



**Commercial and regulatory risks involved in
delivering reference services using the
WAGN GDS**

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1 INTRODUCTION

1.1 Purpose of this submission

The risks involved in providing reference services using the WA Gas Networks Gas Distribution Systems (WAGN GDS) can be broadly classified as commercial and regulatory (as in section 24(5) of the *National Gas Law* (NGL)).

Commercial risks include:

- supply risks: risks that the unavailability of economical natural gas supplies could affect WAGN's revenue-earning capability;
- market risks: risks arising from the overall size of the market and the market share which WAGN is able to capture;
- competitive risks: risks associated with competition for customers who might connect to the WAGN GDS; and
- operating risks: risks to WAGN's income-earning arising from technical and operational factors.

Regulatory risks are the risks to WAGN's ability to earn revenues from reference service provision which arise from regulation imposed by the State and Commonwealth Governments.

Through its actions to implement the NGL and the *National Gas Rules* (NGR) as laws of Western Australia, recognising the physically discrete nature of the gas market in the State, the Government of Western Australia has determined that the natural gas services and consumers of natural gas referred to in the national gas objective are services and consumers in Western Australia. This was made clear in the second reading speeches of Ministers in both houses of the Western Australian Parliament when the Bill to enact the *National Gas Access (WA) Act* 2009 was tabled. In both speeches, the Government's intention to ensure that the Act was able to accommodate the State's particular characteristics was expressly stated. The commercial and regulatory risks involved in delivering reference services using the WAGN GDS are, therefore, to be assessed in the context of the Western Australian gas market.

2 SUPPLY RISKS

Supply risks in Western Australia are recognised as being higher than in gas market emerging in the Eastern States (Australian Capital Territory, New South Wales, Queensland, South Australia, Tasmania and Victoria).

In its response to the 2009 National Energy Security Assessment by the Department of Resources, Energy and Tourism, the Western Australian Gas Supply and Emergency Management noted:

*The overall level of gas security at the national level is expected by NESA to remain Moderate over the assessment period. The NESA acknowledges however, that WA faces specific regional challenges to domestic gas supply because of high production capital costs and small domestic demand ...*¹

The DOMGAS Alliance has outlined, in its submission responding to the Western Australian Government's Strategic Energy Initiative issues paper, the risks to gas supply in the State:

The Strategic Energy Initiative Issues Paper considers that "gas supply will remain tight until around 2015 when major new fields, such as the Gorgon gas field are likely to come to market.

*This presumption is incorrect. New LNG projects will not resolve the State's serious gas shortage around 2015. The State's gas shortage is instead expected to worsen. A 2008 study by Economics Consulting Services concluded Western Australia will require over 1100 TJ/day in new and replacement gas by 2014-2015. The study concluded that 274 TJ/day of gas alone would be needed to meet replacement demand for power generation and minerals processing as existing long term contracts expire.*²

According to North West Shelf Joint Venture producer BHP Billiton, Western Australia will require 1000 TJ/d of new capacity and reserves backing by 2020 to replace existing supply and meet forecast growth:

- *WA gas supply is currently predominantly sourced via two hubs: NWS (~ 65%) and Varanus Island (~30%).*
- *These hubs are running at their practical capacity and the fields currently supplying them are mature and are expected to decline.*
- *Existing natural gas supply capacity is fully utilised.*

¹ NESA a Regional Perspective, page 3, at http://www.energy.wa.gov.au/2/3260/64/gas_supply_and_emergency_management_review.pm.

² Domgas Alliance, WA State Energy Initiative: Domestic Gas Action Plan: Submission to the State Energy Initiative, March 2010, page 29.

- *Forecast growth and the decline of existing sources means that 1000 Tj/d of capacity and reserves backing must be added by 2020.*
- *Replacement of existing supply and supply to meet forecast growth must come from new sources.*

*Prospective domestic gas developments in WA are unlikely to meet this requirement, with a potential gas shortfall of around 500 TJ/d - equivalent to half the size of the existing market.*³

The Energy Supply Association of Australia has assessed the Western Australian gas supply situation as follows:

*Western Australia faces unique issues that complicate energy policy, including the relatively small and isolated nature of the State's energy markets and the reliance of electricity generation on gas supplied from the Carnarvon Basin. Vulnerabilities in the state's energy supply have been recently highlighted by major disruptions to gas supplies in 2008, the on-going difficulties of contracting gas supply and the financial instability of two of the State's major energy suppliers.*⁴

Two factors affect gas supply: gas availability and the reliability of supply operations.

