



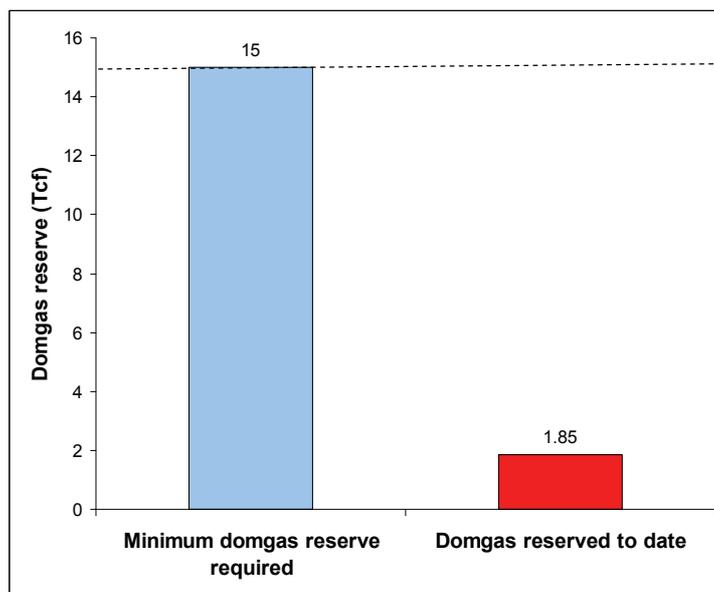
DOMESTIC GAS RESERVATION STUDY

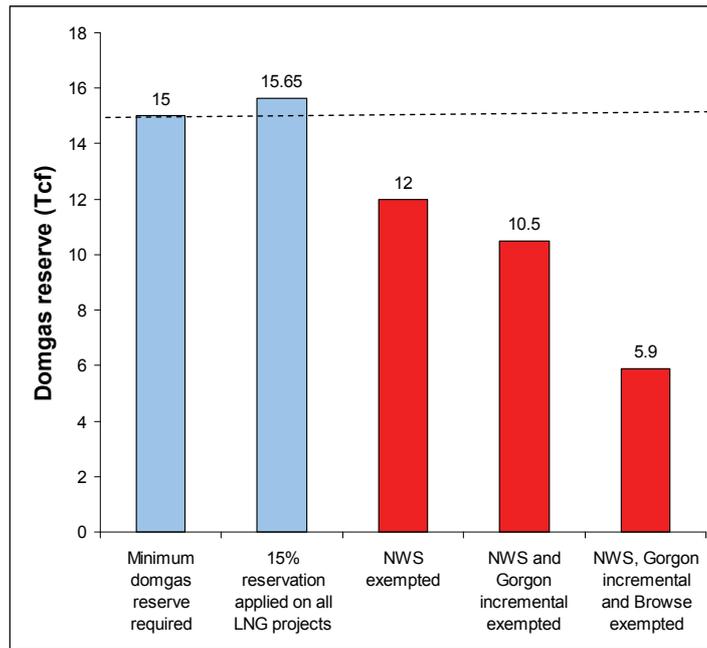
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KEY POINTS

- The State's gas reservation policy aims to ensure secure, affordable domestic gas supply to meet WA's long term energy needs and sustain growth, development and value-adding investment.
- To achieve this, the policy commits the State to reserving a minimum of 15 trillion cubic feet (Tcf) of gas from existing and potential LNG projects.
- Realistic growth projections indicate that up to 32 Tcf of gas should be reserved to meet the State's long term requirements.
- The State is likely to fall well short of this target.
- This exposes it to serious gas shortages, energy disruptions and even higher gas and electricity prices.

Chart: Enforcement of 15% reservation policy - impact on domgas reserves





RECOMMENDATIONS

To meet the State's future energy needs, a minimum of 15 Tcf of gas must be set aside from existing and potential LNG reserves.

This will only be achieved if a 15% reservation is strictly enforced on:

- the NWS Project's remaining reserves;
- the Gorgon incremental reserves, including West Tryal Rocks;
- the Browse Project; and
- all other project reserves like Wheatstone and Scarborough.

Recommendation 1

The State should urgently enforce the provisions of the North West Shelf State Agreement which require the Minister's agreement before the Project can enter into new arrangements to supply export gas beyond 2010.

This will ensure that the State prioritises domestic gas supply, which is critical for the State's long term economic future.

Recommendation 2

The State should apply a 15% reservation on incremental gas reserves that have been rolled into the Gorgon Project since 2003.

