Impact of gas shortage on Australian manufacturing: May 2013

MANUFACTURINGAUSTRALIA

KEY POINT 1.

A near term domestic gas shortage & price spike is expected as Australia builds LNG export capacity

1 **Australia is tripling its natural gas exports over the next 5 years**

Based on the projects currently in operation, and those that are committed or under construction, Australia's LNG exports are projected to increase from about 20 million tonnes (NW Shelf only) to over 63 million tonnes annually by 2017 (BREE 2012). In the East, 8 new LNG trains will require about 2000 PJ of gas when fully operational (which equals the total current nationwide gas production, and will quadruple demand in Eastern market).

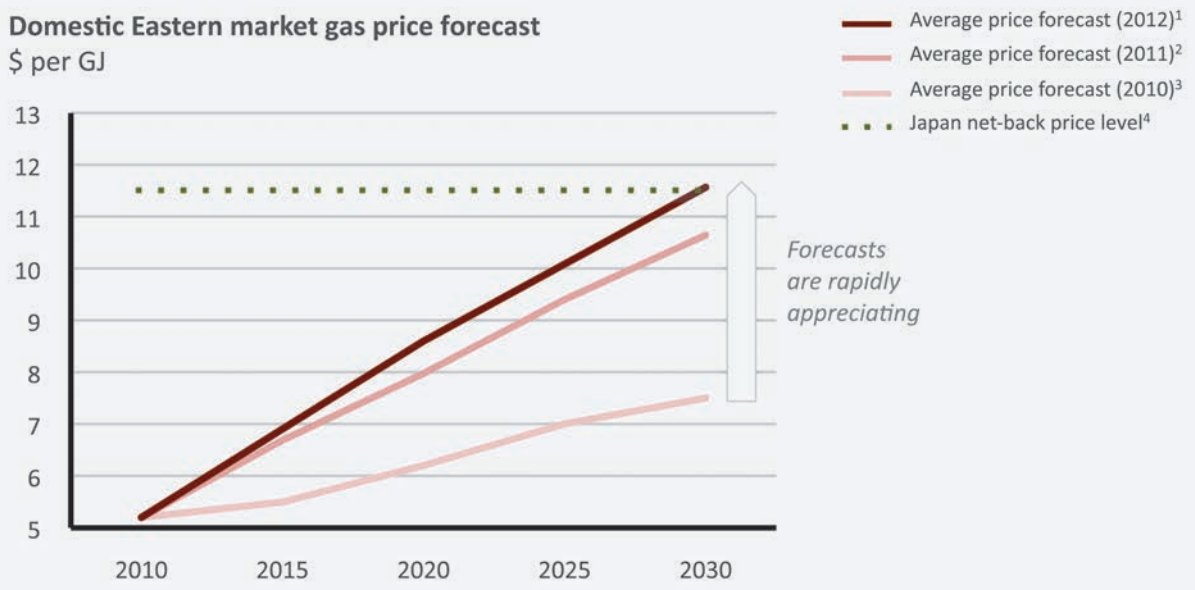
2 **Transition is leading to price spikes and potential shortage**

While Australia has enough reserves to supply both this exploding demand and its domestic obligations, short term production uncertainty and delays are causing a transition period where Australia's commitment to supply is not yet matched by its ability.

In this situation, gas producers (most of which are invested in, or acquired by, LNG projects) are focused on ensuring sufficient supply to fulfill export contracts and maximise LNG terminal utilisation at the expense of domestic customers.

This tight demand and export focus are rapidly driving local prices toward Japanese net-back levels. Over the last 3 years ACIL Tasman and others have consistently raised price forecasts, as domestic users struggle to extend contracts in this environment. According to EnergyQuest, this tight market could even see domestic contract prices exceeding LNG netbacks.

