



appea

the voice of australia's
oil and gas industry

Submission

December 2013

**Economic Regulation Authority
Inquiry into Microeconomic Reform in
Western Australia:
Discussion paper, November 2013**



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KEY POINTS

- A gas reservation scheme is not needed to obtain domestic gas supplies in Western Australia. Claims that future domestic gas supply is not available at any price are simply not true. There is ample evidence that gas consumers are able to obtain gas supplies on commercial terms. The three most recent domestic gas plants built in WA were financed on this basis (Red Gully, Macedon and Devil Creek).
- The effect of a policy requiring LNG producers to reserve 15% of their gas resources for marketing to domestic customers is create excess supply and lower prices. This “benefit” goes to domestic customers (largely industrial companies) not to the State or Commonwealth. For example, modelling shows the extension of a WA-style domestic gas reservation policy across Australia would come at significant cost to the nation’s economic welfare, including WA, entailing a projected cost of \$6 billion in forgone Gross Domestic Product (GDP) and 14,000 jobs sacrificed by 2025.
- In all sectors of the economy – not just oil and gas – maintaining access to open and competitive (domestic and export) markets is in Australia’s best interest. In an advanced economy underpinned by competitive markets, such as Australia, one industry should not be required to subsidise the activities of another.
- The best policy response to rising gas prices lies in bringing more gas to market, rather than intervening through a domestic reservation policy. Experience in the U.S. and Canada highlights how market forces bring an appropriate response to price signals, through technological innovation. This has significantly improved U.S. energy security and has turned around plans for large-scale energy imports to a point where the U.S. is likely to compete with WA’s traditional LNG export customers.
- APPEA recommends the ERA conduct a full analysis of the economy wide impacts to WA, and the nation, to determine whether the WA domestic gas reservation policy has enhanced economic welfare or is being wasted as a gas subsidy. APPEA is willing to assist the ERA in obtaining the necessary data for any analysis.



INTRODUCTION

The Australian Petroleum Production & Exploration Association (APPEA) is the peak national body representing Australia's oil and gas exploration and production industry. APPEA has more than 85 full member companies exploring for and producing Australia's oil and gas resources. These companies currently account for around 98 per cent of Australia's total oil and gas production and the vast majority of exploration. APPEA also represents nearly 300 associate member companies providing a wide range of goods and services to the industry.

APPEA welcomes the opportunity to provide a submission to the Economic Regulation Authority (ERA) *Inquiry into Microeconomic Reform in Western Australia (WA) – Discussion paper*. APPEA's submission represents a broad industry view.

APPEA's position on gas reservation policies is well known.

A gas reservation policy is not needed to obtain domestic gas supplies. As one leading economist has noted Australia is a major exporter in many areas, but we have no difficulty obtaining domestic supplies so long as we pay the export parity price. Coal, dairy products, wine, beef, and grain are cited as examples¹.

Gas reservation artificially creates "excess supply" in the domestic market to drive the local price down below the export parity price². The reservation price will only make a difference for domestic users if it keeps the domestic price of gas below the export parity price.

A gas reservation policy is therefore a combination of an implicit "tax" on gas producers and a "subsidy" to domestic gas users. Therefore, gas producers who only sell into the domestic market, and exporters who would otherwise sell overseas, get a lower price.

Recommendation: APPEA recommends the ERA conduct a full analysis of the economy wide impacts to WA, and the nation, to determine whether the WA domestic gas reservation policy has enhanced economic welfare or is being wasted as a gas subsidy. APPEA is willing to happy to assist the ERA in obtaining the necessary data preparing for any analysis.

¹ Professor Stephen King 2013, *A gas reservation scheme is protectionism in disguise*, Available at: <http://theconversation.com/a-gas-reservation-scheme-is-protectionism-in-disguise-11810>

² Ibid



WESTERN AUSTRALIA'S GAS MARKETS

Australia's and WA's LNG export market began in August 1989 when the first LNG cargo left the North West Shelf (NWS) destined for Japan. Since this time, LNG has been a critical export commodity for Australia and WA. By the early 1990's, the volume of natural gas exported as LNG exceeded the amount supplied to the WA domestic market.

