise the spectre of shortfalls in gas supply in the near future, for all States and Territories east of the Western Australian border. First, the market is changing with large gas to liquid or gas feedstock industrial consumers locating their operations in the north-west, close to the major gas fields, therefore requiring pipeliners to justify supply projects to the eastern markets on the basis of generic growth in existing markets. To make transnational supply projects an investment prospect of substance, the industry needs to see a new upside in natural gas usage. The necessary upside would come from increased and distributed use of natural gas in power generation, and innovative applications of natural gas such as direct fired air conditioning and large vehicles.

Secondly, while natural gas reserves are abundant, the incentive to invest in the necessary pipeline infrastructure to deliver natural gas to the eastern State markets, is undermined by an unsatisfactory regulatory environment incompatible with the commercial decisions that face investors in long-life major infrastructure projects. The industry has already seen the removal of accelerated depreciation and this, coupled with proposals to extend the tax depreciation life to 50 years, represents a new major impediment to gas transmission pipeline developments in this country. Unless progress is made over the next 12 months, and the boards of pipeline companies are convinced that contracts written will be preserved and form the basis for non-discriminatory third party access, plans for major transmission pipelines will be shelved.

The Australian pipeline industry is encouraged by government initiatives including the current Productivity Commission Review of

* Chief Executive Officer, Australian Pipeline Trust.

the working of the Trade Practices Act Pt IIIA, the prospect of an inquiry into the Pipeline Access Code as it applies to transmission pipelines, and the CoAG initiative to develop a national energy policy.

The industry is seeking to work with the Federal Government to develop a national energy strategy that explicitly supports the growth of natural gas usage, particularly in power generation, and the establishment of a stable, predictable, regulatory, legal and fiscal environment for transmission pipelines.

THE NATIONAL MARKET FOR NATURAL GAS

Australia has experienced sustained growth in energy consumption for many years. Growth in primary energy usage is expected to continue at an average annual rate of 1.4 percent to 2015, a rate which is only half that evidenced over the past 25 years (2.6 percent pa). According to the Australian Bureau of Agricultural and Resource Economics (ABARE), the anticipated relative slowdown in energy consumption is largely a result of improvements in energy efficiency.¹

Of the primary energy consumption trends forecast by ABARE a number of outcomes suggest new opportunity for natural gas. First, black and brown coal, currently the largest source of primary energy in Australia, are not anticipated to make further inroads into the primary energy market. Secondly, liquid petroleum products, the second largest source of primary energy, achieved only slow growth over the past 20 years and this trend is expected to continue. Finally, natural gas, by contrast, has grown very strongly, from virtually a zero base in 1970 to approximately 18 percent of current primary energy consumption: it is now the third largest source of primary energy.

Furthermore, ABARE confirms that natural gas will be Australia's fastest growing energy source to 2015 with average annual projected growth around 3.0 percent. Over this period, natural gas is forecast to raise its national primary energy share from its current level of 18 percent to over 28 percent.² National Institute of Economic and Industry Research (NIEIR) reinforces this view with only slightly lower forecasts for the same period, and primary energy share rising to 26.4 percent in 2015.³

¹ S Bush, A Dickson, J Harman & J Anderson, "Market Developments and Projections to 2014-15", ABARE Research Report 99.4, April 1999.

² Australian Gas Association: Gas Supply and Demand Study, National Overview, 1997.

³ National Institute of Economic and Industry Research, "Natural Gas Consumption in Australia to 2015 – prospects by state, industry and sector", A report for the Australian Gas Association, August 1999.

The exploration, production, transmission, distribution and marketing of natural gas are major economic activities in Australia. The gas industry serves some 2.9 million customers and generates sales of about \$7.5 billion, including \$2 billion in liquefied natural gas exports. Gas transmission accounts for about \$900 million.

Competition and privatisation have succeeded in opening up the market to new entrants, new investment and new innovation. The majority of early pipelines constructed in Australia were government owned. Until 1994, only Queensland and the Northern Territory had predominantly privately owned transmission pipeline infrastructure. In 1994, the Commonwealth sold the Moomba to Sydney pipeline to East Australian Pipeline Limited (EAPL). The privatisation trend continued so that by the end of 1999, all major transmission pipeline systems in Australia were privately owned. Private specialist ownership of pipelines resulted in non-discriminatory access, operating cost reductions and investment in increased reach and capacity.

In addition, major utility companies restructured, energy markets converged, resulting in many companies moving beyond their traditional businesses, and national competition policy led to profound changes in the regulatory landscape. While the changes to the gas industry have been dramatic, competitive reform is still a “work in progress”.⁴

Possibly the most significant hurdle to realising natural gas’ potential as Australia’s premier fuel, is the current regulatory environment and the absence of a government-led national gas strategy. Despite strong market demand for gas, long term, price effective supply solutions are not forthcoming under the current regulatory environment. As Chief Executive of the Australian Gas Association, Bill Nagle stated:

“There is a growing body of opinion that the regulatory rule book (the National Gas Pipeline Access Code – the Code) is having unacceptable and unintended consequences on the enthusiasm to invest in new gas transmission and distribution systems in Australia.”⁵

Overlaying concerns about the regulatory environment, is the prospect of a shortfall in gas supply to the eastern Australian markets. Contracts for gas supply are due for renegotiation in New South Wales and South Australia and shortfalls are predicted over the next decade for New South Wales, Queensland and Victoria.⁶ It is vital that

⁴ A Smart, and P Balfe, “Natural Gas Pipelines: Emerging Market Challenges”, *The Australian Gas Journal*, March 2001.

⁵ B Nagle, “Exploring Competition Issues in Gas Supply and the Gas Grid”, Australian Gas Association presentation to Utilicon’s Queensland Power Conference, 23.5.2001.

⁶ ACIL Consulting, “Natural Gas and Pipeline Issues”, Presentation to AGA Transmission Committee, 14.11.2000.

disincentives to investment in pipelines are removed to provide the eastern States with secure, long-term natural gas supply solutions.

This paper will examine the issues surrounding natural gas supply to the eastern Australian market on a state by state basis, and consider the need for regulatory reform and an umbrella national policy that promotes natural gas usage and the development of the necessary supporting infrastructure.

Major Sources of Natural Gas in Australia

The delivery system consists of long distance, high pressure steel pipelines, buried underground, linking major gas producing fields to large customers. Once the pipelines arrive at major cities and regional centres, the delivery of natural gas is the responsibility of gas distribution companies. Transmission companies like the Australian Pipeline Trust (APT) are in the business of hauling gas, not the sale of gas.

Current natural gas fields supplying Eastern Australia include the Amadeus Basin, South West Queensland, Cooper Basin, Bass Strait, and Otway, while major new offshore supply sources lie in Papua New Guinea, Timor Sea, and the North West Shelf.

Examination of the size of different fields, show that reserves in Eastern Australia, while increasing marginally from 13600PJ in 1995 to 15000PJ in 2000, have decreased from 14.7 percent of total reserves to 12.6 percent of total reserves. Reserves in Western Australia and the Northern Territory have increased from 79200PJ in 1995 to 102000PJ in 2000, with a corresponding increase in relative share from 85.3 percent to 87.4 percent.⁷

The challenging industry growth targets which project that by 2015 natural gas will occupy 28 percent of Australia's primary energy market, will not be met, according to ACIL Consulting's Eastern Australian Gas Model, in the absence of supply solutions from the major new gas fields. This view was further confirmed in the paper by George Webb, entitled "National Supply and Demand Outlook for Gas" in May 2001, although the report concluded that when projected demand in the Eastern States is compared with estimated gas reserves and supplies of coal seam methane, there could be a surplus in the order of 1900PJ. Webb describes this supply and demand position as, "too tight for comfort".⁸ However, with the emergence of new competitive supply sources such as Papua New

⁷ G Webb, "National Supply and Demand Outlook for Gas", Paper Presented to the Energy Prices and Market Update Seminar, 30.5.2001.