Tight demand and export focus are rapidly driving local prices toward japanese net-back levels



1 ACIL Tasman, February 2012 as input into AEMO planning and the AETA (BREE Gas Market Report, July 2012), 2015 and 2025 average of surrounding estimates
2 ACIL Tasman, late 2011 for AETA (BREE Gas Market Report, July 2012)
3 ACIL Tasman, 2010 projections under their central 'planning scenario' (BREE Gas Market Report, July 2012)
4 Estimated price at which producers would be indifferent between selling to Japan as or domestically, IPL: $11.05 (Australia) and NERA: $11.80 (US example)

2 cont

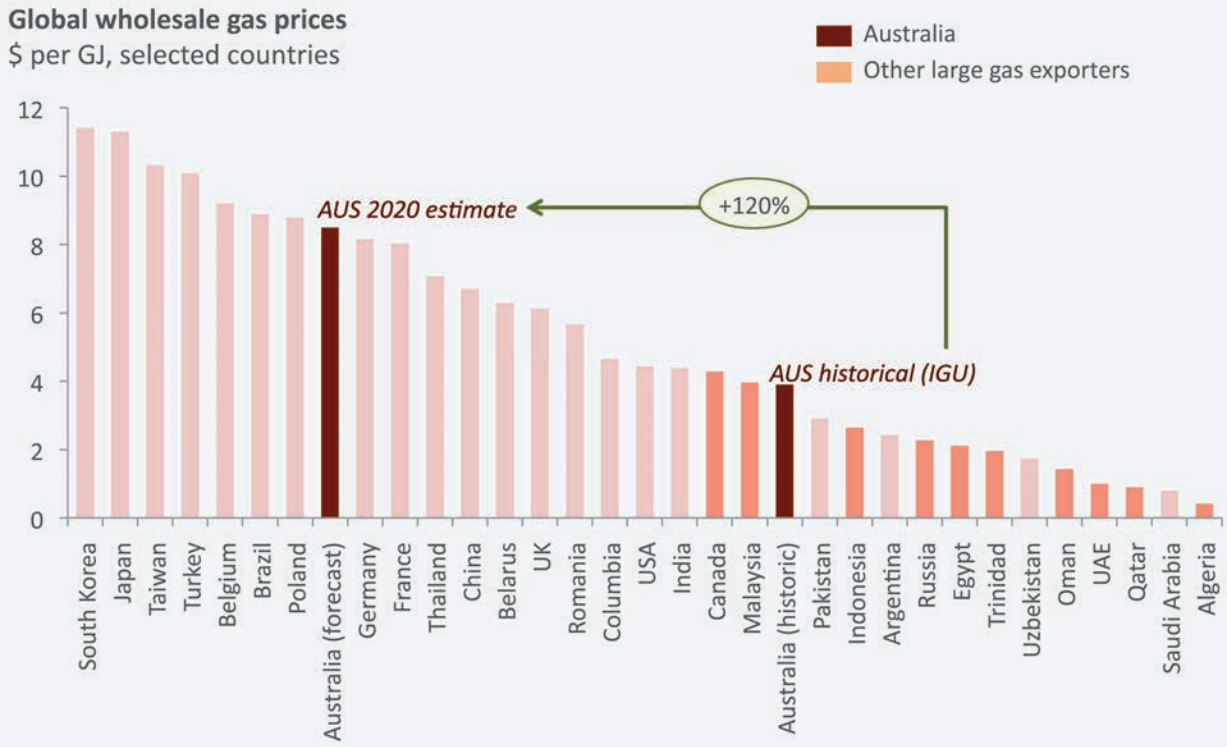
This rapid doubling of Australian prices (from ~$4 now to →$8 by 2020) will make Australia the most expensive major gas exporting market, turning gas from a strategic asset to a liability for domestic users.

And the price of the gas is only one issue – perhaps a larger issue is the anticipated gas shortage as internationally committed off-take volumes are fed by gas previously used for domestic purposes given the slower than anticipated development of new gas fields.