In 2012, WA's gas production totalled 1.2 tcf of which 0.5 tcf (42 per cent) was sold into the WA market³, with the majority of WA's gas production exported as LNG. It is anticipated that the size of the WA LNG market will be approximately seven times the WA domestic market by the end of 2022⁴.

EXPORT MARKET

The International Energy Agency (IEA) recently forecast that natural gas will be the fastest growing traditional source of energy, with demand set to increase by 48 per cent to 2035⁵. While the IEA forecasts that demand in Australia's traditional gas export destinations remains relatively flat, gas demand in China is set to quadruple and in India almost treble out to 2035. This global demand for natural gas is being driven by a combination of energy diversification, a desire to reduce greenhouse gas emissions and a desire for improved air quality outcomes.

WA is well poised to capture the significant opportunities available through the large resources of natural gas onshore and offshore and nearly half a century of expertise in the oil and gas industry here.

Australia's export LNG industry is currently built on three projects, two of which are located in WA – the North West Shelf Venture and the Pluto LNG project – and one in the Northern Territory – the Darwin LNG project.

³ APPEA, *Annual production statistics 2012*, available at: <http://www.appea.com.au/industry-in-depth/industry-statistics/annual-production-statistics-2012/>

⁴ Independent Market Operator, *Gas Statement of Opportunities*, July 2013, available at: <http://www.imowa.com.au/GSOO>

⁵ International Energy Agency, *World Energy Outlook 2013*, November 2013



WA Based LNG Trains	Capacity (Mtpa)
North West Shelf Train 1	2.5
North West Shelf Train 2	2.5
North West Shelf Train 3	2.5
North West Shelf Train 4	4.4
North West Shelf Train 5	4.4
Pluto Train 1	4.3
Total WA LNG Export Capacity	20.6

Table 1: IMO 2013, Existing LNG Export Facilities in WA

To meet the growing global demand, two additional onshore LNG facilities (Gorgon and Wheatstone) and one floating LNG (FLNG) facility (Prelude) are under construction, and these facilities are expected to add approximately 28.1 Mtpa of LNG export capacity in WA by 2018.

Export Facilities Under Construction	Expected Capacity (Mtpa)	Status
Gorgon Train 1	5.2	Anticipated to be operational in 2015
Gorgon Train 2	5.2	Anticipated to be operational in 2015
Gorgon Train 3	5.2	Anticipated to be operational in 2015
Wheatstone Train 1	4.5	Anticipated to be operational in 2016
Wheatstone Train 2	4.4	Anticipated to be operational in 2016
Prelude FLNG	3.6	Anticipated to be operational in 2017
Total Committed Capacity	28.1	

Table 2: IMO 2013, Committed LNG Facilities under Construction in WA

DOMESTIC MARKET

Following the discovery of large gas reserves on the NWS, the WA Government played a major role in the development of the reserves by signing – through the SECWA – a long-term take or pay contract to purchase gas from the project for domestic consumption for 20 years.

Also key to the development of the reserves was the construction of the Dampier to Bunbury Natural Gas Pipeline (DBNGP), which would deliver the NWS gas to customers in Perth and further south. The pipeline was commissioned in 1984 and deliveries of gas followed soon afterwards.



The take-or-pay contract between the NWS Venture and SECWA created a supply overhang – there was more gas supply than gas demand – and that kept prices low, which, in turn, discouraged new domestically-focused gas exploration and development for many years because it was not commercially viable.

The North West Shelf Venture (NWSV) now currently accounts for around 55 per cent of WA gas sales⁶. While this project expects to have delivered its domestic gas obligation under State Agreement by the end of 2014, it has already committed additional volumes and has contracts that run past the end of the decade.

