Standing Committee on Environment and Planning

Inquiry into Unconventional Gas in Victoria

Submission by the Australian Workers' Union

Victorian Branch

July 2015

Executive Summary

Why should Victoria's gas consumers be penalised for using their own locally sourced gas? Why should we stand by and simply watch the substantial transfer of national income from Australian gas-using industries (including the Victorian manufacturing industry) to the gas and LNG producers?

The AWU does not believe that it is good enough for local industry and consumers to face prices being paid by Japanese and Chinese customers less LNG processing and transport costs. Local industry's access to gas at a competitive price is under threat. Natural gas remains a critical energy resource in Victoria with a penetration rate greater than any other state.

Victoria is at something of a - gas - industry policy cross roads. In one direction, the State could simply sit back and watch the development of onshore unconventional gas reserves which would predominantly supply LNG processing plants interstate. In another direction, it could decide to actively seek to maximise returns from its own resources, responsibly and sustainably, as an essential input to industry generating investment and jobs through targeted policy prescription.

Regarding the development of on-shore unconventional gas reserves, the AWU is uniquely placed among unions representing workers in Victoria. The AWU covers workers who both produce and process gas, those who consume gas in manufacturing industry, as well as those in the competing sector - agriculture - affected by land use decisions relating to the development of unconventional gas.

The AWU understands the benefits and risks associated with the development of tight and shale gas and has a major stake in the balanced development of policies aimed at supporting and sustaining industry and jobs in Victoria.

Our coverage gives us a perspective on the pros and cons of exploiting abundant probable (mainly) tight and shale gas reserves which Victoria possesses.

The AWU does not buy the argument which says that unfettered access to gas to supply LNG exports will assist to lower domestic gas prices. Nor does the AWU believe that gas should be locked away for all time simply because it raises (albeit) major challenges regarding its sustainable and responsible extraction on-shore.

In an increasingly carbon constrained world, natural gas is the most cost effective transition fuel to lower carbon intensive substitute fuels including nuclear and renewable energy. Accelerating prices for gas in Victoria however will result in switching to coal at the cost of increasing carbon emissions.

Other gas producing nations are taking a different course. 92% of the world's natural gas resources are controlled by national governments or national oil companies.

For example, Canada requires export permits and export tests to ensure the domestic market is not disadvantaged from gas exports. The United States has conditioned LNG exports on producers prioritising the local economy and ensuring affordable supply to US industry.

Australia is the only country that allows international oil companies to access and export natural gas without prioritising local supply. This is anomalous compared with international experience and ought to change if Australia wishes to maximise returns to the nation from its high quality gas reserves rather than to export these opportunities (along with our gas).

The AWU is currently promoting the benefits of a national gas reservation scheme under the Banner of *Reserve Our Gas*.
It is hoped that the benefits of the scheme will be adopted by the ALP at its National Conference as a policy commitment of a future Labor Government.

The issue is expected to be a major election theme in 2016.

This submission draws on analysis commissioned by the AWU on the impacts to the general economy and manufacturing sector from rising gas prices associated with an expanding LNG market. In the absence of a national reservation policy, job losses are estimated at 235,000.

However, in the absence of a national scheme or active consideration to this end by the Council of Australian Governments (COAG), Victoria should consider implementing a tailored gas reservation policy in order to make progress in securing a greater benefit of local gas reserves and to avoid related job losses, while aiming to avoid conflict over competing (primarily) agricultural uses for the land in addition to the public estate. In addition, the Government could consider 'fast-tracking' approvals for proponents contributing to the reserve for 'best-practice' projects.

The policy package would serve to promote energy security and affordability of gas supply. However, land owners and local communities must have confidence that any scheme has the balance right and that the science and the regulatory framework will not only protect them from any unintended impacts but allow them to benefit too.

The AWU stands ready to assist the further deliberations of the Committee affecting the future for the workers we represent in the array of affected industries and sectors, their employing enterprises, families and communities and to the Victorian economy as a whole.

Introduction

This submission responds to the invitation by the Parliament of Victoria's Standing Committee on Environment and Planning to participate in its Inquiry into Unconventional Gas in Victoria. The submission covers the AWU's interests in conventional gas sector as a platform for the responsible development of unconventional gas; the benefits to local industry from the supply of unconventional gas; and the legitimate concerns of the agricultural sector regarding the extraction of on-shore reserves.

While focused on addressing primarily part 4 of the inquiry's terms of reference, the submission does touch on other parts of the terms of reference, including the prospectivity of Victoria's geology (part 1) and the coexistence of onshore unconventional gas activities with existing land and water uses (part 3).

Overview

The submission makes the case for a well articulated local reservation policy (in the absence of a national scheme) as a means to both increase the benefits of an abundant local gas supply while reducing some of the negative impacts of unconstrained exploitation because it could, with government oversight, assist planning and interaction between the gas supply sector and landholders.

While there is consensus on the likelihood of rising prices[1], policy prescriptions differ. This is a major reason why the Committee's inquiry is important. The logic that more gas equals lower prices is simply flawed and not borne out by experience either in Australia or abroad. A globally open, contestable market for gas simply does not exist with only 8 per cent of global gas production unaffected by national policies implemented by gas producing nations in one form or another. This 8 percent is found largely in Australia, Canada and the United States, with only Australia allowing unfettered access to its gas markets by major gas exporters. The US and Canada

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[1] "Victorians should be under no illusions. Rising gas prices will have a negative impact on Victoria's manufacturing base. Jobs and investment are at risk. Costs of living will rise and could rise for longer if not addressed."(Gas Market Taskforce Chair The Hon. Peter Reith AM, October 2013). http://www.appea.com.au/media_release/victoria-needs-more-natural-gas-not-another-lengthy-inquiry/

both implement a stringent national interest test on any prospective gas exports which take into account the needs of their domestic markets.

Gas is not currently traded at uniform world prices. The laws of supply and demand therefore do not apply as if it were a perfect market. Until such a time, to assume otherwise - as groups such as the Australian Petroleum Production and Exploration Association (APPEA) does - serves only the interests of the major gas producers (and their shareholders) rather than the state or national interest.[2]

In these circumstances, exporting to energy hungry nations through exploitation of Australia's higher quality gas reserves as a primary energy resource comes a poor second to lost opportunity in local added value fuelled by our local gas.