2.1 Gas availability

Markets served by the WAGN GDS will be under threat from producers diverting gas supplies to higher volume markets offshore, or to high volume customers not connected to the distribution systems. The Gas Supply and Emergency Management Committee noted in its response to the 2009 National Energy Security Assessment:

*On the demand side, the domestic gas market is small and lumpy when compared to the international LNG market, and therefore is not sufficiently attractive on its own to underwrite development of remote and deepwater offshore gas reserves.*⁵

Domestic supply in Western Australia is largely dependent on gas being "reserved" from offshore LNG projects. The State has implemented a gas reservation policy in an attempt to ensure this supply. The current policy was announced in October 2006 and aims to secure, for the domestic market, up to 15% of equivalent LNG gas production from each export gas project for the domestic market.⁶

However, as the Energy Supply Association of Australia has observed:

³ Ibid., pages 29-30.

⁴ Energy Supply Association of Australia, covering letter to submission to the Western Australian Government's Strategic Energy Initiative, 11 March 2010.

⁵ NESAs Regional Perspective, page 5.

⁶ Department of Premier and Cabinet, WA Government Policy on Securing Domestic Gas Supplies, October 2006.

On strategic reasoning, it could be argued that producers are parking commercially viable gas resources in anticipation of future large-scale LNG developments or holding supply to leverage domestic gas prices above competitive levels.⁷

The uncertain nature of any domestic gas supply obligation under the current reservation policy has been noted by the Domgas Alliance:

In December 2006, Woodside committed to the State's 15 per cent reservation policy in announcing investment in the Pluto LNG development. In welcoming this decision, the State Government articulated the policy's application to Pluto:

- Under the terms of the Pluto domestic gas arrangement, Woodside has agreed to market and sell the equivalent of 15 per cent of the project's produced LNG to the WA energy market, providing it is commercially viable.*
- Woodside and the State will negotiate in good faith an appropriate test of commercial viability.*
- The commencement date of the commitment will occur five years after the date LNG is first exported from Pluto, or the date on which the 30-millionth tonne of LNG produced at the Pluto site is exported.*

Unlike the North West Shelf and Gorgon Projects, the Pluto Project is not the subject of a State Agreement. It is unclear what arrangements have been implemented to formalise the policy's application to Pluto, other than an exchange of letters between the WA Government and Woodside.⁸

A significant price premium appears to be necessary to induce producers to supply the domestic gas market:

Media reports of the recent NWSJV – Alinta price outcome refer to a domestic gas price of over \$8 per GJ. This would equate to a price that is more than double the price of gas entering the LNG processing train.

It is therefore incorrect to view domestic as a "low priced", "low return" market compared to LNG. In fact, domestic gas customers are being forced to deliver premium returns to producers for WA gas compared to that obtainable from international customers.

This has been publicly acknowledged by Apache Energy's Chief Executive, Steve Farris, at an international audience in Houston in 2009 when asked about the WA market:

"For price, it's the domestic market, for quantity it's the LNG market".⁹

⁷ Energy Supply Association of Australia, *Western Australian Energy Market Study*, November 2009, page 48.

⁸ Domgas Alliance, *WA State Energy Initiative: Domestic Gas Action Plan: Submission to the State Energy Initiative*, March 2010, page 143.

⁹ *Ibid.*, pages 27-28.

Even with the domestic gas reservations policy, that premium continues to threaten the market itself: gas may be available but only at a price which places undue risk on end-users.

In summary:

- Western Australia faces a shortage of gas supplied into the domestic market in the short term;
- alleviating that shortage is, in part, dependent on reserving gas from new offshore LNG projects;
- application of the reservation policy can be influenced by gas producers; and
- the costs of developing new LNG projects are rising and, in turn, significant price premia are required to induce supply into the less attractive domestic market.