The Apache operated Varanus Island hub is the next largest supplier at around 33 per cent of the WA market. Gas is also supplied by the recently commissioned Devil Creek facility (10 per cent)⁷ and several fields in the onshore Perth Basin supply around two per cent of the market (Beharra Springs operated by Origin Energy, and Dongara operated by AWE).

BHP Billiton and Apache Energy have also recently developed the Macedon gas field with production commencing in August 2013. The Macedon facility has a capacity of 200 TJ/d. Chevron Australia and its joint venture partners also intend to initially supply 150 TJ/d of domestic gas from the Gorgon Project from 2015, with this capacity expanding to 300 TJ/d around 2020.

Facility	Operator	Capacity (TJ/d)	Location
Karratha Gas Plant (NWSV)	Woodside	630	Burrup Peninsula, Pilbara
Varanus Island	Apache	390	Varanus Island, Pilbara
Devil Creek	Apache	220	Devil Creek, Pilbara
Macedon	BHP Billiton	200	Onslow, Pilbara
Dongara	AWE	7	Dongara, Mid-West
Beharra Springs	Origin	19.6	Mid-West
Red Gully	Empire Oil and Gas	10.6	Mid-West

Table 3: IMO 2013, WA Domestic Gas Processing Facilities

Other new sources of gas supply are also being planned subject to customer demand. Rapid growth in the production of natural gas from coal seams in Eastern Australia and shale gas in the U.S. is also triggering interest in WA's unconventional gas potential with several drilling programs now underway or being planned (for example, the Warro Gas Field development has seen Latent Petroleum Limited and Alcoa form a joint venture to appraise and develop the Warro Gas Field north of Perth⁸). A range of other onshore 'tight gas' fields are being actively appraised and onshore shale gas exploration is taking place in the Canning Basin.

⁶ APPEA, *Annual production statistics 2012*, available at: <http://www.appea.com.au/industry-in-depth/industry-statistics/annual-production-statistics-2012/>

⁷ See www.apachedcdp.com for further information.

⁸ See www.latentpet.com/about.asp for further information.



The near doubling of domestic supply capacity by 2020, resulting from the gas supply developments outlined above, would require demand for gas to increase by more than seven per cent per year, compared to a ten-year historical average of 1.1 per cent a year⁹. It is worth noting that demand has historically been significantly influenced by mining and mineral resource projects, many of which are sensitive to global economic influences and historically do not see a high rate of realisation.

The fact that five of the six current domestic gas processing facilities are not linked to an LNG project suggests that this is the result of buyers willing to commit to contract terms that underpin the enormous investment required to develop and construct a gas processing facility¹⁰. WA is clearly not facing a gas supply shortage.

The market is clearly responding to genuine demand and needs to be able to respond to market signals without the unnecessary hindrance of government intervention. Claims that future domestic gas supply is not available, at any price, are simply not true. There is ample evidence that gas consumers are able to obtain gas supplies on commercial terms.

These factors point to the need for policy makers to review the need for a domestic gas reservation policy and to look at market-based options that deliver energy security to the state.

DOMESTIC GAS POLICIES: AUSTRALIA AND INTERNATIONAL

Government energy policies generally reflect the level of democracy and support for free markets. Energy policies traditionally reflect a number of objectives including energy security, energy affordability, economic development, income redistribution, environment and safety. The degree to which these goals form part of the energy policy mix varies between countries. For example, income redistribution is often a goal of energy policy in emerging economies.

AUSTRALIA

At the national level, Australia's energy policy settings were most recently articulated through the 2012 *Energy White Paper* (EWP)¹¹. The Australian energy policy framework is based on a vision of building a secure, resilient and efficient energy system that:

- provides accessible, reliable and competitively priced energy for all Australians;
- enhances Australia's domestic and export growth potential; and
- delivers clean and sustainable energy.