Given evident market failure alternative approaches are required to maximise (rather than surrender) the economic value of our finite (gas) energy resources in order to sustain living standards and to fuel local industries bringing along with them investment and jobs. The AWU's submission raises possible options.

This submission also draws on the Energy White Paper Submission, Reserve Our Gas Alliance, November 2014[3], and the submission to the ACCC's East Coast Gas Inquiry by the Reserve Our Gas Alliance of July 2015[4]. Like these submissions, this

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[2] National energy policy makes no provision for the reservation of gas for domestic users at prices below those obtainable in export markets (noting that Western Australia does reserve gas but not at a lower price). It has been stated that, in an era of rising export prices in the longer term the gas industry will be firmly focussed on the more lucrative export market.

Report on community and stakeholder attitudes to onshore natural gas in Victoria, Presented by: The Primary Agency, 20 April 2015, p3

http://onshoregas.vic.gov.au/__data/assets/pdf_file/0004/1096942/Onshore-Natural-Gas-Report-Final.pdf

[3] **http://ewp.industry.gov.au/sites/prod.ewp.industry.gov.au/files/submissions/Energy%20White%20Paper//EWPGP091-795.pdf**

[4] https://www.accc.gov.au/system/files/ECGI%20-%20Submission%20to%20Issues%20Paper%20-%20PUBLIC%20-%20ROG.PDF

paper is informed by a substantial amount of research work undertaken by BIS Shrapnel commissioned by the AWU.[5]

It is the AWU's view that the Victorian Government takes the urgency of reservation options to COAG as a serious national issue that requires a national response.

It is vital that states take up this issue given the interplay of the markets domestically and internationally and observable market failure. All levels of government need to be engaged because the states are responsible for licences and extraction onshore and the federal government responsible for export, including for resources located offshore.

If a (policy) solution cannot be found, then Victoria may be 'forced' into going it alone. In this event, this submission outlines a possible model.

[5] The Economic Impact of LNG Exports on Manufacturing and The Economy – How should we respond to the looming crisis? Final Report, September 2014, https://d3n8a8pro7vhmx.cloudfront.net/nationalawu/pages/135/attachments/original/1411953009/The_Economic_Impact_of_LNG_Exports_on_Manufacturing_and_the_Economy_Final_260914.pdf?1411953009

Victoria's gas sector

Rapid development of the on-shore unconventional natural gas market

For more than forty years Victoria has had an abundant supply of 'conventional' natural gas from offshore, providing cost-effective energy for domestic and commercial uses.[6] The AWU has been a part of these developments which have delivered significant benefits to the Victorian economy for many years.

Victoria now has the highest penetration of natural gas in industry and households of any State of Australia.[7] This source of natural gas has been sufficient to also provide for much of Australia's gas energy needs via a pipeline linking Tasmania, South Australia, Victoria and Queensland. Victoria's reticulated natural gas network supplies gas to more than 1.8 million households where it is typically used for cooking and heating.

Already there have been anecdotal reports of so called 'energy poverty' emerging in the state, with lower socio-economic households and pensioners unable to heat their homes during the winter due to escalating and prohibitive gas prices.

The commercial and industrial sectors also rely heavily on natural gas and input for the manufacture of products such as chemicals, plastics, pharmaceuticals, fertilisers, paints, pesticides and cosmetics.[8]

Reserves of gas offshore are now declining, although more than 30 years' of supply is estimated to be available, and exploration continues.

Australia has an export focussed market stance for natural gas (and other industries). Where export of gas has been possible, such as Western Australia, domestic users face international gas market price movements.

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[6] Report on community and stakeholder attitudes to onshore natural gas in Victoria, Presented by: The Primary Agency, 20 April 2015, p3

http://onshoregas.vic.gov.au/__data/assets/pdf_file/0004/1096942/Onshore-Natural-Gas-Report-Final.pdf

[7] As above, p3

[8] http://www.appea.com.au/media_release/victoria-needs-more-natural-gas-not-another-lengthy-inquiry/

Export of gas has not previously been possible from eastern Australia and the gas price has been lower and quite stable as a consequence. However, gas processing and shipping developments in Queensland mean gas can now be exported as liquefied natural gas (LNG) from eastern Australia and that changes to (already rising) domestic gas prices could be very substantial in the medium to longer term.[9]

Overall global demand for natural gas demand is growing supplying the expanding economies in our own region including China and India in addition to traditional markets such as Korea and Japan. The growing demand and higher returns from export markets, combined with extensive experience of industry development in other countries, has stimulated interest in exploration and development of the onshore natural gas industry in Australia.

Gas as transition fuel to a lower carbon economy

Natural gas is the only conventional energy source that can underpin Australia's transition to a low carbon economy during the next 20 years. Using natural gas to fuel local industry and power generation is by far the most greenhouse and energy-efficient use of Australia's clean energy resources.[10]

However, at prices recorded in recent years, gas is no longer competitive with coal for baseload power and major resource processing. It has been estimated that a $60-90 per tonne carbon cost would be needed.[11] It means that Victorian consumers and businesses will have little incentive to move to utilise gas in greater quantities.

And in the absence of commercially viable carbon, capture and storage (CCS) technology linked to coal based electricity generation, progress made in limiting carbon emissions will be offset by switching out of gas to coal (based electricity generation). This would be detrimental to both the environment and any future

[9] Report on community and stakeholder attitudes to onshore natural gas in Victoria, Presented by: The Primary Agency, 20 April 2015.

[10] DomGas Alliance: Australia's Domestic Gas Security, Report 2012, p15, http://www.domgas.com.au/pdf/Alliance_reports/DomGas%20Report%202012.pdf

[11] As above, p17

international obligations Australia may have in that regard in addition to the future development of the gas sector in Victoria.

These pricing outcomes lead to a perverse policy scenario where Australia's gas export settings lead to a heavier domestic reliance on dirtier coal-fired power. Australia's abundant gas reserves should allow for a clean energy transition, yet multi-national interests have been allowed to sideline this important transitionary, clean fuel source.

Onshore gas

Onshore natural gas is not produced in Victoria and it is not known if there are commercially viable resources, although some exploration has occurred in past decades.[12]

What is known is that Victoria has a significant "yet to find" hydrocarbon potential. In the state's gas-prone Otway Basin. A recent study estimated that 1.8 to 3.7 Tcf of gas remains undiscovered.