3 May improve in the medium term

Once through this transition period the excess supply may indeed reduce the pressure on gas prices domestically. It would therefore be a shame to have large amounts of Australian manufacturing fail (and permanently disappear) due to a transitional issue in gas supply and pricing.

Making australia the most expensive gas exporting market, turning gas from a strategic asset to a liability



Source: IGU *World LNG Report 2011*

KEY POINT 2.
The supply crisis will be fatal for many Australian manufacturers

4 **Low cost natural gas is essential to a range of manufacturing industries**

Secure, low cost natural gas is an important part of the cost base of many Australian manufacturers. For example natural gas makes up 15-40% of the cost base of fertiliser, alumina, cement, float glass, brick and roof tile production.

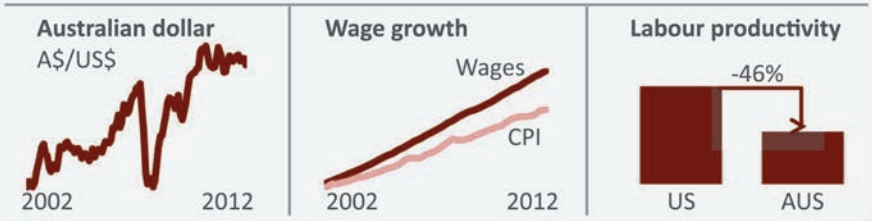
Most of these industries are also trade exposed, competing with imports or exports from lower cost countries, often with access to lower cost domestic gas (e.g., US, Middle East, Russia) – putting the earnings, investment and overall viability of our domestic manufacturers at risk.

Expected gas shortage and price expectations are already having an impact on current investment decisions, contributing to plant closures and redirected investments.

Low cost natural gas is essential to a range of australian manufacturing industries

Example products	Gas share of total input costs	Trade exposure	Downstream impact	Recent activity
Fertiliser	40%	✔✔✔	Agriculture	▪ Apr 2013: IPL invests $850m in US ammonia plant, delays NSW investment
Alumina	25%	✔✔	Aluminium	▪ Feb 2013: Gove refinery secures gas supply, retains 1500 jobs
Cement	25%	✔✔	Construction	▪ Dec 2012: Boral suspends $100m clinker operation at Geelong site, loss of 100 jobs
Float glass	20%	✔✔✔	Glass products	▪ Mar 2013: CSR closing two glass factories in Sydney, loss of 150 jobs
Bricks / Roof tiles	15%	✔✔	Construction	▪ Jan 2013: Brickworks closes Caversham, WA factory

Added to other recent pressures such as historically high A$, growing labour and shipping costs, low productivity and carbon regulation



Source: ABS; BCA Pipeline or Pipedream 2012; Clean Energy Regulator EITE list; industry association and company interviews

5 Manufacturing industry dealing with other near term issues

This is a difficult time for manufacturers to face this gas shortage, as they are simultaneously dealing with a number of other unusual events such as the high Australian dollar, carbon taxes and other increased compliance costs, and high labour costs driven by the boom in mining, oil and gas development.

The short term gas supply and price issue could become the 'straw' that breaks the back of Australian manufacturing.