⁸ G Webb, "National Supply and Demand Outlook for Gas", Paper Presented to the Energy Prices and Market Update Seminar, 30.5.2001

Guinea and the Timor Sea, modelling suggests that most of this demand will be met at prices which preserve the competitiveness of natural gas in energy markets.⁹

Sizeable new investment in Australia's pipeline grid is necessary to support the forecast growth in demand for natural gas. The necessary infrastructure includes the construction of major new pipelines, the removal of bottlenecks from the current system, an extension of pipelines and distribution systems to areas not yet serviced by natural gas.¹⁰

It is further anticipated that some pipelines currently functioning as sole pathways between established producers and consumers, will change to become elements of an integrated transmission network. With these changes some pipelines risk loss of throughput, thereby revenue, until new equilibrium is found in the market. Other pipelines will be inter-connectors, with variations in flow due to seasonal demand fluctuations, and value beyond their pure transportation capacity.¹¹

Questions have been posed regarding plans for a transnational pipeline supplying the eastern States with Timor Sea gas in the wake of the decision by Phillips Petroleum, to defer construction of a pipeline to Darwin.¹² We are continuing to plan the Darwin to South East Australia pipeline. A pipeline into Queensland from Papua New Guinea, which contains supplies estimated at 7000PJ,¹³ should receive new impetus. The pipelines we are planning are demand driven and we remain confident.

Considerable investigation is underway into supply opportunities for coal seam methane which is forecast to supply approximately 250PJ of gas over the next 15 years. Currently, the Sydney Gas Company supplies gas into the AGL distribution system at a rate of 4.5PJ a year over 10 years, and expects to drill 300 wells in the Sydney Basin, with the potential to deliver up to 25PJ a year. In Queensland, Origin Energy signed a 20 year contract to supply the BP Bulwer Island Clean Fuels Project. The contract is worth \$250 million and will supply around 6PJ per annum.¹⁴ However, unless

⁹ ACIL Consulting, "Natural Gas and Pipeline Issues", Presentation to AGA Transmission Committee, 14.11.2000.

¹⁰ B Nagle and A Beasley, "C Rating on Gas Infrastructure a Warning Bell", Joint Statement by Chief Executive of The Australian Gas Association and Executive Director of The Australian Pipeline Industry Association, 5.7.2001.

¹¹ A Smart, and P Balfe, "Natural Gas Pipelines: Emerging Market Challenges", *The Australian Gas Journal*, March 2001.

¹² The Australian Pipeline Industry Association, "Phillips Petroleum Announcement of Deferral of Timor Sea Pipeline Investment", Media Release, 1.8.2001.

¹³ G Webb, "National Supply and Demand Outlook for Gas", Paper Presented to the Energy Prices and Market Update Seminar, 30.5.2001.

¹⁴ G Webb, "National Supply and Demand Outlook for Gas", Paper Presented to the Energy Prices and Market Update Seminar, 30.5.2001.

breakthrough discovery and production techniques emerge, coal seam methane is expected to remain an opportunistic spot supplier in the market.

Demand Trends

Identification and substantiation of demand drivers to support commercial initiatives to haul natural gas from Timor Sea or Papua New Guinea to the eastern markets involve a complex balance of considerations.

From 2000 to 2010, Australia's natural gas consumption is forecast to grow from around 900PJ/a to over 1500PJ/a, an increase of over 65 percent. While steady growth is anticipated in residential and commercial markets, demand is projected to be greatest in the industrial sector and in power generation.¹⁵ The NIEIR specifically identifies substantial growth potential in the industrial sector, with application for process heat and as a feedstock. Growth is expected to be strong in Western Australia and Queensland, with mineral processing applications.

A significant, emerging factor in the industrial sector, is the increasing trend for very large industrial customers to locate operations close to gas supplies. Darwin and the Pilbara will acquire new industry as gas to liquids projects or major gas feedstock projects are now locating such businesses at the gas source where the product is cheaper to transport than the feedstock. In Darwin 4.8 megatonnes LNG to methanol and increased alumina capacity at Gove are in prospect. In the west, though development of the Dow-Shell Petrochemical plant is now suspended, other projects such as Syntoleum, Kingstream steel, Austeel and Mt Gibson iron ore processing, Oswal Chemicals fertiliser plant, an ammonia-urea plant and a dimethylether plant are under active consideration. As such large gas users are attracted to invest at the source, justification for trans-continental pipelines will have to be based on domestic, industrial and power loads.

Another feature of the market is new load opportunities within the industrial, commercial and residential sectors: value added applications present themselves in mining, use in air conditioning, micro-generation, fuel cells, and an increasing amount will fuel vehicles especially heavy transport vehicles.

When the entire cycle of producing, processing, transporting and using energy is considered, natural gas is delivered to the consumer with a "total energy efficiency" of about 90 percent, compared with

¹⁵ Australian Pipeline Trust, "Buried Treasure...", Offer Document, 2000, p 20.

about 27 percent for electricity. Moreover, gas appliances and equipment are extremely efficient as evidenced by the fact that the residential use of gas per customer is about 16 percent less than it was in 1980 (due to more efficient gas appliances and better construction of homes).¹⁶

Residential gas customers are using gas in a number of new and innovative ways: residential gas absorption air conditioning units now on the market use 30 percent less energy than their predecessors, are expected to last 20 years with a low level of maintenance, run quietly and produce no polluting CFCs or HCFCs. Gas based distributed generation offers residential customers the option of using natural gas to produce electricity in their homes. This is done through small gas engines, or microturbine generators, or fuel cells.

A fuel cell is a self-contained unit that converts natural gas to electricity and heat through a chemical reaction (as opposed to a combustion process). Fuel cells are energy efficient (40-60 percent) and can reduce a number of pollutants, including carbon dioxide (by 70 percent relative to coal-based electricity) and nitrous oxides (by 85 percent compared to the strict Los Angeles emission standards), with no discharge.¹⁷

Commercial applications are also increasing in gas cooling with multiple applications (engine-driven chillers, absorption chillers and desiccant dehumidifiers), combined heating, and distributed generation. And in industrial markets, cogeneration, a form of distributed generation, has the potential to be the key driver in industrial demand growth.¹⁸

One example of a value added application is in mining; specifically in the aluminium industry. Natural gas requirements are increasing through new applications in calcination and steam generation. Cogeneration has been identified by the industry as offering significant operational, cost and energy efficiency benefits.¹⁹ NIEIR predicts that cogeneration installations will increase substantially over the next decade, and 80 percent of new cogeneration plants will be gas-fired. Bagasse from sugar mills in Queensland will also provide some fuel.²⁰

¹⁶ Washington Policy and Analysis (WPA), "Fueling the future: Natural Gas and New Technologies for a Cleaner 21st century".

¹⁷ Washington Policy and Analysis (WPA), "Fueling the future: Natural Gas and New Technologies for a Cleaner 21st century".

¹⁸ Washington Policy and Analysis (WPA), "Fueling the future: Natural Gas and New Technologies for a Cleaner 21st century".

¹⁹ Australian Aluminium Council, "Energy efficiency best practice in the Australian aluminium industry – summary report", 2001, p 14.

²⁰ National Institute of Economic and Industry Research, "Natural gas consumption in Australia to 2015 – prospects by state, industry and sector", A Report for the Australian Gas Association, August 1999.

A value-added application is the Mt Isa Mica Creek Power Station development. Mica Creek Power Station is the sole supplier of power to Queensland's North West Mineral Province. The station provides power to the mining industry in the area: Mount Isa Mines, Ernest Henry Mine, Century Mine and the Western Metals' Mount Gordon copper mine. Consisting of 10 gas-fired units, capable of generating up to 325 megawatts of electricity, the Mica Creek Power Station supplies gas to Mt Isa, Cloncurry and surrounding communities.²¹

Another example of a value-added application is provided by BHP. A participant in the Commonwealth Government's Greenhouse Challenge, BHP undertook a major initiative to reduce greenhouse gas emissions from the Cannington mine power station. This power station supplies all the mine's electrical power needs. It was converted from an entirely diesel powered station to a station predominantly powered by natural gas. Combustion of gas is much more efficient compared with combustion of diesel: the same amount of electrical power can be produced with lower emissions of carbon dioxide (equivalent). At Cannington greenhouse gas emissions (CO₂-equivalent) have been reduced by about 20 percent since replacement of the diesel fired electricity generators by natural gas fired generators.²²

The take-up of natural gas vehicles could triple in Australia over the course of the next 18 months, with natural gas becoming the fuel of choice for some large fleet operators. Compressed natural gas is particularly attractive to heavy vehicle operators for a number of reasons: natural gas is around half the price of diesel and petrol, Federal Government funding to encourage conversion to, or purchase of, natural gas vehicles and refuelling infrastructure, increasing profile of natural gas as a fuel, and recognition of the greenhouse and public health benefits of natural gas vehicles.²³

A transcontinental pipeline to haul natural gas to the eastern States from Timor Sea, North West Shelf or Papua New Guinea, link customers to an abundant supply is an imperative. Failure to build a transnational grid will result in a gas shortfall in those states.²⁴ While new load opportunities exist through innovative and value-added applications of natural gas, the commercial viability of such major infrastructure projects requires the increased use of natural gas in power generation, to provide the necessary investment impetus.²⁵

²¹ CS Energy, Mica Creek Power Station, facts sheet, June 2001.