⁹ Independent Market Operator, *Gas Statement of Opportunities*, July 2013, available at:

<http://www.imowa.com.au/GSOO>

¹⁰ See: <http://www.bhpbilliton.com/home/investors/news/Pages/Articles/BHP-Billiton-celebrates-first-gas-at-Macedon.aspx> and <http://investor.apachecorp.com/releasedetail.cfm?ReleaseID=357625>

¹¹ Commonwealth of Australia, *Energy White Paper 2012*, available at:

http://www.ret.gov.au/energy/Documents/ewp/2012/Energy_20White_Paper_2012.pdf



The EWP identified natural gas as being a critical driver in Australia's energy resources development, particularly the key role that LNG exports can play. Competition among nations for investment and market share in key energy export markets is growing, as many new suppliers seek to take advantage of strong demand.

Of particular importance to this Inquiry, the EWP explicitly ruled out support for intervention in gas markets to reserve supplies for the domestic market:

"The Australian Government does not support calls for market interventions such as a reservation policy. Such measures should be a matter of last resort, undertaken only where there is clear evidence of market failure. Currently, there is no compelling evidence to support this."¹²

This stance has effectively been adopted by every other state and territory in Australia with significant gas resources:

- Northern Territory¹³
- Queensland¹⁴
- New South Wales¹⁵
- South Australia¹⁶
- Victoria¹⁷.

WA's energy policy was recently refreshed through the *Strategic Energy Initiative (SEI), Energy 2031*¹⁸ document. The SEI outlined WA's energy policy as being based on four goals: affordable; secure; reliable; and cleaner energy. In relation to the functioning of energy markets, the SEI's goals were underpinned by several principles, with one such principle being:

"Government will intervene in energy markets only to the extent necessary to ensure public safety and address social and/or environmental concerns."¹⁹

¹² Commonwealth of Australia, *Energy White Paper 2012*, available at:

http://www.ret.gov.au/energy/Documents/ewp/2012/Energy_White_Paper_2012.pdf, P. 9

¹³ See: <http://newsroom.nt.gov.au/index.cfm?fuseaction=viewRelease&id=10639&d=5>

¹⁴ See:

http://www.afr.com/p/business/companies/queensland_holds_out_gas_reservation_bH4FI8XMadJ3Lk858OgdBP

¹⁵ New South Wales Legislative Assembly Public Accounts Committee, *Report on the economics of energy generation*, November 2012, P. 109

¹⁶ See:

http://hansard.parliament.sa.gov.au/docloader/House%20of%20Assembly/2013_07_25/Daily/House%20of%20Assembly_C_Daily_DIST_2013_07_25_v8.pdf at p. 6667

¹⁷ Victorian Government, *Gas Market Taskforce Report*, October 2013

¹⁸ Western Australian Government, *Strategic Energy Initiative, Energy 2031*, August 2012

¹⁹ *Ibid*, p. 8



That the SEI then goes on to not only restate the need for the WA domestic gas reservation (DGR), but to add more stringent requirements, fundamentally contradicts the policy principles underpinning the state's energy policy framework.

The more detailed and prescriptive WA DGR policy outlined in the SEI²⁰ is provided in Box 1.

Box 1: WA Domestic Gas Reservation Policy

The Government has clarified arrangements for the application of the Domestic Gas Reservation Policy. Under these arrangements gas producers will be required to demonstrate their ability to meet the Domestic Gas Reservation Policy as a condition of project approval. The State will apply the policy flexibly in accordance with the following requirements:

- LNG Producers will commit to make available domestic gas equivalent to 15% of LNG production from each LNG export project by:
 - reserving domestic gas equivalent to 15% of LNG production from each LNG export project;
 - developing, or obtaining access to, the necessary infrastructure (including a domgas plant, associated facilities and offshore pipelines) to meet their domestic gas commitments as part of the approvals process; and
 - showing diligence and good faith in marketing gas into the domestic market.
- Producers should undertake the above actions such that domestic gas is made available to coincide with the start of LNG production.