6 Lost manufacturing production, investment and jobs

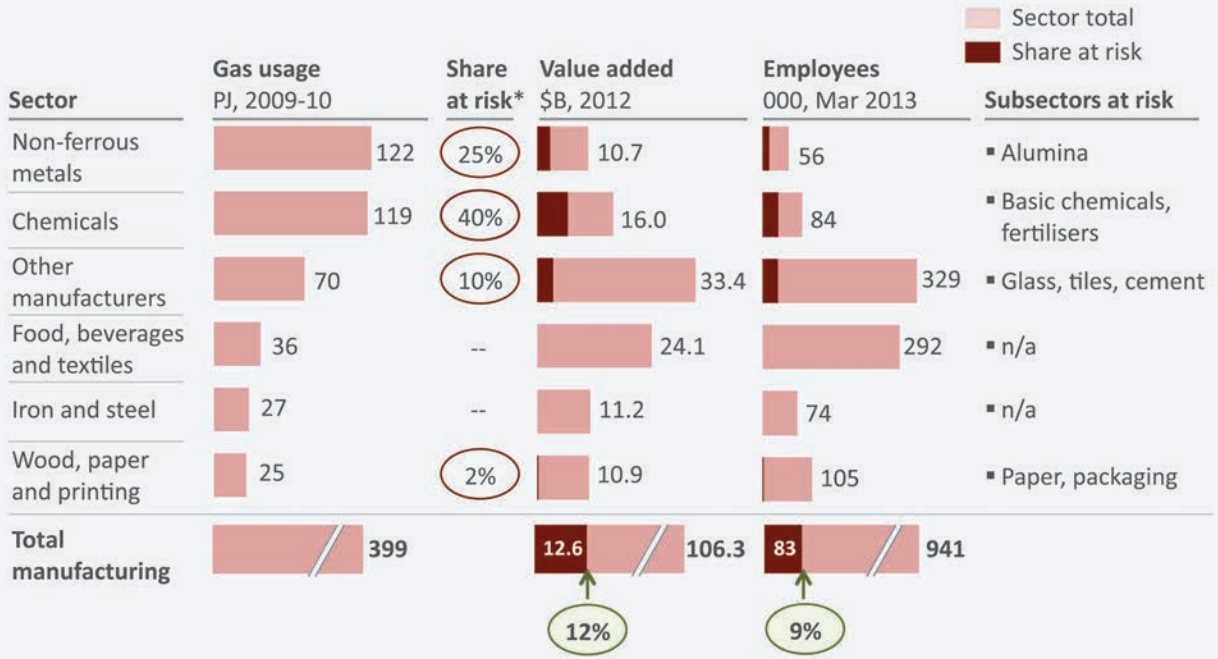
If not managed well, substantial sections of Australian manufacturing will be negatively impacted by this near term gas crisis, to the point of reduced production, investment and jobs.

We estimate that 40% of our domestic chemicals industry, 25% of our non-ferrous metals industry, 10% of our other manufacturers (including building products) and 2% of our wood, paper and printing industry are at risk (including opportunity cost of future investment).

If this comes to pass, we will have lost 12% of our manufacturing value added and 9% of our manufacturing jobs.

Once production leaves Australia, it is not likely to return (even if prices revert to sustainable levels) due to additional start up costs, loss of skills and supporting supply chain, and higher risk premium.

If not managed well, gas shortage or price spike may result in the loss of 12% of manufacturing value added and 9% of jobs



Once production leaves Australia, it is not likely to return – even if prices revert to sustainable levels
→ due to additional start up costs, loss of skills and supporting supply chain, and higher risk premium

• Includes both loss of current production and missed growth opportunities
Source: ABS; industry association and company interviews,

KEY POINT 3.

The economic benefit of supporting our manufacturers dwarfs the loss to gas industry