²² Minerals Council of Australia, National Education Program, Envirosmart, Australian Mining Operation Case Studies, BHP Cannington Mine Case Study.

²³ P Daley, "Asia-Pacific Natural Gas Vehicles Summit: NGVs could soon triple, Summit hears", *The Australian Gas Journal*, June 2001.

²⁴ ACIL Consulting, "Natural Gas and Pipeline Issues", Presentation to AGA Transmission Committee, 14.11.2000

²⁵ The Australian Pipeline Trust, "Buried Treasure...", Offer Document, 2000, p 22.

Natural Gas-Fired Power

Renewable energies, while delivering optimal greenhouse benefits, are not realistically expected to meet the increasing energy load demanded by Australian industry and consumers.²⁶ As the next best alternative, natural gas is the ideal transition fuel. The Australian Gas Association in advocating the importance of increased use of natural gas, states:

“The AGA has consistently argued that, for Greenhouse policy, the differentiation between fossil fuels and renewables is an antiquated concept. Rather, the focus should be on emission levels. Low carbon intensive energies such as natural gas are critical in meeting abatement targets.”²⁷

The major barrier to the increased uptake of natural gas in power generation is the abundance of coal which is significantly cheaper than natural gas. As a result of industry competition, productivity improvements and low fuel costs, average electricity prices in Australia across all customers have fallen by some 18 percent in real terms from 1990 to 1998. International comparisons show that Australia has among the lowest electricity prices of OECD countries.²⁸

However, while coal fired power stations are still being constructed, Australia has international obligations to reduce greenhouse gas emissions. Australia’s National Greenhouse Gas Inventory, recently updated and released in July by the Australian Greenhouse Office, shows that the emission intensity (emissions produced per unit of electricity generated) of brown coal is about 5 percent higher than black coal, and 83 percent higher than natural gas.²⁹

Australia’s air quality is seriously affected by emissions from coal fired power stations at a time when the demand for power is increasing. To illustrate just how great the problem is on a national scale when coal is burned for power, of the total greenhouse gas emission increase of 4.9Mt between 1998 and 1999, electricity generation accounted for 3.2Mt. Initiatives need to be taken now to reduce our dependency on coal.

Interestingly, the most rapid percentage increase in natural gas demand in Australia is anticipated from the electricity generation

²⁶ B Nagle, “Exploring Competition Issues in Gas Supply and the Gas Grid”, Australian Gas Association presentation to Utilicon’s Queensland Power Conference, 23.5.2001.

²⁷ B Nagle, “Exploring Competition Issues in Gas Supply and the Gas Grid”, Australian Gas Association presentation to Utilicon’s Queensland Power Conference, 23.5.2001.

²⁸ National Institute of Economic and Industry Research, “Natural gas consumption in Australia to 2015 – prospects by state, industry and sector”, A Report for the Australian Gas Association, August 1999.

²⁹ B Nagle, “The Business of Saving the Planet”, Article by the Chief Executive of the Australian Gas Association, *The Australian Financial Review*, 18.1.2001.

sector. The share of natural gas use in thermal electricity generation is forecast to rise from 8.5 percent in 1996–7 to 23 percent by 2015. NIEIR also points to the importance of gas fired power generation in Queensland (up 175.8PJ).³⁰

State Markets for Natural Gas

Queensland

Central Queensland currently sources natural gas from the Denison Trough, the Surat Basin and small, but growing quantities of coal seam methane. South West Queensland gas fields supply Mt Isa and Brisbane and a small portion is piped into Gladstone. The Denison and Surat fields are approaching the end of their lives. Presently, North Queensland has no ready access to gas.³¹

New pipelines are needed to connect new supplies to growing market opportunities.

Overall, Queensland will be the most important growth market for natural gas to 2015 according to NIEIR, based on significant increases in gas availability (reflecting stronger interstate trade and new local supplies), lower prices through competition and deregulation. Other factors are significant resource projects, and strong economic and population growth, generally contributing to strong forecast growth in Queensland gas consumption.

NIEIR forecasts that Queensland will be among the strongest economic growth States for gross State product (local GDP) for the period to 2015, with population growth above the national average at 1.7 percent per annum. Queensland expects a number of major projects will proceed, including a Papua New Guinea (or Timor Sea) pipeline. There will also be a number of new power plants in Queensland, hopefully many to be gas, and approximately 1600MW in new cogeneration capacity by 2015.

The bulk of the growth will be in power generation and industrial usage. NIEIR expects current minimal gas usage in power generation in 1997 to grow to 28.3 percent of total by 2015.³²

³⁰ National Institute of Economic and Industry Research, "Natural gas consumption in Australia to 2015 – prospects by state, industry and sector", A Report for the Australian Gas Association, August 1999.

³¹ B Nagle, "Exploring Competition Issues in Gas Supply and the Gas Grid", Australian Gas Association presentation to Utilicon's Queensland Power Conference, 23.5.2001.

³² National Institute of Economic and Industry Research, "Natural Gas consumption in Australia to 2015 – prospects by state, industry and sector", A Report for the Australian Gas Association, August 1999.

Gas use in the industrial sector is forecast to increase to 100.6PJ. Commercial consumption of natural gas is projected to grow to 2.9PJ (2029-2030).³³ To meet this demand scenario, possible new gas supply sources for this growing market could be South West Queensland, Papua New Guinea, the Timor Sea and supplemented by Coal Seam methane, and some bagasse.

The APT is working on a major initiative to pipe Timor Sea gas into Queensland. However, the decision by Phillips Petroleum to shelve plans indefinitely to pipe gas to Darwin, has given pause to these proposals.³⁴

A supply solution is critical for the State, because if the gas industry can deliver plentiful long term supplies of gas to Queensland industries at competitive prices, the State will consolidate its position as a major industrial location in the Asia Pacific region.

With firm supplies of natural gas, central and northern Queensland would also be in a position to become the pre-eminent mineral processing centre in the region, adding value to Mt Isa/North West Minerals Province, Cape York bauxite deposits, and other Queensland mineral resources.³⁵

Perhaps the single most significant development in the promotion of natural gas in power generation occurred in May 2000, when the Queensland Government announced the Queensland Energy Policy – A Cleaner Air Strategy. This Strategy is designed to deliver initiatives that significantly contribute to Greenhouse gas abatement while ensuring security of supply for the Queensland energy market.³⁶ The Australian Gas Association commented on the strategy: “the Queensland Government has taken a big but logical step in the drive to lower greenhouse emissions by supporting natural gas over high carbon emission sources.”³⁷

Features of the Strategy include a requirement that from 1 January 2005, 15 percent of electricity sold in Queensland be sourced from gas-fired (13 percent) or renewable generation (2 percent). Additionally, generating licences will not be granted for coal-fired power stations except where a need has been clearly established, a base load gas-fired power station is to be developed in Townsville,

³³ Australian Gas Association, Backgrounder, Gas Supply and Demand Study 1997, State Overview – Queensland.

³⁴ The Australian Pipeline Industry Association, “Phillips Petroleum Announcement of Deferral of Timor Sea Pipeline Investment”, Media Release, 1.8.2001.

³⁵ B Nagle, “Exploring Competition Issues in Gas Supply and the Gas Grid”, Australian Gas Association presentation to Utilicon’s Queensland Power Conference, 23.5.2001.

³⁶ Australian Gas Association, Submission to the State Government of Victoria, Victoria Greenhouse Strategy, 1.12.2000.