The prospect of gas shortage is a significant risk to a gas distributor in Western Australia. Investment in distribution pipeline infrastructure – which has a long economic life (25-120 years) - may not be recovered. Supply availability risk is likely to be higher for the WAGN GDS than for other Australian distribution pipeline systems which – as the Eastern gas market becomes increasingly integrated – can be supplied from multiple sources.

2.2 Reliability of supply operations

The reliability of the domestic gas supply was highlighted by two major incidents during 2008.

A gas explosion and fire at the Varanus Island processing plant, in June 2008, reduced gas supply to the local market by around 30% for an extended period during which only limited additional supplies were available from the State's other gas processor. Gas supplies to industrial and commercial end-users were curtailed, as domestic users voluntarily reduced their gas consumption.

The Varanus Island incident focused attention on the fact that the WAGN GDS is dependent upon supply from two gas producers, via a single transmission pipeline (the Dampier to Bunbury Natural Gas Pipeline).

The North West Shelf Joint Venture supplies around 70 per cent of the State's domestic gas requirements from a processing plant on the Burrup Peninsula. In January 2008, an electrical fault at the plant resulted in domestic gas supply being suspended for more than two days.

This incident, and the Varanus Island incident, demonstrate that reliability of supply depends on having reliable infrastructure assets, as well as diversity of supply. Given that domestic gas consumers are dependent on a small number of supply sources

(currently, the North West Shelf Gas processing plant and Varanus Island), and single transmission pipelines delivering gas into the principal markets (the Perth metropolitan area and the South West, and the Goldfields), any extended plant or pipeline outage will have significant impacts on the State.¹⁰

WAGN faces the prospect of revenue loss due to supply disruption. The risk of supply disruption is high because:

- gas received into the WAGN GDS is supplied from only two sources, each of which supplies a significant share of the Western Australian domestic gas market; and
- 95% of the gas received into the WAGN GDS is transported by one transmission pipeline, the Dampier to Bunbury Natural Gas Pipeline.

Gas distribution pipeline systems serving the Eastern gas market are considered to be less exposed to supply risks because they have:

- access to substantial volumes of "ramp-up" gas during the start up of LNG production from coal seam gas;
- a larger number of supply basins ensuring diversity of supply;
- relatively low barriers to entry into onshore gas production and processing; and
- access to an extensive transmission network linking producing basins and distribution systems.¹¹

¹⁰ See Domgas Alliance, *WA State Energy Initiative: Domestic Gas Action Plan: Submission to the State Energy Initiative*, March 2010, pages 40-41.

¹¹ Australian Energy Regulator (2009), *State of the Energy Market 2009*, page 234.

3 MARKET RISKS

Market risks are associated principally with:

- rising gas prices, which make the use of gas uneconomic; and
- policy measures designed to improve energy efficiency and reduce energy consumption (and greenhouse gas emissions); and
- changed economic conditions.

3.1 Rising gas prices

Rising gas prices in Western Australia are placing at risk the volume of gas transported via the WAGN GDS, and revenues earned from that transport.

Approximately 60% of volume is gas transported for industrial and commercial end-users who are sensitive to the price of gas relative to other energy sources. Some 25% of WAGN's revenue is earned from the transport of this gas.

DBP, operator of the Dampier to Bunbury Natural Gas Pipeline, has commented:

However, the pattern of gas use in Western Australia is changing as the price of gas in the local market is rising markedly to become more closely aligned with the price of gas available via international trade in liquefied natural gas (LNG). The rise in the price of gas threatens its continued use in mining and manufacturing (including minerals processing), and in electricity generation. In some minerals processing operations, and in base-load electricity generation, coal is becoming a substitute for higher priced gas. In fact, the most recent base load electricity generation project endorsed by the State Government as part of its power procurement process is to be fuelled by coal. The prime reason for this was because coal was a cheaper fuel source than gas. In mining and minerals processing, higher gas prices threaten product competitiveness in international markets.¹²

In its submission to the Western Australian Government's Strategic Energy Initiative issues paper, the Domgas Alliance noted:

Despite Western Australia holding 80 per cent of Australia's natural gas, WA domestic gas prices are now among the highest in the country. They are also among the highest of any gas producing/exporting economy in the world. Historically, prices for gas delivered to South West markets (including gas pipeline transmission costs) have been around \$3.50 - \$4.00 per gigajoule.