In the Gippsland Basin, it is likely that 0.6 to 2 Tcf of gas remains undiscovered with up to 600 million barrels of liquids.[13]

Industrial users of gas

Australia's economic prosperity and living standards have been built on a competitive advantage in energy, including natural gas.

[12] A moratorium on further exploration and the practice of hydraulic fracturing was put in place in 2012 and extended until at least June 2015, pending State government consideration of a number of studies and community consultation (reported here).

In January 2015, the Victorian Government announced that the moratorium would remain in place pending the establishment of a Parliamentary Inquiry into onshore unconventional gas and the Government's subsequent response to the Inquiry's findings.

[13] Department of Economic Development, Jobs, Transport and Resources, Oil and Gas, http://www.energyandresources.vic.gov.au/earth-resources/victorias-earth-resources/petroleum

At a time when manufacturing is facing significant challenges, competitively priced energy is one of the few advantages Australia has to offer and which government can help deliver. Natural gas fuels 23 per cent of Australia's primary energy and 15 per cent of its electricity generation.[14] This makes natural gas a critical energy resource.

This advantage is being lost overseas as major gas producers focus on maximising LNG exports to China, Japan and Korea.Victoria's more extensive use of natural gas as an energy source in industry and households sets it apart from other states. Despite Australia's substantial gas resources, local industry is experiencing serious gas shortages and rising prices. Major gas producers are focused on maximising LNG exports and signing 25 year contracts to supply gas to customers in China, Japan, Korea and India.

Without long-term energy security, industry cannot invest in new projects or sustain existing operations or jobs. Australia is the only country where a massive expansion in production has led to serious gas shortages and sharply higher prices for consumers. Even higher prices are projected for the future. This gas supply "paradox" also provides the basis for some government intervention.

Most of Australia's gas resources (85%) are controlled by the world's biggest oil and gas companies. Their preference is to conclude multi-billion dollar LNG contracts with a handful of overseas customers, rather than sell to many smaller Australian companies. While this might be legitimate commercial practice for their shareholders, it does not equate also maximising Australia's national interest.[15]

The situation facing commercial gas users in Victoria is that demand in the eastern states integrated pipeline has grown dramatically in recent years from 700 PJ (petajoules) to 2100 PJ due to the securing of large LNG export contracts by

[14] Bureau of Resources and Energy Economics (BREE), *Energy in Australia 2012*
[15] DomGas Alliance: Australia's Domestic Gas Security, Report 2012, p6
http://www.domgas.com.au/pdf/Alliance_reports/DomGas%20Report%202012.pdf
Also see comments by James Fazzino (Incitec Pivot) and Andrew Liveris (Dow Chemical) on the value of gas (in value added terms) to manufacturing and the travesty of overseas gas companies dictating prices locally, rerspectively. (P5)

Queensland based companies, which will have to be partly met from the wider pipeline system at least in the shorter term.[16]

Australia generally does not reserve any of its gas for domestic users, except for Western Australia which does reserve gas but at export-based prices.

Commercial gas users have already experienced a more than doubling of the previous long-term price to $9/PJ, and they expect to go higher towards Asian prices (e.g. $16/PJ currently in Japan). At this price domestic industries highly dependent on gas will struggle to be competitive, the effects of which could play out in terms of cascading closures, job losses and less investment.

Commercial gas users are finding that renewal of gas supply contracts has become problematic as suppliers have in sight lucrative alternative export markets and concerns about supply. Competition in the domestic market is also reduced and some suppliers are now reluctant to arrange longer-term contracts given the prospects of increasing prices in future.

Gas suppliers now have strong incentives to 'reserve' gas for the export market at the expense of the domestic users. The conditions of new contracts are also becoming onerous in terms of 'take or pay' requirements and the practice of 'joint marketing' by major suppliers is seen as unfair. This range of new behaviours is seen as an inappropriate level of supplier power which is not being effectively managed by the relevant authorities.[17] This market failure is currently the subject of an ACCC inquiry, with various allegations made about cartel like behaviour from major gas suppliers.

Australia benefits from LNG projects through the investment they make and the royalties they generate. However, the massive increase in gas production in recent

[16] Report on community and stakeholder attitudes to onshore natural gas in Victoria, Presented by: The Primary Agency, 20 April 2015, p22
[17] As above

years has not delivered a better outcome for local industry. Industry is instead experiencing serious gas shortages and sharply higher gas prices.[18]

A policy change is urgently sought to allow the orderly and managed marketing of gas to the export and domestic markets, to increase competition and transparency in the gas supply market and/or reduce excessive supplier market power.

Commercial gas users are concerned that the impacts of higher gas prices on industry competitiveness and domestic users will be felt far more rapidly than any impact of the development of an onshore natural gas industry in Victoria. Some companies are foreshadowing a return to coal as a cheaper and more predictable energy source.

Victoria's largest single user of gas is Australian Paper, which employs some 1300 people directly. The company has stated categorically that an increase of the gas price of the scale anticipated will render the business uncompetitive as it has no viable alternative sources of energy. [19] Other significant local employers, such as Qenos plastics facility and Dow Chemicals face similar challenges.

AWU analysis

The AWU in 2014 commissioned BIS Shrapnel to consider the economic impacts of rising gas prices on the economy in general and the manufacturing sector in particular.[20] The main conclusions from the study are:

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[18] DomGas Alliance: Australia's Domestic Gas Security, Report 2012, p14
http://www.domgas.com.au/pdf/Alliance_reports/DomGas%20Report%202012.pdf

[19] As above, p22

[20] The Economic Impact of LNG Exports on Manufacturing and The Economy – How should we respond to the looming crisis? Final Report, September 2014,
https://d3n8a8pro7vhmx.cloudfront.net/nationalawu/pages/135/attachments/original/1411953009/The_Economic_Impact_of_LNG_Exports_on_Manufacturing_and_the_Economy_Final_260914.pdf?1411953009

- While there will be positive economic effects from increased LNG exports these will be outweighed by the negative impacts – particularly on the manufacturing sector – arising from the jump in gas prices and the potential supply shortages in the east coast markets:
- A significant loss in the value of manufacturing input, ranging from -$14.2 billion (equal to -3.9 per cent of output) to -$59.3 billion (-15.4 per cent of output), with associated job losses in the manufacturing sector of between 21,900 and 91,300.
- Economy-wide net losses of between $26.6 billion to $110 billion of the value of output, and associated job losses of between 56,500 and 235,800, once you add the net indirect flow on effects of the suppliers to the manufacturing and LNG sectors.
- The overall job losses equate to between -0.5 per cent and -1.8 per cent fewer jobs (than the base case), while GDP is between -0.9 per cent to -2.2 per cent lower.
- Negative impacts on households with annual gas bills rising $260 (26 per cent) over the next four years.
- Higher greenhouse gas emissions in Australia as there is a switch to coal-fired electricity generation and away from domestic gas usage.
- A marked rise in the current account deficit due to rising profit repatriation from the (majority) foreign owned LNG producers, while net exports will deteriorate with the decline of manufacturing production. The bottom line is that, in effect, there will be a substantial transfer of national income from Australian gas-using industries, particularly manufacturing, and households to the gas and LNG producers.