³⁷ B Nagle, “Exploring Competition Issues in Gas Supply and the Gas Grid”, Australian Gas Association presentation to Utilicon’s Queensland Power Conference, 23.5.2001.

and the intention is to ensure greater diversity in the State's energy mix with increased focus on natural gas and renewable energy.³⁸

It is estimated that as a result of this strategy, Queensland will reduce its output of greenhouse gas emissions by over 30 million tonnes over the course of 10 years.³⁹

Also arising from the announcement of the Cleaner Air Strategy was the decision to approve development of a \$250M, 385MW gas-fired extension (Swanbank E) to CS Energy's coal fired Swanbank power station at Ipswich. This project is in progress and due for commissioning early 2002.

In summary, of all the States in Eastern Australia, Queensland has shown the political will to drive energy policy with greenhouse gas abatement objectives, consequently ascribing a key role to natural gas. However this will is balanced by the fact that the State's gas infrastructure is the most immature, at a time when new supplies are needed within a relatively short time frame.

Victoria

Victoria will continue to be Australia's largest consumer of gas in the residential market, with consumption projected to be 127.7PJ or 66 percent of national residential consumption in 2030. In the Victorian industrial sector, gas use is projected to maintain steady growth rates, with industrial gas use projected to be 136.0PJ, or 15 percent of Australian industrial gas consumption in 2030. Across the States, Victoria is expected to maintain its position as the largest commercial sector consumer of gas, with demand projected to be 62.3PJ in 2030, or 46 percent of Australian commercial gas consumption.⁴⁰

More than 98 percent of Victoria's gas is sourced from the Esso/BHP production areas in the Gippsland Basin. The remainder is piped from gas reserves at Port Campbell in Western Victoria, supplying gas to Warrnambool and Portland. Reserves in the Gippsland Basin are estimated at 8084PJ, enough to last 40 years at 1998-99 production levels.

Recently, Energex, OMV Australia and Diamond Gas Resources announced the development of the Patricia Baleen gas fields in the Gippsland Basin. Energex is set to purchase 60PJ, with an option to

³⁸ Australian Gas Association, Submission to the State Government of Victoria, Victoria Greenhouse Strategy, 1.12.2000.

³⁹ Australian Gas Association, Submission to the State Government of Victoria, Victoria Greenhouse Strategy, 1.12.2000.

⁴⁰ Australian Gas Association, Gas Supply and Demand Study 1997, State Overview – Victoria, 1997.

take additional quantities later. With the field coming on line, Energex is seeking to sell into the New South Wales market.⁴¹

Presently, out of a total electricity market of 49442GWh, brown coal-fired power stations contribute 48588GWh, and natural gas fired power contributes a mere 107GWh.⁴² NIEIR points to price as the critical factor in the continued dominance of coal-fired electricity. Victoria experienced a fall of 20 percent in average nominal industrial prices over the period 1996 to 1998. Over the same time frame, commercial retail prices fell by 18 percent.⁴³ NIEIR goes further to state:

“Low levels of competition in upstream gas production imply the significant falls in electricity prices seen over recent years in the electricity sector will not be repeated to the same extent in the gas sector.”

Some initiatives, have, however, been announced about increased use of gas as a fuel for power generation.

Duke Energy International announced the opening of a new 40MW gas fired power station in Bairnsdale, Victoria. The new plant is the State's first new power station in 10 years. Duke intends to install an additional 40MW of generation to double the power station's capacity, and plans to develop a 240MW power station at Australian Paper's operations in Maryvale, also in Victoria.⁴⁴

With the full support of the Victorian Government, AGL is building a 150MW gas fired peaking plant at Somerton in Melbourne's north west.⁴⁵

At the same time, however, new investment continues in coal-fired power stations. In March, 2001, the Government announced the construction of a \$200M, 500MW peak load station in the Golden Plains Shire by AES Transpower.⁴⁶

The Victorian Government also announced the development of a greenhouse abatement strategy, through the Victorian Government's Greenhouse Strategy Discussion Paper. This document is currently undergoing community consultation.⁴⁷

⁴¹ Energex: “Energex brings major new source of gas to Victoria”, Media Release, 2001.

⁴² ESAA, Data, Electricity Generation by fuel type – year ended 30 June 1999.

⁴³ National Institute of Economic and Industry Research, “Natural Gas consumption in Australia to 2015 – prospects by state, industry and sector”, A Report for the Australian Gas Association, August 1999.

⁴⁴ Duke Energy International, “Duke Energy Launches Australian Power Plant”, Media Release, 22.6.2001.

⁴⁵ AGL, “AGL Announces Integrated power Generation Strategy”, Media Release, 11.5.2001.

⁴⁶ Minister for Energy and Resources, the Hon Candy Broad, MP, “Government welcomes new investment in electricity generation”, Media Release, 30.3.2001.

⁴⁷ The Hon Candy Broad, MP, Minister for Energy and Resources, “Leadership, Opportunity and Responsibility: the Challenges of Climate Change”, An Address to the Climate Change Impacts and Adaptation Forum, 11.4.2001.

Most promising for the natural gas industry are statements by the Minister for Energy and Resources, calling for the Australian Federal Government to stand by its commitment to the Kyoto agreement. The Minister states:

“we must accept that Australia cannot afford to isolate itself from the global economy... The Victorian Government believes that the only sensible and responsible path is to continue pressing for concerted greenhouse action through the framework provided by the Kyoto Protocol.”⁴⁸

With such statements, further initiatives using natural gas in power generation and cogeneration should be part of the Victorian Government’s greenhouse strategy. However, a dramatic shift away from brown coal is highly unlikely, given its low price and vast supplies. Brown coal will remain the principal fuel in Victoria’s power generation activities.

In short, Victoria has ample gas supplies, and established pipeline infrastructure. The State is a leader in gas applications, and peak loading gas is re-emerging in their energy equation. However, Victoria is clearly not a leading market prospect for north western gas. Demand instead is driven by Queensland, New South Wales, South Australia and the Northern Territory.

New South Wales

Natural gas usage grew to 10.7 percent of the end use energy consumed in New South Wales in 1998-99.⁴⁹ By 2015, New South Wales will be the only State in which natural gas usage as a percentage of total energy usage, will be below 20 percent.⁵⁰

The vast bulk of natural gas used in New South Wales is sourced from the Cooper Basin at Moomba in South Australia, although from 2000, gas also flowed into New South Wales from Bass Strait through the inter connector and the Eastern Gas Pipeline.

Coal seam methane is under investigation by the Sydney Gas Company, with a number of wells in the Sydney Basin, and a prospect in Narrabri in the State’s north west. As yet, exploration has not sourced commercial quantities, though a small quantity has been sold in the Sydney Basin.⁵¹

⁴⁸ The Hon Candy Broad, MP, Minister for Energy and Resources, “Leadership, Opportunity and Responsibility: the Challenges of Climate Change”, An Address to the Climate Change Impacts and Adaptation Forum, 11.4.2001.

⁴⁹ Ministry of Energy and Utilities, *Energy in New South Wales*, NSW Government, 2000, p 9.

⁵⁰ National Institute of Economic and Industry Research, “Natural gas consumption in Australia to 2015 – prospects by state, industry and sector”, A Report for the Australian Gas Association, August 1999.

⁵¹ Ministry of Energy and Utilities, *Energy in New South Wales*, NSW Government, 2000, p 9.

The vast bulk of electricity generated in New South Wales comes from coal-fired power stations (91 percent). Hydro-electricity contributes 6 percent and the remaining 3 percent comes from gas and renewables.

Cogeneration supplies around 222MW of capacity the largest being Visy Paper's 162MW gas-fired cogeneration plant at Smithfield. Three sugar mills in northern New South Wales produce 18MW of electricity through cogeneration with bagasse. Upgrades of these plants are underway. A proposal is also under investigation by Duke Energy International to construct a 225MW cogeneration plant in Port Kembla using various offgases from the iron and steel making process and natural gas.