¹² DBP, *Submission 8: Rate of Return, Public Version*, (submission to the ERA supporting proposed revisions to the Access Arrangement for the Dampier to Bunbury Natural Gas Pipeline, dated 14 April 2010), page 36. Available at: http://www.erawa.com.au/3/938/48/dampier_to_bunbury_natural_gas_pipeline__revised_a.pm.

Recent years have however seen a sharp rise in gas prices. This has seen wholesale gas priced at up to \$14-16 per gigajoule before transport costs. The recent fall in "international" gas prices over the last 12-18 months has not translated to lower WA gas prices. Major producers continue to press for gas prices upwards of \$7 - 8 per gigajoule before transport costs. This equates to gas prices that are two to three times the price for new gas compared to in Victoria.¹³

The Domgas Alliance submission comments in detail on the forces combining to maintain gas prices higher in Western Australia:

The WA gas market is therefore characterised by a small grouping of producers which have immense market power through joint selling arrangements and ownership concentration. This allows producers to increase domestic gas prices and/or withhold supply.

This situation will continue with prospective gas developments also controlled by those same producers. Any competitive pressure that new projects might otherwise assert have been minimised by authorisation by cross-ownership across different projects.¹⁴

It is telling that gas producers already appear to be coordinating gas marketing across projects by ensuring that any marketing from a given project occurs sequentially. This can only serve to further limit competition between different projects.¹⁵

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[REDACTED]

[REDACTED]

Higher gas prices have more obvious effects on large individual end-users. However, they will also affect gas consumption by residential consumers. Residential consumers are already taking up reverse cycle air conditioning, and reducing their use of gas for heating. Higher gas prices will make the switch even more attractive.

¹³ Domgas Alliance, *WA State Energy Initiative: Domestic Gas Action Plan: Submission to the State Energy Initiative*, March 2010, page 37.

¹⁴ *Ibid.*, page 37.

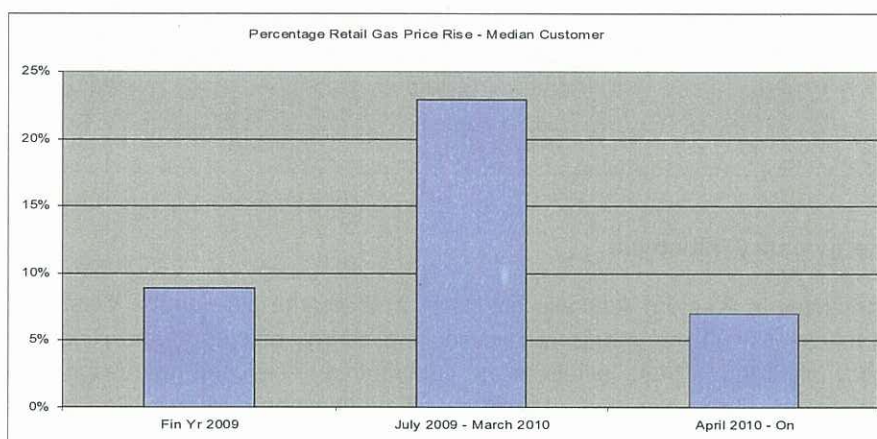
¹⁵ *Ibid.*, page 38.

¹⁶ *Ibid.*, page 24.

For residential water heating, higher gas prices make the move to solar even more compelling. Even if consumers continue to use gas for water heating, it will more likely be in the form of instantaneous heating, rather than storage heating, to reduce gas consumption.

The impact of rising gas prices on the residential market has, to date, been hidden by the retail price cap. Recently retail gas prices have started to rise to allow retailers to recoup the impact of higher wholesale gas prices. Increases in Western Australian retail gas prices are shown in Figure 1.