This timing may, however, vary depending on project circumstances.

- Prices and contracts for domestic gas will be determined by the market.
- Producers may propose to offset their domestic gas commitment by supplying gas or other energy from an alternative source, rather than supplying gas from their LNG projects. Among other conditions, producers will have to demonstrate that the proposed offset represents a net addition to the State's domestic energy supply. The State will consult with industry to develop criteria for domestic gas offsets.
- The Policy will be reviewed in 2014-15.

The WA DGR policy remains a significant intervention in a rapidly changing energy market which is at odds with long-term policy settings intended to encourage further investment, attract new market entrants and deliver diversity of supply. The best way to ensure that gas demand will be met is to let the market operate free from intervention so it can provide Western Australians with long-term, secure supplies of affordable energy.

²⁰ Ibid, p. 14



INTERNATIONAL

International experience highlights that government intervention in gas markets most commonly takes the form of price regulation, often combined with government monopoly provision, with a small number of jurisdictions quarantining acreage for domestic use and/or imposing export controls.

A recent study²¹ of international gas markets found that of the major OECD gas producing countries (Canada, Netherlands, Norway, UK and U.S.) none have government intervention to subsidise gas for local industry.

In the U.S., export of gas requires government approval; however different processes are in place depending on whether the importing country has a Free Trade Agreement (FTA) with the U.S.. The approval process is a formality for export to countries with which the U.S. has a FTA, such as South Korea and Singapore. Consideration is currently being given to applications for export to non-FTA countries. The decision making process is guided by the principle that exports are in the national interest, and applications are assessed against this positive economic statement. A recent study for the US Department of Energy (DOE) by NERA²² found that *“Across all these scenarios, the U.S. was projected to gain net economic benefits from allowing LNG exports”*.

The three major European OECD gas producing countries (Norway, Netherlands and the U.K.) operate within the increasingly liberalised and integrated European gas market. Norway is the largest European gas producer and most of Norway's gas is exported. Norway has not encouraged, through policy interventions, local gas-intensive industry but rather has leveraged its strength in oil and gas to develop and promote an internationally competitive services industry. Neither the Netherlands, nor the UK, have domestic gas policies which subsidise local industry.

Overall the OECD gas producing countries have low to moderate and sustainable gas prices, avoid gas shortages and are able to meet high environmental standards in gas development and use.

Most of the non-OECD major gas producing countries have government interventions aimed at reducing wholesale gas prices. While these policies may produce low prices, they artificially stimulate demand and restrict supply, leading to gas shortages and imports of gas from other countries at higher prices. There is little incentive for energy efficiency and often governments must decide on the allocation of scarce gas to particular industries, picking winners on political grounds. These policies are often associated with government ownership or control of downstream industries and controls on exports to avoid leakage of the subsidies provided by regulated gas prices. Many of these countries are experiencing upward pressure on domestic gas prices, in some cases to import parity. However, it is typically politically difficult to increase prices once they are regulated.

The international experience provides useful lessons for Australian policy makers. Government interventions to reduce domestic wholesale gas prices are often unsustainable and have

²¹ EnergyQuest, 2013, *Domestic Gas Market Interventions: International Experience*

²² NERA Consulting, 2012, *Macroeconomic Impacts of LNG Exports from the United States*



numerous negative knock-on effects in terms of economic, energy and environmental policy. The experience of the U.S. and Canada suggests that a free market is a superior means of achieving sustainable low gas prices in a country with favourable geology like Australia. A free market is consistent with positive economic, energy and environmental outcomes.

IMPACTS OF DOMESTIC GAS RESERVATION POLICIES: ANALYSIS BY DELOITTE ACCESS ECONOMICS

A recent report by Deloitte Access Economics (DAE)²³ provides an excellent technical analysis examining impacts of DGR policies on the affected domestic and export gas markets, the economic inefficiencies that it generates and the detrimental economy wide impacts. A copy of the DAE report can found at [Attachment 1](#).