This would deliver an additional 1.5 Tcf or more of domgas - over and above the original 1.85 Tcf commitment – equivalent to 5 years of WA’s annual gas consumption.

In the event of any renegotiation of the Gorgon State Agreement, the State should seek to increase the reservation commitment from Gorgon to 15% of all project reserves.

Recommendation 3

The State should apply a 15% reservation on the Browse, Wheatstone, Julimar, Scarborough and other fields.

Producers could be provided sufficient flexibility in how they would meet domestic supply obligations, for example by trading obligations between different fields.

The objective should however remain the delivery of additional domgas supply that might otherwise be the case.

BACKGROUND

1. The WA domestic gas reservation policy

The State's gas reservation policy aims to ensure secure, affordable domestic gas supply to meet WA's long term energy needs and to sustain economic growth, development and value-adding investment.

The reservation policy, which was implemented in 2006,¹ was established on the following premises:

- Based on a realistic growth rate scenario, aggregate domestic gas demand to 2055 would total 32 Tcf.²
- Existing gas reservations will only be sufficient to meet the State's needs for approximately 10 years.³
- WA's forecast gas demand can only be satisfied if the State has access to a share of the reserves that have been identified as underpinning existing or potential LNG export projects.⁴
- Should the majority of the State's gas resources be committed to long term contracts for overseas buyers in the next few years, there are serious concerns that insufficient gas will be available for future domestic use.⁵
- Domestic market obligations are a common feature of many other oil and gas exporting nations.⁶

The reservation policy commits the State to securing "domestic gas commitments up to the equivalent of 15 percent of LNG production from each export gas project".⁷

¹ Department of Premier and Cabinet, *WA Government Policy on Securing Domestic Gas Supplies: Consultation Paper*, October 2006 ("the Policy").

² Equivalent to around 15 per cent of forecast ultimately recoverable gas reserves of approximately 200 Tcf: 2006 Policy, p.3.

³ 2006 Policy, p.4.

⁴ Department of Industry and Resources, *WA Government Policy on Securing Domestic Gas Supplies: Consultation Paper*, February 2006 ("the Consultation Paper"), p.8.

⁵ 2006 Policy, p.3.

⁶ 2006 Policy, p.4.

⁷ Department of Premier and Cabinet, *WA Government Policy on Securing Domestic Gas Supplies*, October 2006.

2. A reservation obligation applies to the North West Shelf Project

The 2006 Consultation Paper, which led to the establishment of the reservation policy, recognised:

“Under the State Agreement, however, the NWSJV must obtain the agreement of the Minister for State Development before entering into new arrangements to supply export gas beyond 2010. In seeking agreement, consideration must be given to the State’s future domestic gas requirements and the manner in which they will be met.”⁸

“Until such time as additional major sources of gas (from Gorgon or other proposed projects) enter the domestic market, the NWS remains the only major source of domestic gas. The State Government is therefore seeking to reserve an additional amount of NWS gas to assist in meeting future domestic demand.”

“If the State cannot effectively reserve an additional quantity of gas from the North West Shelf project, *there is a strong risk that (in the absence of any new major sources of domestic gas coming on stream), Western Australian gas consumers face the prospect of significantly higher gas prices and/or diminished access to gas supplies. This would have significant adverse implications for the Western Australian economy.*”⁹

The 2006 Consultation Paper included the NWS Project, together with Gorgon, Scarborough, Ichthys and Scott Reef/Brecknock as potential export LNG projects with total reserves of 98 Tcf.¹⁰ It envisaged that a reservation policy be applied on existing and potential LNG project reserves, *including* the NWS Project.

In the NWS Project’s case, this reservation would be in addition to the original gas reservation volume commitment contained in the NWS State Agreement.

The 2006 reservation policy did not exempt the NWS Project from the application of the State’s 15% reservation policy.

3. The State has not enforced the requirements of the NWS Project State Agreement

In evidence to the WA Parliamentary Inquiry on Domestic Gas Prices, NWS Project operator Woodside Energy confirmed:

“[S]ometime over the next few years Woodside and the joint venture with respect to LNG exports will come to a point in which a conversation will be triggered with the government with respect to supply of additional volumes

⁸ See also clause 46 of the North West Shelf State Agreement.

⁹ 2006 Consultation Paper, p.3.