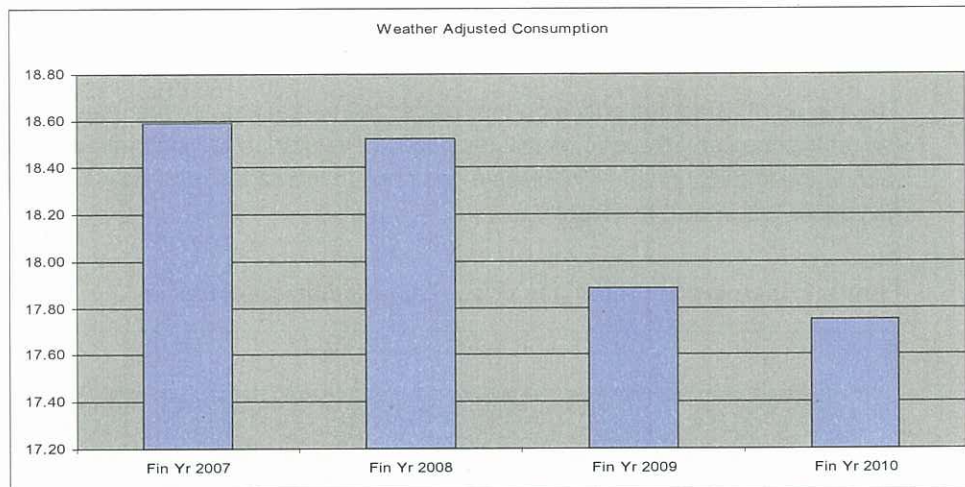
Figure 1: percentage retail gas price rise - median customer



Source: WAGN analysis; Office of Energy Gas tariff Review Interim Reports, June 2008, June 2009 and March 2010

The decline in average gas use by residential consumers is shown in Figure 2. Financial years 2008 and 2009 were impacted by voluntary restraint due to the Varanus Island incident mainly from June to September 2008. However, for financial year 2010 average consumption is still trending lower than in 2009.

Higher gas prices mean gas is less competitive as a fuel source. The result will be less gas hauled through the WAGN GDS. WAGN will face the prospect of not being able to recover its investment in long-lived pipeline assets.

Figure 2: average weather adjusted consumption - residential gas consumers

3.2 Energy policy initiatives

Gas prices in Western Australia are rising at the same time as the Western Australian and Australian Governments are introducing energy efficiency and renewable energy policy initiatives. These initiatives are contributing to reduced gas usage by residential consumers. They also place highly specific investments in long-lived gas distribution assets at risk.

Australian Government energy efficiency and renewable energy policy initiatives currently include the following.

Building Code changes

The Building Code of Australia (BCA) requires that Local Building Approval Authorities (Building Surveyors at Local Councils) obtain evidence that building designs meet "performance requirement" or "deemed to satisfy provisions in national energy efficiency regulations."

Clean Energy Initiative

- Carbon Capture and Storage Flagships Program: supports the construction and demonstration of large scale integrated carbon capture and storage projects in Australia, which may include gasification, post-combustion capture, oxy-firing, transport and storage technologies. Complementing this program is the National Low Emissions Coal Initiative, which aims to accelerate the development and deployment of technologies that will reduce emissions from coal use.

- Solar Flagships Program: supports the construction and demonstration of large scale, grid connected solar power stations in Australia, which may include solar thermal, photovoltaic and energy storage technologies. In addition, the Government has provided \$100 million to the Australian Solar Institute (ASI), which aims to increase the cost-effectiveness of solar technologies and accelerate the capacity of solar industries in Australia, thereby assisting in meeting the Government's expanded Renewable Energy Target of 20 per cent by 2020.
- Australian Centre for Renewable Energy (ACRE): aims to promote the development, commercialisation and deployment of renewable technologies through a commercial investment approach.
- Renewable Energy Future Fund: supports the development and deployment of large and small scale renewable energy projects and will enhance take-up of industrial, commercial and residential energy efficiency.

Energy Efficiency Opportunities

A program that encourages large energy-using businesses to improve their energy efficiency by identifying, evaluating, and reporting publicly on cost effective energy savings opportunities. Administered by the Department of Resources, Energy and Tourism.

Green Building Fund

Part of the Clean Business Australia Initiative administered by the Department of Innovation, Industry, Science and Research. Supports owners of existing commercial office buildings to reduce their green house gas emissions.

Green Loans Program

Assists Australian families install solar, water saving, and energy efficient products. Provides detailed Home Sustainability Assessments and access to interest-free Green Loans of up to \$10,000 each to make the changes recommended in the assessment report.