7 **GDP gain from supporting our manufacturers dwarfs LNG impact**

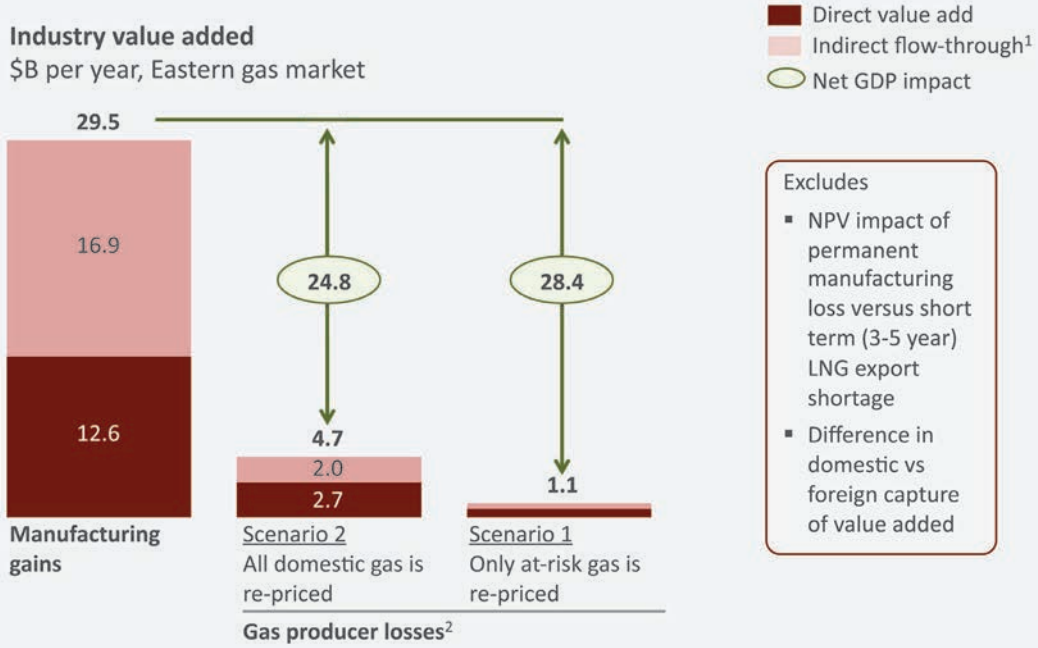
If managed well, $29.5B of annual at-risk value-added can be saved by supporting our manufacturers (including both $12.6B of direct manufacturing and $16.9B in flow-on effects throughout the economy through the spend of suppliers, employees and other connected entities).

Only 80-90 PJ of annual reasonably priced natural gas (~5% of east coast LNG exports) is required to support this level of manufacturing value added. If that same gas was exported at $12.50/GJ FOB price, instead of sold domestically at $5.00/GJ, it would make $0.6B extra for LNG industry, with a total economic impact of $1.1B when economic flow-on effects are included.

If all other domestic gas was also sold at this lower price point on the east coast (rather than the $8.50 net-back price expected), $4.7B in value would be lost to gas industry ($2.7B directly from gas producers, and $2.0B flow-on throughout the economy).
This puts the net GDP impact to Australia of supporting our manufacturers, versus unfettered LNG exports, at about $25-28B per year.

And, this annual comparison excludes the disproportionate long term value lost due to permanent damage to manufacturing industries versus the short term (3-5 year) LNG export reduction while waiting for supply to catch up. Nor does it account for the difference in Australian ownership of manufacturing versus LNG export companies.

The economic benefit of supporting our manufacturers dwarfs the loss to gas producers by $25-28b per year



1 Using indirect economic 'flow-through' multiplier calculated by NIEIR in PACI/AIG report, *Unintended Consequences* (2012): 134% for manufacturing and 74% for LNG
2 Direct value-add loss to gas producers in Scenario 1 is calculated as difference between estimate LNG FOB price of ~$12.50/GJ and reasonable east coast domestic prices of ~$5.00/GJ, multiplied by 86PJ required to meet 'at-risk' demand (from last slide). Scenario 2 is Scenario 1 + difference between estimated net-back price of ~$8.50 and ~$5.00, multiplied by remainder of total forecasted Eastern market domestic demand in 2015 (680 PJ – 86 PJ). The former is an 'apples-to-apples' comparison, while the latter is a more likely policy outcome

8 Many more jobs in manufacturing than the entire LNG industry

Saving the at-risk portion of our manufacturing sectors through reasonable access to gas will rescue about 194,000 jobs (83,000 direct, or 9% of Australian manufacturing employment, and another 111,000 indirect).

This is much larger than the 18-20,000 jobs (direct plus indirect) that the entire east coast CSG and LNG industries will create during their labour-intensive construction phase, or the 4,000 jobs likely to remain after the terminals are built.