¹⁰ 2006 Consultation Paper, p.6.

in export markets relative to what might be supplied in the domestic market".¹¹

The Department of State Developed confirmed that no discussions have been held under the State Agreement on reserving additional volumes of gas but that such discussions would take place "some time before" 2014-2016.¹²

The original 20 year LNG contracts concluded by the NWS Project began to expire in 2009 with long term negotiations being negotiated. Once gas is locked up in new LNG contracts, it is lost to the domestic market for the life of the contract.

It is vital that the State urgently acts under the State Agreement to enforce the additional reservation requirements. It would be too late to act in 2014-2016, after LNG contracts have been concluded.

4. Where does this leave the State in terms of future supply?

Western Australia currently has around 132 Tcf of identified gas reserves.¹³ Of these reserves, the NWS Project accounts for around 20 Tcf. Gorgon now accounts for 50 Tcf, with a reservation commitment of only 1.85 Tcf.

This means only 62 Tcf of the State's gas reserves relates to non-NWS or Gorgon projects.

If the NWS Project is exempted from the reservation policy, a 15% reservation on remaining gas reserves would deliver 9 Tcf of gas, or 11 Tcf if the Gorgon commitment was included.

This is less than the minimum 15 Tcf envisaged by the original gas reservation policy, and well short of the long term 32 Tcf requirement.

A recent Wood Mackenzie report, commissioned by the NWS Project warned:

"Wood Mackenzie estimates the NWSP has provided approximately 570 TJ/d to the domestic market for both 2008 and estimated 2009. The consequences of NWSP not continuing those domestic gas sales in whole or part, would have a profound impact on the WA domestic gas situation."

¹¹ Economics and Industry Standing Committee, Inquiry into Domestic Gas Prices, transcript of evidence, 25 October 2010, p.5.

¹² Economics and Industry Standing Committee, Inquiry into Domestic Gas Prices, transcript of evidence, 13 September 2010, p.10

¹³ Department of Mines and Petroleum, *Petroleum in Western Australia: September 2010*, table 2b, p.39.

If the NWSP didn't continue supplying at least 300-400 TJ/d of future domestic gas sales volumes, it is Wood Mackenzie view that the WA domestic gas market will be *materially undersupplied and of risk to disruption in the medium term.*"¹⁴

Importantly, the Wood Mackenzie report warned that supply from prospective new projects alone would not be sufficient to meet WA's domestic gas needs:

"The additions of prospective supply from Apache's Devil Creek gas, Pluto domestic gas and Gorgon domestic gas, as well as Macedon's gas may likely *not be enough to serve the WA domestic gas demands. No other material gas volume projects (i.e. providing +50 TJ/d for medium or long term contracts) are seen in the 5-8 year future.*"¹⁵

Unless the reservation policy is strictly enforced on the NWS Project, a 21% reservation would need to be applied on all non-NWS and Gorgon fields to meet the State's *minimum* future gas needs.¹⁶

5. Recent developments suggest a lower level of commitment

Browse

The Browse Project currently accounts for 35 Tcf of the State's gas reserves.¹⁷

No reservation commitment has been applied by the State to Browse.

Indications by the Browse Project partners to date suggest it unlikely that domestic gas would be supplied from the Project.

Gorgon domgas supply delayed

The 2006 Consultation Paper assumed the full 1.85 Tcf Gorgon reservation commitment would be delivered to the WA domestic gas market by 2020.

The Gorgon partners have however indicated that expected supply will be up to 150 TJ/d in the initial years of the project.

Assuming first domgas at the end of 2015, this would equate to Gorgon domgas supply of 219 petajoules or 0.2 Tcf by 2020.¹⁸

¹⁴ Wood Mackenzie, *Western Australia Gas Market Study*, Final Report, 26 March 2010, p.48.

¹⁵ Wood Mackenzie, *Western Australia Gas Market Study*, Final Report, 26 March 2010, p.48.

¹⁶ After including the 1.85 Tcf Gorgon commitment, 13 Tcf would need to be set aside from non-NWS and Gorgon reserves. This equates to 21% of non-NWS and Gorgon reserves of 62 Tcf.

¹⁷ Department of Mines and Petroleum, *Petroleum in Western Australia: September 2010*, table 2b, p.39.

¹⁸ Conversion factor: 1 Tcf = around 1000 petajoules; 1 PJ = 1000 TJ.

Diversion of domgas reserves to Gorgon

Since the Gorgon State Agreement was concluded in 2003, proven and probable reserves for the Project have increased by 25% from around 40 Tcf¹⁹ to 50 Tcf.²⁰

At the same time, the Gorgon domgas reservation has remained at 1.85 Tcf - or just 3.7% of current project reserves.