Solar Hot Water Rebate Program

Administered by the Department of Climate Change and Energy Efficiency, this program allows energy users to claim a rebate of \$1,000 for a solar hot water system or \$600 for a heat pump hot water system through the Renewable Energy Bonus Scheme.

National Energy Efficiency Initiative

Deployment of a \$100 million commercial-scale demonstration smart grid as a trial to improve awareness of the benefits of energy efficiency, investigate potential synergies with water and gas networks and the National Broadband Network, demonstrate potential energy network efficiencies and lead to better integration of renewable energy sources, such as solar and wind power.

National Low Emissions Coal Initiative

Supports low emissions coal and advanced fossil fuel technology development.

National Solar Schools Program

Offers grants of up to \$50,000 to eligible primary and secondary schools to install solar and other renewable power systems, solar hot water systems, rainwater tanks and a range of energy efficiency measures.

National Strategy on Energy Efficiency

Announced by the Council of Australian Governments (COAG) on 2 July 2009, the National Strategy on Energy Efficiency is a comprehensive suite of measures that provide a nationally consistent and coordinated approach to improving energy efficiency and thus the productivity of the Australian economy. Measures will assist households and business transition to a low-carbon future; reduce impediments to the uptake of cost-effective energy efficiency; make buildings more energy efficient; and foster government leadership in energy efficiency.

Renewable Energy Target Scheme

Through its Renewable Energy Target Scheme, the Australian Government is seeking to ensure that, by 2020, 20 per cent of Australia's electricity supply will come from renewable sources.

Western Australian Government energy efficiency and renewable energy policy initiatives currently include the following.

Gas-boosted solar water heaters initiative

- Rebate of \$500 for natural gas-boosted solar water heaters; and
- rebate of \$700 for bottled LP gas-boosted solar water heaters used in areas without reticulated gas.

Solar Schools Program

The program is accessible by primary, middle and high schools:

- for solar power systems with an installed generating capacity of at least 950W, the WA Solar Schools Program will provide up to \$12,500 (ex GST) for metropolitan schools and up to \$13,000 (ex GST) for regional schools; and
- funding is available for both new systems and additions to existing systems.

Perth Solar City Program

Perth Solar City is part of the Australian Government's Solar Cities initiative challenging industry, business, governments and communities to come together and change the

way they produce, use and save energy. The initiative includes the City of Swan, towns of Belmont, Bassendean and Bayswater, and the shires of Kalamunda and Mundaring. During a three-year program, residents in Perth's eastern region have access to free home eco-consultations, valuable discounts off solar hot water systems and solar energy systems, and take part in other energy saving projects.

The WAGN GDS is particularly at risk of declining gas usage because of the relatively longer hours of sunshine in Western Australia as compared to the South Eastern States. Moreover, average residential gas consumption in Western Australia is lower due to warmer weather and a lower heating load. Therefore any reduction in gas usage, for example as would be caused by more efficient water heating, has a proportionately higher impact on the economics of the WAGN GDS.

3.3 Changed economic conditions

Significant changes in economic conditions impact on long term energy use, and the long term effects of the Global Financial Crisis are now appearing.

Commercial and industrial volumes were stable in 2009, increasing by only 0.4% from 2008, even though volume in the earlier years had been reduced by the Varanus Island incident. This is to be expected. When economic conditions rebound, gas consumption does not increase to the same extent because, during the downturn, end users put in place measures to conserve energy and reduce energy costs. Furthermore, national and international businesses look for ways of reducing costs by rationalising operations, and shut down manufacturing operations in small markets like Western Australia.

[REDACTED]

Rising house prices, and more difficult borrowing conditions, are now impacting on the size of new houses. A reduction in average house size is contributing to the decline in residential usage per connection.

4 COMPETITIVE RISKS

The larger industrial end-users which allow the exploitation of network economies of scale always have the possibility of connecting directly to a transmission pipeline and bypassing the WAGN GDS.

The prospect of a second major transmission pipeline transporting gas into the Perth metropolitan area, raised by recent concern over the reliability of the Western Australian gas supply chain, increases the likelihood that large industrial end-users will have future opportunities to bypass in the longer term, placing at risk the current investment in the WAGD GDS.