The DAE analysis finds that the impact of a DGR is to place a simultaneous tax on gas production and a subsidy on domestic gas consumption. Like all taxes and subsidies, the DGR distorts economic decisions and generates an unequivocal economic loss, one which compounds over time as future investment decisions are affected.

In principle, a DGR represents a distortion in the market that prevents the resource owners (Australian citizens) from realising the full value of its gas reserves. The subsidised prices mean that there would be winners, but the gains to these winners would not offset the direct losses to producers and the broader losses across the economy that emanate from this. The net losses are likely to be large and can be estimated by investigating the magnitude of projects rendered uneconomic through the scheme and the lost profits to producers.

DAE simulated the impacts of a DGR using their in-house economic modelling framework (DAE RGEM) and found that a DGR imposed nationally (that is, extending the WA DGR to the Eastern Australian gas market) has a significant and pervasive impact on the national economy. As the impacts of the policy become progressively more binding and production and investment decisions are increasingly affected, the economic impacts grow rapidly over time. The activity stimulated in sectors using gas as an intermediate input, by virtue of domestic gas prices being lower than under the reference case, is insufficient to offset the substantial export income that is forgone in the gas sector and its related industries.

The cost to the Australian (including the WA) economy of a national gas reservation grows rapidly over time. In 2020, it is estimated that a DGR lowers Australian GDP by \$1.2 billion compared to the reference case, with this figure increasing to \$6 billion by 2025. Associated with this forgone economic output is an estimated loss of 1,400 jobs at 2020, which increases to 14,300 lost jobs by 2025. The analysis also shows that, at 2025, real household consumption (a commonly used proxy for economic welfare) is reduced by an estimated \$4.4 billion across the economy.

²³ Deloitte Access Economics, *The economic impacts of a domestic gas reservation*, October 2013, p. 10

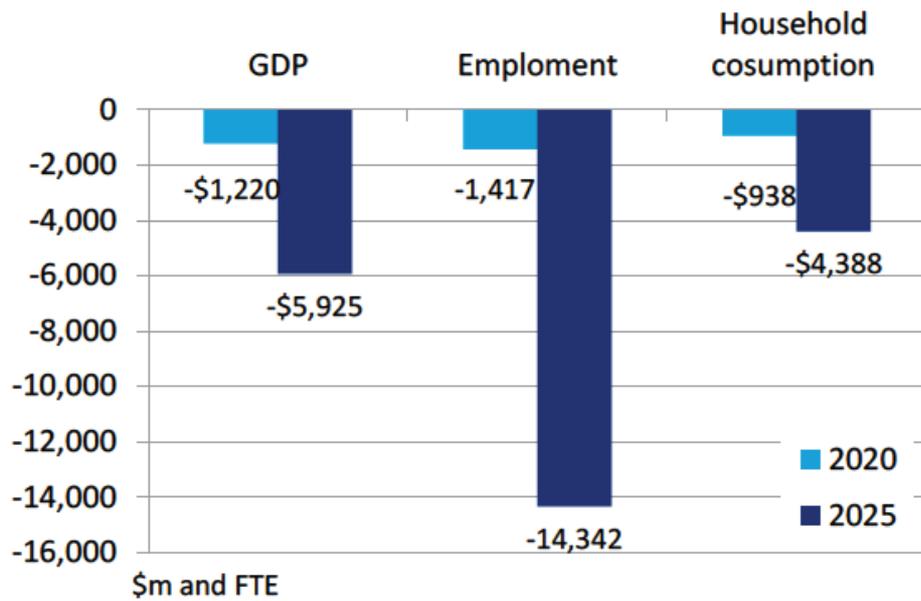


Figure 1: Deloitte Access Economics 2013, Aggregate economic impacts; 2020 and 2025

At an industry level, as well as curtailing output in the gas sector, a DGR policy significantly lowers production in industries that are intensively used as an intermediate input to the sector (upstream industries). For example, output in the construction industry is expected to be \$1.3 billion lower than in the reference case in 2025, due to the reduction to economy-wide investment, as production in the gas industry declines. Other upstream industries such as Trade, and other service industries (Communications, Property and Business Services and, Finance and Insurance) are also adversely impacted by the policy. Output from these service industries are expected to be \$1.8 million lower than the reference case in 2025.