Natural gas-fired power generators have been studied in four projects: a 350MW combined cycle plant on the western shores of Lake Illawarra, a 100MW plant at Wagga Wagga, a 420MW gas cogeneration plant at Kurnell, and a gas cogeneration plant of up to 350MW at Botany. The NSW Ministry of Energy and Utilities comments on these four projects and the further expansion of natural gas usage in power generation: "these (four projects) are not likely to proceed, as they are not commercially viable at the existing wholesale pricing levels in the electricity and gas markets."⁵²

The quote above, from the New South Wales Ministry of Energy and Utilities, goes to the heart of New South Wales' energy policy, which, unlike Queensland's, is founded on the continued use of cheap, abundant coal, and does not see a place for natural gas in power generation to reduce its greenhouse gas output. With no indication of any plans to pursue gas-fired power generation, natural gas will be delivered to New South Wales in smaller quantities that will, in turn, drive up the price for natural gas for all consumers.

South Australia

Four energy policy goals form the basis of the South Australian Energy Policy Framework: to maximise economic development, ensure security of energy supply, to promote equity and social advancement, and to minimise environmental impact. Per capita carbon dioxide emissions are the lowest of all States in Australia as a result of using natural gas in over 40 percent of their power generation.⁵³

With such a large requirement for power generation, over 60 percent of the natural gas is used in this application. Natural gas

⁵² Ministry of Energy and Utilities, *Energy in New South Wales*, NSW Government, 2000, p 8.

⁵³ Department of Primary Industries and Resources South Australia, website, Energy Planning, Conventional Energies, Energy SA, 2001.

supplies 33 percent of the manufacturing sector, about 26 percent of the commercial sector, and 26 percent of the domestic sector.⁵⁴ Renewable energies are underdeveloped at present, although the South Australian Government has an objective to obtain 20 percent of their non-transport energy needs from renewable sources within the next 10 years. Furthermore, the Department for Primary Industries and Resources states:⁵⁵

“South Australia has a potentially large and varied energy resource base, but there is a need for significant and continuous development to make the most effective use of these resources. Conventional fossil fuel sources will continue to provide the major part of our energy needs for a long time to come, and we will continue to import a significant portion of these resources from interstate and overseas.”

South Australia, like Queensland and New South Wales has a real need for natural gas. It has a substantial load requirement due to its existing gas-fired power generation capacity.

Tasmania

Duke Energy International will construct the \$380 million Tasmanian Gas Pipeline initially delivering 6PJ per annum of Gippsland natural gas to Tasmania.⁵⁶ A feature of the supply initiative is the refiring of northern Tasmania's Bell Bay Power Station to a gas fired facility. Construction of the pipeline is scheduled to start in December 2001, with gas flowing into the State in mid 2002.

The availability of natural gas will enhance natural gas development in Tasmania, the only Australian State without a reticulated supply of natural gas. With the exception of a single thermal back-up facility, Tasmania's electricity needs are satisfied through a hydro-electric generation network, which operates close to its long-term sustainable limit.

Tasmania's industrial sector currently gains its energy requirements by supplementing hydro-electricity with a combination of coal, wood and imported liquid fuel (including LPG, fuel oil and diesel).

The availability of a new competitive energy source in Tasmania will enhance the state's attractiveness to businesses requiring significant quantities of energy.⁵⁷

⁵⁴ Department of Primary Industries and Resources South Australia, website, Natural Gas, Conventional Energies, Energy SA, 2001.

⁵⁵ Department of Primary Industries and Resources South Australia, website, Natural Gas, Conventional Energies, Energy SA, 2001.

⁵⁶ Duke Energy International, "Duke Energy International announces customers for Tasmanian Gas Pipeline", Media Release, 8.11.2001.

⁵⁷ Department of State Development, Tasmania, "The Tasmania Natural Gas Project", 2001.

Conclusions – Power Generation Prospects in the Eastern States: the Dilemma

ACIL Consulting, in a presentation to the Australian Gas Association Transmission Committee, in November 2000, observed that even with abundant new gas supply through large fields such as Papua New Guinea and the Timor Sea coming on line, or further exploration success, achievement of AGA/ NIEIR growth targets will be difficult. The current low prices in New South Wales and Victoria (mainly power generation) cannot be matched, under model assumptions. The presentation states, that to achieve lower delivered prices:

“reduced ex-field prices and/ or lower transportation costs are needed. (However, there is) limited scope on the transportation side in most areas; greater scope (exists) for reductions in upstream, but where are the incentives? (And) new low cost sources (PNG, Timor Sea) are still not competitive in southern powergen markets.”⁵⁸

In order to meet AGA/ NIEIR growth targets, and thereby provide justification for major new pipeline infrastructure development, ACIL Consulting in their presentation, point to Federal and State governments as providing critical price levers through the initiation of greenhouse gas abatement strategies that support growth in gas-fired power generation.⁵⁹

The Australian Gas Association strongly advocates the switch to natural gas as a key feature of any national energy policy, stating that with appropriate greenhouse programs in place and measures to encourage fuel-switching to cleaner energy sources such as natural gas, a realistic energy alternative for the economy will be secured. Concurrently, significant steps would be taken to reduce Australia’s greenhouse emissions.⁶⁰

If, on the other hand, the Federal Government and the individual State governments, do not support increased natural gas usage, particularly in the base load through gas-fired power generation, natural gas will be delivered to the eastern States at higher prices, and the pipeline built will be sized according to the smaller quantities demanded. The decision to pipe natural gas from the north west is demand driven and there is only a certain, limited window of opportunity given the shortfalls in gas supply looming for

⁵⁸ ACIL Consulting, “Natural Gas and Pipeline Issues”, Presentation to the AGA Transmission Committee, 14.11.2000.

⁵⁹ ACIL Consulting, “Natural Gas and Pipeline Issues”, Presentation to the AGA Transmission Committee, 14.11.2000

⁶⁰ Australian Gas Association, “Exploring Competition Issues in Gas Supply and the Gas Grid”, Utilicon’s Queensland Power Conference, 23.5.2001.

Queensland, South Australia and New South Wales. The Government must quickly determine the role that it sees natural gas playing in the future and consider the consequences of failing to support increased gas usage, and the subsequent rise in gas prices.

LNG export opportunities – diverting northern gas?

Since 1990, world LNG trade has increased by an average of 6.7 percent per annum. During this time, total world annual trade has increased from around 52 million tonnes to over 82 million tonnes.

Australia is endowed with world-class resources of natural gas and is ideally placed to compete in the international LNG market. With a track record spanning decades as a reliable and efficient supplier of LNG, Australia is currently the third largest LNG exporter in the Asia-Pacific region, supplying more than 7.5 million tonnes per annum. Because of its proximity to countries where demand for LNG is growing most rapidly, Australia has many natural advantages which qualify it to be the LNG supplier of choice in the Asia-Pacific region.

Australia's LNG export industry already generates more than A\$2 billion in export revenue each year and is a major contributor both directly and indirectly to the Australian economy.

World energy demand is forecast to increase about 45 percent by 2010 – by which time fossil fuels will still account for 90 percent of world energy use and only 1 percent will come from renewable energy sources. The Australian LNG industry contends that the greatest demand will be in the Asia-Pacific region. By 2024, this region is expected to contain nine of the world's 15 leading economic powers, and by 2010 there will be a 50–80 percent increase in electricity production in countries in the Asia-Pacific, with electricity demand growing at twice the OECD average. In the context of growing international pressure for clean air and reductions in greenhouse gas emissions, natural gas will come into its own as the "fuel of choice".⁶¹

Industry optimism is balanced by the findings of NIEIR which contends: "Although Asia is a prominent market for LNG exportation, it will take a major improvement in their economy to be capable of fulfilling the desired trade."⁶²

Despite this, the Australian Government will need to determine a position as to the quantities of North West Shelf and Timor Sea natural gas available to the profitable export market, and the quantity

⁶¹ Australia LNG, Background, 1999.

⁶² National Institute of Economic and Industry Research, "Natural gas consumption in Australia to 2015 – prospects by state, industry and sector", A Report for the Australian Gas Association, August 1999.

that should be dedicated to the domestic market, particularly in the eastern States. Government intervention is needed. The market cannot be left to determine the outcome, as natural gas will simply be supplied to the highest bidder; either international markets or very large local industrial customers (producers can size supply of natural gas to industrial customers only).

In conclusion, with shortfalls looming and increasing pressure to meet international greenhouse gas abatement obligations, the Federal Government must ensure that the opportunity for industry review presented by the CoAG Communique is fully realised and leadership is taken on the commitment to encourage growth in natural gas usage.