And based on the above analysis, the bottom line for Victoria is that the State would be hit from the “double whammy” of the impact on manufacturing activities which have a high reliance on gas to fuel production and the highest intensity of brown coal generation in the state’s energy mix than any other state implying higher emissions from switching from gas to coal per capita than in any other state. Victoria would in effect be exporting jobs via a higher gas price and importing emissions via a greater reliance on coal-fire.

Gas prices on the rise

Six LNG plants are being built in Gladstone, Queensland, with the first of these having commenced export in January 2015. For the first time, eastern Australian LNG will be exported to Asia, in huge volumes – twice as much gas as is presently used by all eastern Australian residents and businesses.

This means that eastern Australian gas is now – and for the future – linked with global gas prices (as has been the case for many years with crude oil). The price consumers pay for gas has already gone up and will continue to climb.

Already there are calls for lands to be opened up to unconventional gas extraction, in a bid to ease prices. But more gas extraction will not impact local supply and prices unless international prices and demand very significantly decline.[21] Supply has had no impact on price, with record high production levels in Australia currently married with record high prices.

The vertically integrated structure and international linkages of key players such as Origin and Santos gives them significant market power in the domestic gas market. As gas producers and suppliers to both domestic and international markets, these players will be able to divert gas from the domestic market to international markets. This will directly link the domestic market to international prices and in the likely event of production shortfalls for LNG export ensure that these shortages are transferred to the domestic market.[22]

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[21] **A crash in gas use is more likely than the forecast 'shortage',** TIM FORCEY & MIKE SANDIFORD, 28 JAN, 2015,

http://www.businessspectator.com.au/article/2015/1/28/energy-markets/crash-gas-use-more-likely-forecast-shortage

[22] https://www.accc.gov.au/system/files/ECGI%20-%20Submission%20to%20Issues%20Paper%20-%20PUBLIC%20-%20ROG.PDF

The problem of rising gas prices driven by LNG

Already, Australian manufacturers are reporting they are finding it near impossible to get new supply contracts for the gas they need to keep operations running, because export contracts have been locked in.

A BIS Shrapnel report found that as a result of rapidly rising gas costs and constricting availability, one in five heavy manufacturing operations would shut down over the next four years. The net direct impact on industry output is negative $58 billion. The direct impact on manufacturing employment would be 91,300 fewer jobs by 2023.

The flow on effect of this would be a loss of $101 billion - even taking into account the benefits of LNG export.

235,000 Australian jobs would be lost, economy wide, by 2023.

All research indicates the projected rise in gas prices will cause a much greater impact to industry than the much-discussed carbon tax.

Many Australian manufacturers are already starting to flag mass closures as a result of rising gas prices.

Source: Reserve Our Gas, http://www.reserveourgas.com.au/the_impact_on_australian_jobs

Minimising land impacts

Certain regions of Victoria (e.g. Gippsland and the Otway Basin), have underlying geology which is potentially suitable for some forms of onshore natural gas, notably gas trapped in sandstone (tight gas) or in shale (shale gas). Gas from coal deposits (coal seam gas) is also possible but its potential in Victoria may not be as significant as in other States of Australia.

These regions are in rural Victoria; they are relatively closely settled, often very productive, have high amenity value and support a range of industries including food and agriculture, tourism, recreation, as well as aluminium smelting, coal mining, power generation and associated service industries.

Any extraction of gas in such areas should only occur after lengthy scientific studies and with significant community consultation and engagement. Gas should not be expeditiously extracted purely to overcome a problem that has been created by major gas exporters.

Agriculture in Victoria is particularly intensive with 26 per cent of Australia's food and agriculture being produced from just 3 per cent of the nation's arable land. Victoria dominates in a number of these industries including dairying, prime lamb production and certain crops which generate high returns per hectare.[23]

What is clear from the survey undertaken by the Primary Agency[24] is that a majority of respondents in rural and regional Victoria seeks more information on the costs and benefits of developing an onshore unconventional gas industry.

It is also why it is very timely that the Standing Committee's review is currently taking place. The work undertaken by the Primary Agency indicates a readiness to consider the merits of on-shore gas development. However, survey results also indicate that there remains a significant degree of ignorance on the details of the processes and impacts associated with the activity. Ensuring that both the science and the regulatory framework are right is a key consideration. Dealing with that uncertainty will be important in order to progress with future on-shore development activity.

A striking feature of this situation is that, as yet, there is no comprehensive economic analysis of the benefits and costs to Victoria of an onshore natural gas development. There would be complex valuation challenges but a competent economic analysis would be a vast improvement on the current situation of claim and counter claim.[25]

[23] Report on community and stakeholder attitudes to onshore natural gas in Victoria, Presented by: The Primary Agency, 20 April 2015, p3
[24] Report on community and stakeholder attitudes to onshore natural gas in Victoria, Presented by: The Primary Agency, 20 April 2015
[25] As above, p17

Costs and benefits – stakeholder views

The potential of net gain from an onshore natural gas industry in Victoria is strongly disputed and includes considerations of benefits relative to costs, to whom they accrue and over what time period.

The stated benefits include: the revenue streams to the mining companies, the State and landholders; increased economic activity within the State generally; better regional services and employment opportunities; and benefits to agriculture, manufacturing and natural resources.

The stated costs include: damage to natural resources, especially water sources; collateral impacts on other industries (such as tourism and agriculture); negative biodiversity impacts; negative impacts on residential and recreational amenity, and changes to the regional economy and community character.