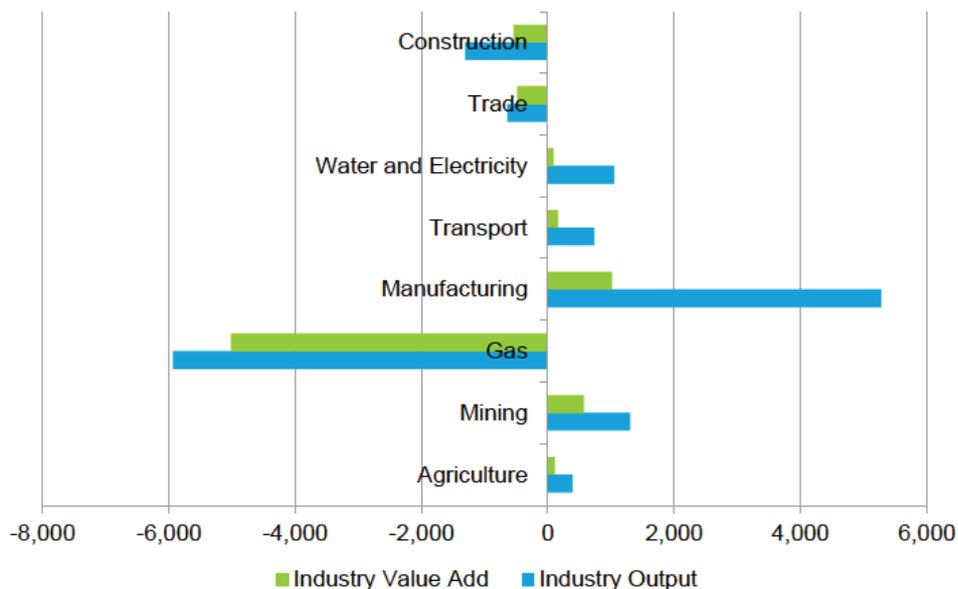


Figure 2: Deloitte Access Economics 2013, Impact on industry output – selected sectors; 2025



The CGE modelling conducted to inform this report demonstrates that, consistent with the economic theory, a DGR imposes sizeable economic inefficiencies and significantly undermines the nation's economic wellbeing.

Moderate short term impacts compound rapidly over time as production and investment in the gas sector is artificially curtailed. By 2025, an estimated 14,000 jobs and \$6 billion in GDP (in that year alone) have been sacrificed as a result of the policy. Modest economic benefits to gas users are dwarfed by the losses emanating from forgone export earnings. The impacts flow not just to related sectors like construction and trade, but to households via reduced wages and employment opportunities and to government via reduced tax receipts.

Taxing the exports of a sector that is not only one in which Australia has a comparative advantage but one that generates more value-added per unit of output than any other is unlikely to be economic welfare-enhancing. It is clearly not welfare-enhancing when those tax receipts bypass government, and are transferred in the form of a direct subsidy to another sector which produces lower value-added per unit of output than any other.

Contrary to unsubstantiated claims by proponents of DGR²⁴, the DAE analysis highlights the clear negative impacts on jobs, industry competitiveness, investment and living standards from the introduction of a DGR.

²⁴ DomGas Alliance, 2010, *Western Australia's Domestic Gas Security*



**ATTACHMENT 1: DELOITTE ACCESS ECONOMICS – THE ECONOMIC IMPACTS OF A
DOMESTIC GAS RESERVATION**

[Provided as a separate file]