This paper will now consider, in depth, the impact of the regulatory environment upon the natural gas industry, and in particular, the transmission industry for greenfields projects. These concerns must be central to the CoAG industry review.

THE IMPACT OF THE REGULATORS ON THE NATURAL GAS INDUSTRY AND GREENFIELDS GAS PROJECTS

Individual pipeliners and peak industry bodies have expressed deep concerns about the regulatory environment and the imposition of unsatisfactory regulation, particularly for greenfields projects.

Problems with the operation of the National Code include multi-jurisdiction regulation, the absence of independent appeals processes and transaction and compliance costs. So-called “light-handed” regulation has seen the application of regulation without justification to businesses operating in clearly contestable markets, and an approach that is both intrusive and backward looking.

The uncertainty wrought by the national and various State regulators is so great that industry commentators regard the difficulties regulation brings to business as the single biggest inhibiting factor to the growth of natural gas usage in Australia. Executive Director of The Australian Pipeline Industry Association, Dr Allen Beasley described the impact of industry concerns:

“Australia’s pipeline infrastructure remains under-developed by international standards and current regulatory practices, based on overseas experience in mature markets, remains a major impediment to meeting our future energy security needs.”⁶³

⁶³ Dr Allen Beasley, “Gas Transmission Pipeline Development Concerns Must Be Addressed”, Media Release, Australian Pipeline Industry Association, 12.12.2000.

The Australian Pipeline Industry Association (APIA), in representations directly to the Prime Minister, further cites examples of the growing lack of investor confidence. Firstly the decision by Epic Energy to scale down development of the Darwin to Moomba pipeline so it will meet only the initial contract load is directly attributable to regulatory risk. A second example is The Australian Pipeline Trust. We have declared that unless we can be confident that contract prices will not be subject to regulatory interference during the life of the contract and those prices will be accepted as the “third party tariff” for identical services, we will not proceed with the transnational pipeline.⁶⁴

Not only does the regulatory environment negatively impact investment in infrastructure, but it is also deleterious to the development of the market. As commented by ACIL Consulting in a presentation to the Australian Gas Association:

“The impasse in the regulatory regime impacts the encouragement of more competitive markets – especially in upstream competition, provides discouragement in the development of greater market interconnection, new services, trading and secondary markets, and raises the spectre of system reliability.”⁶⁵

The regulator attempts to balance risk/reward with the public interest and regulated outcomes versus market outcomes. The Government is clearly comfortable with the Australian Competition and Consumer Commission (ACCC) and its role as a community advocate, but the conflict of interest is too great. ACCC positions itself as the consumer’s defender ensuring popular support and thereby securing the high-level profile of the ACCC. As Chairman of ACCC, Allan Fels stated in a recent article in *Business Review Weekly*:

“(The political power of consumers) is fuelling much of the rise of competition policy and the regulation of monopolies. To help this, state regulators and the (ACCC) are making important decisions...but they expect to have a fight on their hands as the monopolies try to maintain the status quo... Consumers have not only become increasingly cynical towards big business but also are giving the ACCC and other regulators more credibility.”⁶⁶

Not only do such remarks indicate a biased regulator, but one that sees its role as more to do with policy setting than with simply monitoring compliance.

⁶⁴ M Lauer, Letter to the Prime Minister, the Hon John Howard, MP, on behalf of the Australian Pipeline Industry Association, 8.8.2001.

⁶⁵ ACIL Consulting, “Natural Gas and Pipeline Issues”, Presentation to AGA Transmission Committee, 14.11.2000.

⁶⁶ A Fels, “Consumers on Top”, Leftfield, *Business Review Weekly*, 15.12.2000.

Further in his article in *Business Review Weekly*, “Consumers on Top”, Allan Fels promotes his view of the fairness and transparency of the ACCC’s decisions: “the regulators ... have only to publish the basis for their decisions and the public and business users will see that the industries have little to complain about.”⁶⁷

Transparency is not the concern of the industry, but rather the failure to understand the transmission business. Moreover the regulator treats the natural gas industry as some amorphous mass without understanding the differences upstream and downstream. The ACCC also demonstrates a lack of understanding about the commercial realities of the pipeline business, and instead ascribes benefits to consumers who do not carry investment risks.

A good example of the regulator’s failure to understand the pipeline business is the repeated assertion that the rate of return for transmission pipelines is demonstrably greater than returns received from funds invested through the stock exchange. At the Australian Gas Association conference, 2000, Allan Fels favourably compared regulated gas pipeline returns to 10 year returns from the Australian share market of 11.3 percent and three year average returns from Australian superannuation funds of 10.4 percent. The APIA argued in response:

“the comparison is very misleading. The rates of return on equity for pipelines derived by the ACCC are based on theoretical economic modelling results which cannot, on any objective basis, be compared to actual market results from other investment activities. The results quoted by Professor Fels represent an ‘allowed’ return on equity derived from a highly complex regulatory model – not a guaranteed return.”

Another issue of concern to the pipeline industry is the threat posed to existing contracts by regulatory interference. An example is in Queensland, where haulage arrangements on transmission pipelines are derogated from the application of the Code at the behest of the Queensland Government. The National Competition Council (NCC) is pursuing the dismantling of those arrangements.⁶⁸ The derogations were instituted to guarantee, for a certain period of time, preservation of tariffs according to the legislation in force at the time they were agreed.⁶⁹

⁶⁷ A Fels, “Consumers on Top”, Leftfield, *Business Review Weekly*, 15.12.2000.

⁶⁸ Dr Allen Beasley, Letter to Mr G Samuel, President, National Competition Council, re Certification of Queensland Gas Access Regime, Australian Pipeline Industry Association, 18.12.2001.

⁶⁹ Dr Allen Beasley, Letter to Mr G Samuel, President, National Competition Council, re Certification of Queensland Gas Access Regime, Australian Pipeline Industry Association, 18.12.2001.

Such uncertainty is further compounded when the regulator is seen to bypass basic consultation requirements. Again, where the NCC acted to seek removal of derogations in Queensland, a final recommendation was pushed to the relevant Minister without the issue of a draft recommendation; denying pipeline owners or the Queensland Government the opportunity to comment.⁷⁰

Interestingly, The Allen Consulting Group in their report "Review of the Victorian Gas Market" puts forward the view that one test of a regulatory regime's effectiveness is the approval of participants. The report states:

"In assessing the Victorian gas market design, a fundamental question is whether the market participants (ie the people for whom it was designed) approve of it. If there is a substantial body of participants, representing different commercial interests, that does not approve, the design has basically failed the 'market test' and should be changed. This would be true even if the design were theoretically and technically robust."⁷¹

While the report critiques the Victorian market design, which it may be argued, is a different proposition to the broader, national regulatory regime, the principle of participants' approval is applicable to the current situation in which pipeliners have so many grievances with the regulatory regime, that this fact alone warrants at least a review of the system. The validity of this principle would be clear if the regulator was indeed balanced in its considerations of the needs of both business and consumers.

Perhaps the most compelling argument for review of the regulatory regime is the fact that there has been no significant gas transmission pipeline planned and built during the operation of the National Gas Code. Instead there are examples of delays and cancellation in major extensions of gas distribution and pipeline infrastructure into regional Australia due to inadequate regulatory outcomes. Also telling are reports by large Australian investors such as the Development Australia Fund, Hastings Funds Management and Commonwealth Investment Management which express their reluctance to commit new funds to regulated sectors.⁷² Additionally, AMP recently indicated that due to the high risks of investing in regulated infrastructure, the company has not invested in regulated assets for two years.⁷³

⁷⁰ Dr Allen Beasley, Letter to Mr G Samuel, President, National Competition Council, re Certification of Queensland Gas Access Regime, Australian Pipeline Industry Association, 18.12.2001.

⁷¹ The Allen Consulting Group, "Review of the Victorian Gas Market – Summary and Recommendations, 2000", p 10.

⁷² *The Bulletin*, 22.8.2000.

⁷³ *The Age*, 30.10.2000.

Productivity Commission Review of National Access Regime

In its submission to the Productivity Commission Review of National Access Regime, The Australian Gas Association commented on the need for pause to assess the effectiveness of access regulation and consider improvements that could be made to the regulatory environment.⁷⁴ Substantial progress has been achieved since the introduction of competition through the National Competition Policy reforms of 1993 and the industry has now operated for four years under the National Third Party Access Code for Natural Gas Pipelines: with substantial experience to judge its effectiveness.