Source: Report on community and stakeholder attitudes to onshore natural gas in Victoria, April 2015

For example, the dairy industry expressed concerns about an onshore natural gas industry, fearing negative perceptions in sensitive markets would generate significant risks to markets and milk production. Other concerns were potential contamination of surface water and ground water and its repercussions on milk quality, and the capacity of regulators to manage onshore operators well enough to protect dairy industries.

Dairy farmers saw some benefits to landholders, but were concerned about the impact of onshore natural gas activities occurring on other farmers' properties on their own farming operations. There were additional concerns about companies gaining access to properties against the wishes of landholders.[26]

Natural resources

It is a fact that the on-shore gas industry is often very intrusive, requiring access to private land, deep drilling and large volumes of water. These concerns should be taken seriously and require strict regulatory oversight.

There is deep concern in regional Victoria that water sources will be diminished in quality and availability for other uses, as hydraulic fracturing (fracking) requires large

[26] As above, p2

volumes of water and the use of chemicals. Some of the water used is returned to the surface containing additional salt and other substances from underground, to be stored at the surface where it remains a threat to land, water courses, stock and wildlife.

Deep drilling and fracking affects the structural integrity of the subsurface environment, potentially leading to:

- fugitive gas escaping to the air, adding to greenhouse effects, increasing fire risk and health impacts
- increased seismic activity in areas of geological instability
- potential contamination of underground aquifers with fracking fluids
- loss of access to ground water for other uses.

As evidence that these concerns are real, particular cases in United States, Queensland or New South Wales are used to highlight the risks and impacts. In Victoria, aquifer depletion in the Yarram region, as a consequence of offshore gas extraction and coal mining, is well known. This has also raised concerns about potential land subsidence.

As these impacts can extend beyond the boundaries of a landholder, externalities can be created for others not immediately involved in onshore natural gas,[27]

Character of the regional economy

While there are industrialised parts of these regions, most of the landscape is devoted to food and agriculture, tourism, services and residential living. An onshore natural gas industry of any scale is expected to substantially affect the current mix of

[27] As above, p9

activities in regional economies as onshore natural gas grows and other activities decline or change.[28]

Inclusivity rather than exclusivity

There are also opportunities to include the local community and landholders to a greater degree as participants rather than bystanders in the industry's future development with the assistance of targeted policies which aim to address both efficiency and equity considerations.

The aim is for the agricultural landscape to be rejuvenated and transformed by the onshore natural gas industry with increased and more diverse economic activity, improved water supplies for natural resources and agricultural uses, and better community services.

These outcomes imply strong safeguards based on the best science and regulatory framework both protecting and enabling joint land use.

Gas companies and government oversight have a key role to play in working with local communities and investing in the social infrastructure (e.g. sporting and other community facilities) alongside their gas extraction. Improved local access to gas including extension of reticulation and the like are also open to consideration.

Benefits of a Reservation policy

"It is vital that Australia joins every other gas exporting nation in the world by enacting laws to ensure we are able to access our own gas at a fair price. I believe Australia's abundant natural gas can and should be exported to the

[28] As above, p10

world, but it must also provide a competitive advantage to our local industry, and a cost of living benefit to Australian households." [29]

[29] Scott McDine, National Secretary, Australian Workers' Union, http://www.reserveourgas.com.au/supporters

RESERVE OUR GAS COALITION POLICY PROPOSAL – GAS RESERVATION

Overview

- The Reserve Our Gas (ROG) Campaign has gathered thousands of supporters including community groups, union members, parliamentarians, media personalities and thousands of ordinary Australians.
- Failure to act on the looming gas crisis could represent an economic catastrophe for Australia.
- The (Energy) White Paper correctly identifies the issue of rising gas prices, but misdiagnoses the problem as one of supply. Australia is producing a record amount of gas, yet prices continue to surge. This suggests there are other factors at play preventing gas from being a truly 'free market.'
- The linkages between Australia's east coast gas market and the global market are the clear new factor driving gas prices higher. More supply, while welcome, will not be enough to keep prices at historically competitive levels.
- The ROG campaign commissioned research by BIS Shrapnel into Australia's gas market. A summary of the substantive arguments of the ROG campaign and the BIS paper are included within the submission on the Energy White Paper.

Economic Impacts in the absence of a reservation policy

Australia's gas prices are set to triple in the coming 12-24 months as major gas export operations being to ship LNG to overseas markets.

The impending price increase will have significant impacts on:

A. **MANUFACTURING JOBS –** it is projected that up to 235,000 jobs could be lost across the economy, with 1 in 5 heavy manufacturing sites closing down (see submission for further detail).

B. **COST OF LIVING** – household bills are expected to jump sharply across Australia by hundreds of dollars a year. This will impact severely on families, as well as low-income earners and pensioners.

C. **AUSTRALIA'S INTERNATIONAL COMPETITIVENESS –** Gas is a significant energy input in Australia's energy and competitiveness. It is estimated that retaining some gas provides a 20X return to the economy via downstream economic activity. This is compared to a 3X return on pure LNG export, which largely accrues to overseas gas companies.

ROG POLICY PROPOSAL

That the Government adopt a regulatory approach that ensures Australia's gas prices are not completely exposed to a distorted global price. This would be in the form of a gas reservation – or reservation like – policy.

Australia can, and should, have a vibrant gas export industry, however it should not come at the expense of other sectors and the community at large. **Every other country in the world manages to balance the interests of gas producers and the broader economy – Australia should too.**

Source: Energy White Paper Submission, Reserve Our Gas Alliance, November 2014, http://ewp.industry.gov.au/sites/prod.ewp.industry.gov.au/files/submissions/Energy%20White%20Paper//EWPGP091-795.pdf

It is axiomatic that energy resources are owned by the nation and the state. Most countries recognise that energy resources are owned or regulated by the national jurisdictions. Major gas producers can access and export resources only to the extent that they do so in a safe, reasonable and prudent manner that benefits all of the stakeholders of the host country.[30]

Australia is the only country that allows international oil companies to access and export gas resources without prioritising local supply.

It is also the only major gas exporting country experiencing serious gas shortages and sharply rising gas prices. Professor Ian Harper's recent Review of Competition Policy recommended a detailed review of competition in Australian gas markets.[31]

[30] Innovative Energy Consulting, *Submission to the WA Strategic Energy Initiative 2030*, 2011.
[31] http://www.energyaction.com.au/news/industry-news/2015/05/15/accc-inquiry-into-eastern-and-southern-australian-wholesale-gas-prices

Gas Reservation Policy

A gas reservation policy - or national gas reserve - means that a small portion of a nation's gas is reserved for domestic use at an affordable price.