The “leakage” of these fields such as West Tryal Rocks to Gorgon has seen some 1.5 Tcf of potential domgas reserves being diverted from the State’s gas reservation policy.

This volume is equivalent to 5 years of WA’s annual domestic gas consumption.²¹

Other projects

Delivery of domgas from Pluto is uncertain given the reservation commitment is subject to a commerciality test.

The State has yet to apply a reservation commitment on Julimar, Scarborough or Wheatstone.

Recent reports suggest 80-90% of Wheatstone production has already been locked up under long term LNG contracts.

6. Gas supply projections

The State reservation policy aims to secure a minimum 15 Tcf of domgas. Realistic growth projections indicate that up to 32 Tcf of gas should be reserved to meet the State’s long term requirements.

Present reservations fall well short of this target.

If NWS Project and Gorgon Project reserves are exempted, a 15% reservation on existing gas reserves would deliver 9 Tcf of gas (11 Tcf if the existing Gorgon reservation was included).

This falls to just 4 Tcf if Browse Project reserves were exempted (6 Tcf if the existing Gorgon reservation was included).

In other words, a 48% reservation would need to be applied on all non-NWS, Gorgon or Browse fields to deliver the minimum 15 Tcf in domgas reserves.

¹⁹ Gorgon and Io/Jansz.

²⁰ Gorgon and Io/Janz, plus Chrysaor/Dionysius, West Tryal Rocks, Geryon, Chandon, Orthrus/Maenad. The expansion in Gorgon reserves is taken into account in section 4 of this study.

²¹ WA consumes around 0.27 Tcf of domestic gas annually: 2006 Paper, p.7.

Table: 15% domgas reservation policy vs. actual enforcement

Project	Project gas reserves (Tcf)	15% domgas reservation (Tcf)	Actual reservation to date (Tcf)
Gorgon original	40	1.85 ²²	1.85
Gorgon incremental reserves (including West Tryal Rocks)	10	1.5	0
North West Shelf Project remaining reserves	20	3	0 ²³
Browse Project	35	5.25	0
Other	27	4.05	0 ²⁴
TOTAL	132 ²⁵	15.65	1.85
Domgas reserves required		15	15
		0.65 SURPLUS	13.15 SHORTFALL

7. Impact on supply and gas prices

The current gas shortage has resulted in WA experiencing the highest domestic gas prices in Australia. Wholesale gas prices are now up to three times that in Victoria.

Unless the 15% reservation policy is strictly enforced, the State faces the risk of further gas shortages, energy disruptions and even higher gas and electricity prices. The long term consequences include:

²² The domestic gas reservation contained in the Gorgon Project State Agreement was for a set volume (1.85 Tcf). The State Agreement pre-dated the 2006 domestic gas reservation policy. Since the Gorgon State Agreement was concluded however, Gorgon Project reserves have increased from 40 Tcf to around 50 Tcf while the original reservation has remained the same. These Gorgon 'incremental reserves' includes the West Tryal Rocks field.

²³ In 2006, it was assessed that of the original 4.7 Tcf reserved under the North West Shelf State Agreement, 2.6 Tcf remained, all of which had been allocated to contracts: 2006 WA Government Consultation Paper on Domestic Gas Reservation, p.7.

²⁴ While a domgas reservation commitment was applied to the Pluto Project, delivery of domgas is subject to "commercial viability".

²⁵ Data source: Department of Mines and Petroleum. Note that total reserves include non-LNG project gas reserves. This was estimated in 2006 to be 15 Tcf in 2006.

- loss of clean, secure and affordable energy supply for the State;
- sharply rising energy costs for industry, small business and households;
- loss of industry competitiveness and downstream, value-adding industries;
- lost investment, development opportunities and jobs; and
- significantly higher greenhouse emissions and damage to the environment.

8. Recommendations

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This will only be achieved if a 15% reservation is strictly enforced on:

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The DomGas Alliance

The DomGas Alliance is Western Australia's peak energy user group and represents natural gas users, infrastructure investors and prospective domestic gas producers. The Alliance promotes security and affordability of gas supply.

Members include: Alcoa of Australia, Alinta, DBP, ERM Power / NewGen Power, Fortescue Metals Group, Gold Fields Australia, Horizon Power, Murphy Oil, Newmont Australia, Synergy and Verve Energy.

Alliance members represent around 80 percent of Western Australia's domestic gas consumption and transmission capacity, and supply gas and electricity to 200,000 small businesses and 2 million West Australians.



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