5 OPERATING RISKS

5.1 Cost of unaccounted for gas

With rising gas prices WAGN is at risk of a rising unaccounted for gas (UAFG) cost. A \$1/GJ increase in the gas price represents a cost increase of approximately \$ [REDACTED] per annum to total operating costs.

5.2 Labour costs

Wages in Western Australia have, in recent times, risen faster than in other parts of Australia, largely driven by the competition for skilled labour generated by the booming mining and gas industry. This exposes WAGN two types of risks:

- unanticipated labour cost increases; and
- inability to recruit the skilled resources needed to operate and maintain the WAGN GDS.

There is a lack of skilled gas distribution workers within the Western Australian labour pool, and direct competition with the resources industry for recruits.

In 2008 WAGN lost 7 skilled employees to resource and related industries. The impacts were and are:

- insufficient gas field staff to manage and maintain the network which required staff working unsustainable hours over the 2008 winter period;
- higher recruitment costs (staff from UK), and higher training costs; and
- reduced efficiency of operations while new staff are brought up to the same skill and experience levels as experienced staff lost.

5.3 Weather

Increased climate variability associated with global warming is exposing WAGN to the prospect of significant but irregular reductions in gas demand.

6 REGULATORY RISKS

WAGN is at risk from an unstable regulatory regime. Although the desirability of regulatory certainty is widely acknowledged, the national gas access regime has been under almost constant review since its implementation in 1997 leading to major changes in 2008.

Economic regulatory regimes, initially developed with a competitive markets focus, are now being "reshaped" to accommodate energy efficiency measures driven by concern over global climate change and greenhouse gas emissions. Changes in the gas access regime in response to the new policy environment is expected.

In Western Australia, the national gas access regime - the regime of the NGL and the NGR - has been implemented within the broader scheme of the *National Gas Access (Western Australia) Act*. Regulations made under this Act allow the Economic Regulation Authority to take into account the impact on small use customers when setting gas distribution reference tariffs without regard to the requirements of the NGR. The discretion which this gives to the Western Australian regulator exposes WAGN to additional regulatory risk.

WAGN is exposed at the present time to risks associated with government policy response to climate change and the impact this will have on the use of natural gas. Whether the exposure to this regulatory risk is greater in Western Australia than in the Eastern gas market is difficult to assess; both markets are affected by the policy uncertainty. Under proposals which have been made for a carbon pollution reduction scheme, assistance is likely to be available to gas sold by producers in the export LNG market. This is likely to create a further incentive for producers to market the gas in the export LNG market ahead of the domestic WA market. The gas sold in the Western Australian market is likely to be subject to the full effect of a carbon price regime or carbon tax.

In its March 2010 submission on the Western Australian Government's Strategic Energy Initiative, the Domgas Alliance argued that, given the higher gas price in the State, the substitution of gas for higher emission fuels such as coal will be prolonged.¹⁷ The Domgas Alliance concluded that, at a wholesale gas price as low as \$7 per gigajoule (before transport costs), natural gas would only be competitive with \$2 per gigajoule coal at the following carbon costs:

- \$90 per tonne carbon cost - on a long run marginal cost (LRMC) basis, that is, for new base load power plant construction;
- \$110 per tonne – on a short run marginal cost (SRMC) basis, that is, for plant already built.

¹⁷ Domgas Alliance, *WA State Energy Initiative: Domestic Gas Action Plan: Submission to the State Energy Initiative*, March 2010, page 44.

In addition to the carbon price/carbon tax risk to gas supply and prices, there will be pervasive cost increases not only due to the passing on of the cost of carbon permits but also due to the costs of administering the scheme.

7 CONCLUSIONS

The unique risks in providing reference services using the WAGN GDS include risks associated with:

- a persistent shortfall in gas supply relative to other markets in which gas is not competing for export sales, and with a wider diversity of supply;
- reliance on Government policy, State and federal, to ensure supply;
- high concentration in production and transmission;
- higher gas prices which reduce the potential market size, and raising prospect of a declining market;
- higher temperatures, and more hours of sunshine, raise the risk of substitution with solar energy;
- loss of industrial users due to industry rationalisation of operations and relocation to larger markets;
- competition for resources - particularly labour - in an expanding minerals based economy; and
- a scheme of economic regulation which is subject to change and which gives the regulator wide discretion.