As it stood, Pt IIIA of the *Trade Practices Act* contained sufficient provision to ensure a right of access to industry participants under circumstances where access would otherwise be denied. However, the regulators have used the very wide discretionary powers afforded to them under the National Third Party Access Code for Natural Gas Pipeline Systems, to subvert the original policy intent of Pt IIIA.⁷⁵

In their Position Paper on the Productivity Commission Review of the National Access Regime, the APIA⁷⁶ put the view that discretion has been exercised by the regulator in pursuit of outcomes which fit consumer legislation pushing a cost of service assessment. As a result, the original intent of Pt IIIA is overridden and decisions reflect a focus on short-term price benefits for consumers over the industry's need for incentive to invest and reinvest in pipeline infrastructure which would ultimately benefit consumers.

A range of decisions has been evidenced that promote competition and lower prices at the expense of necessary investment. One such recent example was the Draft Decision on the Goldfields Gas Transmission (GGT) Pipeline published by the Western Australian Independent Gas Pipelines Access Regulator on 10 April 2001. The Draft Decision raises concerns over sovereign risk and broader concern over regulatory predetermination by the regulator, Offgas. In a letter to the regulator, the Executive Director of the Australian Pipeline Industry Association, Dr Allen Beasley, raises the concern that the regulator was intent upon delivering lower tariffs to consumers irrespective of the commercial pricing arrangements

⁷⁴ The Australian Gas Association, Submission to the Productivity Commission, "Review of National Access Regime, Response to Productivity Commission Position Paper", 8.6.2001.

⁷⁵ The Australian Pipeline Industry Association, "Productivity Commission Review of the National Access Regime – Position Paper", Submission by the Australian Pipeline Industry Association, 2001, p 1.

⁷⁶ The Australian Pipeline Industry Association, "Productivity Commission Review of the National Access Regime – Position Paper", Submission by the Australian Pipeline Industry Association, 2001, p 1.

already in place and agreed to by the customers involved.⁷⁷ Further examples of regulatory decisions reflecting such predetermination can also be found in the Tubridgi Pipeline System Draft Decision⁷⁸ and the Parmelia Draft Decision.⁷⁹

The review of Pt IIIA requires a two-stage process according to the submission of the APIA to the Productivity Commission Review. The first step requires validation of coverage of significant infrastructure through application of a thorough test. The second stage requires that where coverage is determined to be applicable, a comprehensive regime governing terms of access is in place providing the industry with certainty ahead of investment decisions.⁸⁰

In its findings, the Productivity Commission determined that Pt IIIA, as it presently stands, provides too much opportunity for unnecessary and unacceptably high levels of regulatory risk. The Productivity Commission also determined that as a result, there are significant disincentives to investment in infrastructure. Furthermore, a draft recommendation has been made by the Commission for changes to Pt IIIA and to cl 6 of the Competition Principles Agreement to ensure efficient investment is supported.⁸¹

Further welcome recommendations include the requirement of certification of Commonwealth access regimes, strengthening of criteria for declaration and certification, creation of mechanisms which serve to exempt or protect investments once made, and finally, managing the extent of regulatory discretion with pricing principles. In the latter, revenue attributed to the asset should at least provide for the efficient long-term costs of access, as well as allowing a return on investment proportionate to the risks borne by investors.⁸²

More focus needs to be given to the importance of preserving appeal rights. One favourable outcome was the recommendation of the introduction of appeal rights for ACCC decisions on undertaking applications. On the other hand, the Productivity Commission recommended appeals from declaration decisions be abolished, ignoring the lesson in Duke. There is also concern with the

⁷⁷ Dr Allen Beasley, Letter to Dr Ken Michael, Gas Access Regulator, re Draft Decision on the Goldfields Gas Transmission Pipeline, Submission to OFFGAR, 6.7.2001.

⁷⁸ OffGAR, Draft Decision, Access Arrangement, Tubridgi Pipeline System, 7 August 2000, (Part B, p 81).

⁷⁹ OffGAR, Draft Decision, Access Arrangement, Parmelia Pipeline, 27 October 1999, (Part A, p 19).

⁸⁰ The Australian Pipeline Industry Association, "Productivity Commission Review of the National Access Regime – Position Paper", Submission by the Australian Pipeline Industry Association, 2001, p 2.

⁸¹ Henry Ergas, Network Economics Consulting Group, "Regulatory Reform: towards a more efficient regulation of Australia's gas transmission industry", 2001.

⁸² Henry Ergas, Network Economics Consulting Group, "Regulatory Reform: towards a more efficient regulation of Australia's gas transmission industry", 2001.

Commission's recommendation to remove ministerial participation in decision making under Pt IIIA. As commented by the Australian Gas Association:⁸³ "Ministerial representation in regulatory decision making is important from the point of view of public accountability."

Once again, the issue of the role of the regulator is raised, and the argument that the Government cannot abdicate its role as the policy setter.

There is also clear need for a review of the Gas Code in light of the Productivity Commission's recommendations.⁸⁴

Accelerated Depreciation

In a recent interview, Australia's Prime Minister, John Howard, conceded the negative impact of changes in Government policy on investors. Speaking about the decision of Phillips Petroleum to shelve plans to pipe Timor Sea gas to Darwin, following a threatened, and unexpected increase in tax by the government of East Timor, Mr Howard said: "it's very important that that country understand the implications of ad hoc changes in attitudes on revenue. I mean, that would terrify any investor."⁸⁵

Pipeline projects are marginal, with negative cash flow initially as markets for gas develop, and involve large upfront capital expenditures. This reality was offset to an extent, by favourable taxation depreciation provisions. From 1992 until September 1999, the arrangements gave an effective tax life of approximately eight years to pipeline developments. From September 1999 until the present, effective life was altered to 20 years. However, the Australian Taxation Office (ATO) has now suggested an effective life of 50 years.⁸⁶ As Allen Beasley, Executive Director of the Australian Pipeline Industry Association stated:

"This policy treatment incorrectly suggests that Australia does not need infrastructure today as much as it did in the past...nothing could be further from the truth."⁸⁷

⁸³ Australian Gas Association, "Submission to the Productivity Commission, Review of National Access Regime", Response to the Productivity Commission Position Paper, 8.6.2001.

⁸⁴ Henry Ergas, Network Economics Consulting Group, "Regulatory Reform: towards a more efficient regulation of Australia's gas transmission industry", 2001.

⁸⁵ "7.30 Report", Australian Broadcasting Corporation, Transcript of interview with John Howard, 1.8.2001.

⁸⁶ Dr Allen Beasley, "Major Issues for Greenfield Pipeline Infrastructure Development in Australia", Australian Pipeline Industry Association, Presentation to SEAAOC 2001, 19.6.2001.

⁸⁷ Dr Allen Beasley, "Major Issues for Greenfield Pipeline Infrastructure Development in Australia", Australian Pipeline Industry Association, Presentation to SEAAOC 2001, 19.6.2001.

This decision by the ATO, if implemented, will strongly discourage further investment in pipeline infrastructure. For a major Greenfields project, all else being equal, it will probably mean a tariff increase of 10 to 15 percent.⁸⁸

Clearly the issue of effective life is not simply a taxation issue for resolution by the ATO. It is an energy policy matter for the Federal Government.

Coverage

The Eastern Gas Pipeline (EGP) coverage decision was encouraging for the pipeline industry, validating its concerns over the direction of regulation. At the heart of the decision, the tribunal found that coverage under the National Gas Code could not be assumed, and that the NCC was required to comprehensively demonstrate that market failure had taken place, and therefore regulatory coverage of the EGP was necessary. It was not sufficient to merely assert that market failure had occurred.⁸⁹

Most significantly, Duke Energy won because the National Competition Council could not demonstrate that coverage would promote competition in another market. Competition in upstream or downstream markets would not be promoted by coverage of EGP because the EGP did not possess sufficient market power to hinder competition in upstream or downstream markets. There are three clear competitors to the EGP and the pipeline was also limited by the market power of both producers and consumers.⁹⁰

The Tribunal decision also reinforced the importance of review rights; an issue of long-standing concern to the pipeline industry.