With a gas reservation policy, gas exporters would still be permitted to sell Australian gas to foreign nations at the high global price - but on the condition that a percentage of the gas extracted would have to be reserved for sale at an affordable domestic price.

With a gas reservation policy, gas companies still generate major profits through exports, but the gas-producing nation retains its competitive energy advantage.

Because Australia has such abundant gas reserves, only a relatively small percentage of Australian gas would have to be reserved to keep our gas prices affordable.

Currently, Australia is the only nation in the world allowing gas companies completely unrestricted access to natural gas reserves for export. All other major gas producing nations around the globe have some form of gas reservation policy or equivalent laws to ensure the national interest is served.

Source: Reserve Our Gas, http://www.reserveourgas.com.au/how_would_a_gas_reservation_policy_work

There have been reports that BHP Billiton and ExxonMobil have started talks to export Bass Strait gas through Gladstone LNG raising further concerns for SA, NSW, Victoria and Tasmania. Any such move would further tighten domestic gas markets in the East Coast and lead to a doubling of wholesale gas prices.[32] This should be viewed with suspicion by the Victorian Government.

For example, AGL has recently revealed that it would have 30 to 50 petajoules a year of uncontracted gas available "for sale into the high-value Queensland market" between the 2018 and 2020 financial years.

That uncontracted volume of gas has come into play after AGL agreed to buy 198 petajoules of gas from the Bass Strait joint venture partners, BHP Billiton and ExxonMobil, beginning in January 2018.

[32] The Australian, 'Price pressure rising as Bass gas exported', 16 November 2011.

The timing of the supply deal will coincide with the peak of predicted gas shortages in Australia's east coast gas market, as the Gladstone plants begin exporting LNG to international customers, and will allow AGL to buy gas from the southern end of the market and potentially sell it for more at the northern end of the market.[33]This is yet another example of regulatory failure in the gas market and private profiteering at the expense of the Australian public, who ironically are the owners of the asset being exploited against their interests.

Recent reports highlighting doubts from the Australian Tax Office about the amount of tax and royalties that will be paid from the Gorgon gas fields, Australia's largest ever mining project, highlight the urgent need to get Australia's gas and energy settings right. [34] If promised royalties and tax revenue falls short as a result of profit shifting from major gas players responsible for Gorgon (Chevron, ExxonMobil), then Australia will be left in a situation where the extraction of our non-renewable mineral wealth will lead to nothing but economic destruction via gas higher prices, higher emissions through an increased use of coal-fired electricity generation and repatriated profits to offshore tax havens. This would amount to a policy disaster and an economic, environmental and social travesty.

On 13 April 2015, the Australian Government directed the Australian Competition and Consumer Commission (ACCC) to commence a twelve-month public inquiry into the competitiveness of wholesale gas prices in Eastern and Southern Australia.[35] The inquiry will investigate anti-competitive practices among the major producers among other matters affecting the availability and competiveness of offers to supply gas.

This also follows comments by major gas supplier in Victoria (Origin Energy) reported on 22 October 2014 which indicates a switching away from prioritisation of domestic gas supply in preference to marketing LNG offshore.

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[33] Read more: http://www.smh.com.au/business/mining-and-resources/agl-eyes-gladstone-gas-sales-after-bass-strait-deal-20150409-1mhkbp.html#ixzz3fv8W859z

[34] http://www.smh.com.au/business/where-will-the-money-flow-from-gorgon-our-biggest-ever-mining-project-20150715-gid5ps.html

[35] http://www.energyaction.com.au/news/industry-news/2015/05/15/accc-inquiry-into-eastern-and-southern-australian-wholesale-gas-prices

Origin ready to stockpile its gas supplies

ORIGIN Energy will stockpile its gas supplies to cash in on expected price rises over the next few years. The energy provider said it expected its gas supplies would become more valuable in coming years, once production starts at massive liquefied natural gas projects in Queensland.

The projects will allow Origin and other energy producers to export LNG overseas, at higher prices than it can get domestically.

"In order to benefit from this opportunity Origin will reduce its call on production from its upstream business and bank contracted gas this year and call for that gas in the following years when it is more valuable," managing director Grant King told shareholders at the annual meeting.

Mr King said the move would result in lower earnings from its upstream business this financial year.

But he said earnings were expected to grow substantially from the 2016 financial year.

Shareholders sent the company's stock up 3c to $14.36.

Origin's Australia Pacific LNG is one of three major LNG projects under construction at Gladstone, on the Queensland coast, alongside Santos's GLNG and BG Group's QCLNG.

Mr King said production was expected to start at Australia First LNG in mid-2015, but would not have an impact on its earnings this financial year.

He said the next two years would be "transitional" for the company, thanks to the growing demand for gas from overseas.

Separately, Mr King said the creation of a gas reservation scheme for domestic use would ultimately hurt Australia and crimp royalty payments to governments.

"Such a policy would be an impost on the Australian community at large," he said.

Reserve Our Gas spokesman Scott McDine said Origin's stockpiling plans would do nothing for energy affordability for Australians.

"We could scatter the nation with coal seam gas wells and crisscross the map with pipelines but it won't make a difference if companies can hoard our gas and sell it to the highest overseas bidder," he said.

Source: EVAN SCHWARTEN, HERALD SUN, HTTP://WWW.HERALDSUN.COM.AU/BUSINESS/ORIGIN-READY-TO-STOCKPILE-ITS-GAS-SUPPLIES/STORY-FNI0DCNE-1227099114871

4. An international price for gas?

A common misunderstanding is that, there is an international price for gas. In fact, prices vary considerably between different countries and regions and reflect local conditions, national resource endowments and government policies. In most regions of the world, gas producers are price takers and not price setters. Distant regional gas markets should have very little if any impact on prices in the domestic market.

All major gas producing regions have access to abundant low cost gas. Recent US LNG contracts have been priced on a formula based on US domestic gas prices. This rejects any linkage between US domestic gas prices and some notional "international", "oil-linked" or "North Asian" price.

Australia now has the highest gas prices of any gas exporting economy. It makes little economic sense for Australian industry and households to be paying the same price as consumers in energy-poor countries like Japan or China.