Interestingly, and rather alarmingly, the Tribunal did not apply the "uneconomic-to-develop test", as the availability of economic substitutes was not considered. Therefore a precedent has been set suggesting that coverage could be upheld where it is not appropriate. Such a situation may arise in which a pipeline was covered where there were no competitors, but no impediments existed to the construction of a competing pipeline.

Two outcomes of this decision are likely: clarification of the uneconomic-to-develop test, and the development of additional

⁸⁸ J McDonald, "Natural Gas Transmission Pipelines – Australia's Energy Highways", Presentation to Merrill Lynch Gas Industry Conference, 10.7. 2001.

⁸⁹ Henry Ergas, Network Economics Consulting Group, "Regulatory Reform: towards a more efficient regulation of Australia's gas transmission industry", 2001.

⁹⁰ Henry Ergas, Network Economics Consulting Group, "Regulatory Reform: towards a more efficient regulation of Australia's gas transmission industry", 2001.

criteria that require regulators to assess the presence of substitutes when determining coverage under the Gas Code.⁹¹

Encouraging Signs from Government

In addition to the encouraging decisions by the Australian Competition Tribunal on coverage of the EGP, and the Productivity Commission's Pt IIIA review, the pipeline industry welcomes the CoAG initiative to establish a new Ministerial Council on Energy, an independent review of energy market directions and the development of a national energy strategy.

In June, participants in the meeting of the CoAG, had expressed a commitment to review and improvement of the regulatory environment. The CoAG Communique agreed that efficient energy markets and an effective policy framework were needed to reduce investment uncertainty, facilitate infrastructure development, encourage growth of environmentally friendly alternative fuels and support increasing efficient use of energy. The Communique specifically supports growth in natural gas usage and states as one of its priority issues for consideration:⁹²

“Identifying means of encouraging the wider penetration of natural gas including increased upstream gas competition, value adding processes for natural gas and potential other uses such as distributed generation, because it is an abundant, domestically available and clean energy resource.”

In a letter to the Prime Minister, the APIA welcomes the opportunity to work with the CoAG council. It states APIA's position:

“APIA agrees wholeheartedly with the CoAG energy policy objective to: ‘...provide the degree of transparency and clarity in government decision making required to achieve confidence in current and future investment decisions.’ However, this industry's experience with the emerging economic regulatory framework... suggests that the macro policy setting, and not transparency is the issue. When these developments in economic regulation are combined with recent and proposed changes regarding the taxation of major infrastructure, CoAG's expectation that gas will play an increasingly important role in the economy is at risk.”⁹³

⁹¹ Henry Ergas, Network Economics Consulting Group, “Regulatory Reform: towards a more efficient regulation of Australia's gas transmission industry”, 2001.

⁹² CoAG Energy Policy Details, 8.6.2001, Pt 6, Attachment 6, CoAG Energy Review Terms of Reference.

⁹³ M Lauer, Letter to the Prime Minister, the Hon John Howard, MP, on behalf of the Australian Pipeline Industry Association, 8.8.2001.

A close examination of the macro policy setting is critical to the success of the review, and to ensuring that the regulator returns to its role monitoring compliance, and the Government to its position as the policy setter.

The pipeline industry anticipates a close working relationship with the Government to facilitate the development of appropriate measures. As part of the process, the APIA identified four key questions arising from the CoAG announcement. First, there was concern as to whether the Ministerial Council, envisaged to operate for 12 months, would be able to address the immediate concerns of the natural gas transmission industry. Secondly, no indication has been given as to the extent to which industry concerns would be considered under the terms of the review. Thirdly, to what extent would difficulties identified by the Productivity Commission under that separate review, be incorporated. Finally, the question as to how gas and electricity interests would be balanced, with focus largely given to the electricity industry over the gas industry in the CoAG Communique.⁹⁴

Additionally, there is concern that the Ministerial Council examines the need for regulatory distinction between gas transmission and gas distribution, and the transmission-specific regulation should be debated in two distinct contexts: mature systems, and greenfields projects. The regulators acknowledged the necessity of a regime which recognises the circumstances of greenfields projects. They concede that greenfields projects do not clearly fit the present regulatory model. As stated by the APIA:⁹⁵

“For too long Australia’s gas potential has been stifled by a creeping policy paralysis and sense of complacency that has failed to recognise and address the challenges of remote gas infrastructure development in this country.”

National Energy Policy

It is clear that the business of natural gas transmission needs to be considered in the broader context of a national energy policy. Fortunately this is the position that CoAG have adopted in their recognition of the need for a national energy policy.

In order to address industry concerns and to promote the usage of natural gas across all Australian States, particularly in power generation, a national energy policy should contain a wide range of

⁹⁴ Dr Allen Beasley, “Major Issues for Greenfield Pipeline Infrastructure Development in Australia”, Australian Pipeline Industry Association, South East Asia Australia Offshore Conference, Darwin, 19.6.2001.

⁹⁵ The Australian Pipeline Industry Association, “Phillips Petroleum Announcement on Deferral of Timor Sea Pipeline Investment”, Media Release, 1.8.2001.

measures identified by the industry. These measures include, promoting a more constructive regulatory environment that supports market growth and investment, ensuring gas market contestability regimes are consistent and compatible across all States, improving and streamlining project approval processes along the whole gas chain, and the removal of regulatory structures and market rules that presently inhibit new gas entrants from entering the electricity generation and co-generation sectors. Additionally, a national energy strategy should introduce appropriate taxation regimes for long-lived energy infrastructure assets, maximise opportunities for energy choice in urban and regional areas, and encourage the development and market uptake of new gas technologies.⁹⁶ Finally, greenhouse programs that foster fuel-switching to cleaner energy sources such as natural gas should feature in any national energy strategy.

If we are to satisfy the growing demand for cleaner air, in particular in our cities, we need as a transitional position at least: encouragement for innovative gas applications in air conditioning, power generation and vehicles, and a commitment to increased use of natural gas in power generation. While we look for viable, long-term fuel options with renewable energy, we can reduce our carbon emissions by choosing natural gas as the transition fuel.

Such a national policy framework would deliver incentives to the industry to invest in the necessary gas pipeline infrastructure, maximise the role of natural gas in the abatement of greenhouse gas emissions in Australia and offer a realistic and affordable energy alternative for the Australian economy.

CONCLUSION

The natural gas industry in Australia is at a critical turning point in its history. While significant gas reserves remain in eastern Australia, as evidenced by new pipelines set to supply Tasmania from the Gippsland, and Adelaide from the Otway Basin, and the level of interconnection between suppliers and users is increasing across State borders, a shortfall in capacity is looming for the eastern States. Right now, there are no known plans to increase production capacity in either Gippsland or the Cooper Basin. The production shortfall will manifest itself, with gas shortages in winter, at times of peak demand.

To the north and west of Australia are extensive gas fields, which should be exploited. Building the case to justify construction of

⁹⁶ Australian Gas Association, "Exploring Competition Issues in Gas Supply and the Gas Grid", Presentation to Utilicon's Queensland Power Conference, 23.5.2001.

pipelines to haul natural gas to the eastern markets requires a number of factors to align. First, natural gas consumption must rise well beyond organic market growth. The required increase would be achieved through use of natural gas in power generation, and/or the market takeup of new and innovative applications of natural gas. It is not enough that the Federal Government has declared their intention to support growth in natural gas usage. Without committed projects, pipeliners cannot justify to their shareholders/unitholders, the large additional expense of sizing a pipeline for a level of market demand that may, or may not, eventuate.

Secondly, natural gas has to be made available at the right price to compete with existing fuels. For gas to be supplied at a competitive price from the north western fields, it is also necessary to ensure that sufficient quantities of natural gas are made available from those fields to the domestic market. Potentially, a more profitable proposition for the producers would be to sell the gas as LNG to export markets.

Thirdly, for gas to be supplied from the Timor Sea or Papua New Guinea, political and fiscal stability is necessary for projects to proceed. Current delays to both the Timor Sea and Papua New Guinea projects have resulted from such difficulties. Finally, the pipeline needs to be built in a climate that is conducive to investment, with stable fiscal and energy policy regimes.

The Federal Government must decide now, the role that it envisages for natural gas in the coming decades.

The industry looks forward to a timely resolution of its regulatory concerns, and the development of a national energy strategy that demonstrates real commitment to increasing natural gas usage.

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