Source: DomGas Alliance: Australia's Domestic Gas Security, Report 2012

According to a Curtin University report, 92 per cent of world natural gas reserves are controlled by national governments or national oil companies. Governments around the world are acting to secure vital energy resources.

A 15 per cent gas reservation policy is very modest by international standards.[36]

Egypt has a 67 per cent reservation policy that reserves one-third of natural gas for exports, one-third for domestic use and one-third "to save for our children". The policy has not discouraged Apache Energy from exploring or investing in Egypt which accounts for the company's largest acreage position and 30 per cent of global revenue.[37]

Qatar, the world's largest LNG exporter, has a moratorium on further expansion of LNG exports until 2013 because of uncertainty over gas reserves. Qatar has around eight times Australia's natural gas reserves and one twentieth the population.[38]

As the US Energy Information Administration observed, "many countries that are LNG exporters have some form of domestic reservation regime in place to

[36] Leonard, Manuhutu and West, *Domestic Energy Reservation Policies: An International Comparison*, Curtin University, 2008.
[37] As above
[38] As above

encourage local consumption".[39] Details on applicable policies in the US and Canada are outlined in the endnotes.[i] A useful up-to-date summary of international reservation policies and trends is also contained in the AWU commissioned report by BIS Shrapnel.[40]

"It is Alcoa's strongly held view that in the absence of any other government action, either state or federal, to facilitate new entry into domestic gas production, a reservation policy is essential to providing some form of energy security for Australia."[41]

Views of the DomGas Alliance

Australia should implement a national reservation policy that would require major LNG projects to set aside 15% of gas production for local industry and households.

Domestic gas reservation has worked in Western Australia. The Wheatstone Project has committed to supplying domestic gas equivalent to 15% of LNG production.

Most of Western Australia's gas is however located in Commonwealth waters where no obligations apply.

While the bulk of East Coast gas resources are located onshore, there are potential flow-on impacts from an integrated market. NSW for example depends on interstate supply for 98% of its gas.

The Queensland policy to set aside potential fields for future domestic supply has failed. No gas field has been set aside to date. Even if one was identified, it could take up to 7 years before gas might flow.

Gas producers could be accorded sufficient flexibility under a national reservation policy as to how they meet domestic supply obligations, e.g. through gas swaps or trading arrangements.

A national reservation policy will not discourage investment or increase sovereign risk. Australia is the only country in the world that allows unrestricted exports of natural gas.

Source: DomGas Alliance: Australia's Domestic Gas Security, Report 2012

[39] Cited in the WA Parliamentary Inquiry report, para. 279.
[40] The Economic Impact of LNG Exports on Manufacturing and The Economy – How should we respond to the looming crisis? Final Report, September 2014, https://d3n8a8pro7vhmx.cloudfront.net/nationalawu/pages/135/attachments/original/1411953009/The_Economic_Impact_of_LNG_Exports_on_Manufacturing_and_the_Economy_Final_260914.pdf?1411953009

[41] Alan Cransberg, Chairman and Managing Director, Alcoa of Australia Limited, see above.

A tailored reservation policy for Victoria

Ideally, a portion of the nation's conventional gas would be reserved for domestic use. This is the basis of the *Reserve Our Gas* campaign. In these circumstances, there would be sufficient gas for domestic purposes such that the demand for onshore extraction of unconventional gas would reduce depending on the prospectivity of the onshore gas deposit.

Such a policy outcome, via a COAG process should be the overwhelming focus of the Victorian Government.

However, it ought to also be possible to encourage the responsible development of on-shore unconventional gas by allowing exploration and commercial extraction on agreed terms in a safe and environmentally responsible manner. The unconventional sector may also be able to participate as follows:

Companies would agree to set aside a portion of the gas deposit (e.g. 15 per cent) in return for a fast-tracking of their license to operate on the basis that all applicable requirements have been met under the Mineral Resources (Sustainable Development) Act 1990 and the Petroleum Act 1998 and with additional conditions aimed at maximising local content and jobs, minimal disruption to existing activities and cooperation with the local community. Such fast-tracking should not occur at the expense of proper regulatory rigour, but via the greater application of government resources to streamline the approval time.

Once approval is sought and given, tough "use it or lose it" provisions would apply such that proponents would need to follow though in supplying gas for domestic consumption consistent with the reservation policy and not simply "sit on" deposits.

To safeguard against ‘swap-selling’ of the nature that AGL is engaged in, the Victorian Government may seek to lock in long-term contracts at a negotiated price for both consumers and manufacturers.

Companies would be expected to engage with local landowners and communities as legitimate stakeholders in the development and on-going stewardship of the industry. Notwithstanding that they have no legal claim for mineral wealth, landowners and the activities they undertake are the custodians of the land beneath which these resources sit. Joint, sustainable land use should be the overriding principle to ensure that wealth from land (both underneath and on top) is maximised for the purposes of private and public benefit.

These activities therefore should be seen as complementary rather than in competition with each other.

However, any attempt by gas companies to undertake activities which would result in environmental degradation, or an open slather/express approach with no guarantees on local investment or price would be strongly opposed by the AWU. Furthermore, additional gas extraction without sufficient attention to addressing failures in exports settings, domestic shortages/needs and domestic price impacts would simply amount to a further private profit to foreign gas multinationals without sufficient benefit to local communities and the Australian public. Extraction on such a basis would also be opposed by the AWU.

Gas companies and investors operating with a Victorian On-Shore Gas Reservation Policy in place would have an incentive to include local landowners in negotiations concerning access to prospective regions and to recompense on mutually agreed terms. Such recompense should also involve investment in local communities as part of an ongoing social licence.

The reservation policy would act as a defacto charge (or insurance) applicable to the on-shore extraction industry to account for the externalities associated with their exploration and extraction activities in return for the opportunity to receive express approvals for best practice projects generating increased economic activity via investment and jobs including for the local community.

In this way, a local reservation policy is consistent with industry and regional policy development. Such a reservation policy may also lead the way nationally in developing a national reservation policy covering both on-shore and off-shore activities in the future.

In addition to local investment and job benefits associated with cheaper gas, Victoria would also be in a position to assist the local consumption on the Eastern seaboard (in addition to South Australia) as greater quantities of off-shore gas and available on-shore resources (in particular coal seam gas in Queensland) is reserved for export (in the absence of a national reservation policy).

Queensland's CSG has been increasingly directed toward meeting LNG exports such that 95 per cent of Queensland's domestic gas production is export oriented. The ability for additional CSG production from Queensland supplementing the domestic gas network (in order to keep costs down in the East Coast market) is being eroded. Nothing has been set aside. Notwithstanding this there are legal mechanisms in QLD legislation for the reservation of prospective gas tenements should it be deemed necessary. The Victorian Government may wish to study this legislation as part of this inquiry.

Gas supply transcends state boundaries. For example, NSW is dependent on interstate supplies for 98 per cent of its consumption. Therefore, in the absence of a national scheme, a Victorian Gas Reservation Policy could serve to bolster access to reliable supplies of competitively priced gas in Victoria and interstate and reduce the need to develop less prospective unconventional gas elsewhere.[42] This would also provide downward pressure on gas prices elsewhere, given Victoria's position as a major gas using state.

There is therefore an opportunity for Victorian gas to help fill this lost local capacity in the East Coast network as Queensland gas is exported. Victorian gas (tight and shale rather than CSG) would substitute for "lost" Qld CSG now being sent for LNG processing. Unless legislation is activated, in the future, we can expect all new CSG in Qld to go offshore as the major LNG export facilities in Gladstone seek to fulfil their large contract commitments. The Gladstone operators have already noted that CSG extraction is below expectations from their immediate wells and have sought to supplement this with gas in other parts of the market. This of course is partly responsible for driving the gas price even higher.

However it should be noted, that without reservation any contribution which Victoria makes to the network would be irrelevant in terms of lower prices as this gas too would be captured for export.

The above outline of a possible policy response is suggested to assist the Committee consider possible options which could be the subject of more detailed analysis including, in the absence of a national scheme, under COAG auspices to determine their viability and to avoid any unintended outcomes. A national scheme, particularly addressing East Coast market failures is clearly a preferable outcome given the interplay between the gas markets of all 3 states. The AWU acknowledges the difficulties that would arise from a Victorian scheme given its linkages to the entire East Coast gas market. While this represents a policy challenge, the

[42] NSW depends on interstate supply for 98% of its natural gas producing just 5 PJ of gas while consuming 128 PJ annually.37 South Australia produces 132 PJ of gas but consumes 153 PJ annually.38 There are therefore strong parallels to management of the Murray River in that regulatory action or inaction by one State at the point of production can have significant flow-on impacts on other States dependent on domestic gas supply. (refer to DomGas Alliance: Australia's Domestic Gas Security, Report 2012).

alternative ‘do nothing’ approach comes with significant cost and penalties that cannot be ignored.

Conclusion

The AWU is committed to the responsible extraction and use of natural gas. A national reservation policy would assist to ensure that sufficient gas was reserved from conventional sources to power our industry and homes. This is the subject of the AWU *Reserve Our Gas* campaign which is recommending the establishment of a national reservation scheme which would benefit local consumers of gas in households and industry.

Victoria has the potential to unlock unconventional reserves of gas. In the absence of a national reservation scheme, there is scope for the State Government to develop a local reservation policy which seeks to reserve a portion of the gas under its jurisdiction for local consumption without militating against the export sector. The submission outlines the elements of such a scheme which seeks to include land holders and local communities as stakeholders in the industry and underscores the importance of environmental standards, scientific rigour and rigorous regulation.

What is clear from the analysis undertaken by the AWU and other concerned groups such as the DomGas Alliance is that if left unchecked the costs associated with rising gas prices driven by the expansion of LNG exports will result in net costs to the economy, households, government revenues and the manufacturing sector in particular. Without a policy response Australia may allow its mineral wealth to be captured solely by private interests. There is a legitimate role therefore for governments' in this case (for the purposes of the current inquiry by the Victorian Government) to address the potential for market failure with considered policy responses which seek to enable the efficient and effective exploitation of our gas reserves in a responsible, fair and sustainable manner.

Endnotes

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The United States

In the United States, domestic gas prices have fallen in recent years from $14/GJ to as low as $2.50/GJ (Henry Hub). To secure this advantage, the US Government has conditioned approval of new LNG exports from the Sabine Pass on gas producers prioritising the local economy and ensuring affordable prices. The US Energy Department has warned US gas producers that it would closely monitor the impact of LNG exports on the domestic market and that it will take any necessary action, including revoking future export approvals:

“We intend to monitor those conditions in the future to ensure that the exports of LNG authorized herein and in any future authorizations of natural gas exports do not subsequently lead to a reduction in the supply of natural gas needed to meet essential domestic needs. The cumulative impact of these export authorizations could pose a threat to the public interest.”

“DOE is authorized, after opportunity for a hearing and for good cause shown, to take action as is necessary or appropriate should circumstances warrant it. Furthermore, DOE/FE will evaluate the cumulative impact of the instant authorization and any future authorizations for export authority when considering any subsequent application for such authority.” (US Energy Department, *Opinion and Order Conditionally Granting Long-Term Authorisation to Export Liquefied Natural Gas from Sabine Pass LNG Terminal to Non-Free Trade Agreement Nations*, DOE/FE Order No. 2961, 20 May 2011, pp.31-33.)

New LNG contracts from the Sabine Pass have been priced on a formula that rejects any linkage between US domestic gas prices and some notional “international”, “oil-linked” or “North Asian” price.

BG Group has contracted 3.5 mtpa of LNG for 20 years with the price indexed to Henry Hub domestic gas prices: Henry Hub price + 15% + tolling fee + shipping. This delivers a profitable return to LNG exporters while at the same time ensuring competitive gas prices for US industry.

Canada

Canada has been a large exporter of gas to other countries (Mexico and the United States) longer than Australia has been exporting gas. Canada requires export permits and export price tests to ensure that the domestic market is not disadvantaged in any way from the exporting of gas. Furthermore, the export market is served as a second priority to the domestic market in terms of reliability of supply. (Innovative Energy Consulting, *Submission to the WA Strategic Energy Initiative 2030*, 2011.)

Western Canada has exported over half of its gas production to the US market over the past 25 years, while serving Canada’s domestic market on a first priority basis. Canada has yet to default on deliveries to its US gas customers. This demonstrates that prioritising domestic supply can co-exist with supplying international customers.

Source: DomGas Alliance: Australia’s Domestic Gas Security, Report 2012