In reality, less than 5% of these LNG jobs are directly at risk if 80-90 PJ of the 2000 PJ annual exports is ring fenced for domestic use. Also, any of these jobs that are CSG specific are not at risk if gas is re-routed to domestic use.

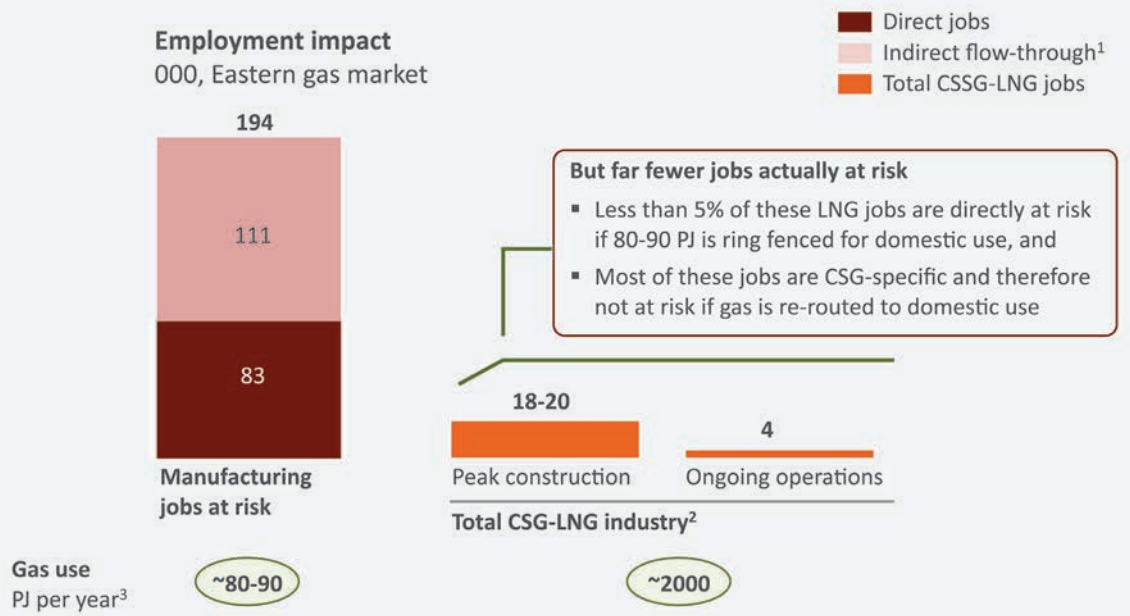
So the net long-term impact of supporting our gas-intensive Australian manufacturers remain over 190,000 jobs (or almost 2% of entire Australian labour force).

9 Other negative impacts

In addition to the impact on manufacturing, this spike in domestic gas prices will have other negative consequences, including an increase in electricity prices, an increase in the cost of achieving our carbon emissions targets, a slowdown of general economic activity due to higher energy costs (gas and electricity), and lower tax revenue.

The loss of domestic gas user base will also reduce stable local demand for Australian gas – which may hurt gas producers themselves in the long term.

And the jobs saved would be much greater than entire east coast lng industry



1 Using indirect economic 'flow-through' multiplier calculated by NIEIR in PACIA/AIG report, *Unintended Consequences* (2012): 134% for manufacturing
2 Manpower Group, *Labour Market Trends in Australian Gas Industry*, referring to 4 major Coal Seam Gas to LNG projects in Gladstone, QLD; ACIL Tasman (2012) estimated 14,000 jobs in QLD due to CSG-LNG boom (base case), and MMA (2009) estimate 18,000 (these estimates include both direct and indirect jobs)
3 Approved LNG production for 4 export projects vs shortfall of demand for 'at risk' industries

Source: ABS; AECgroup, *Economic Significance of QLD Large Gas Using Industry* (2012); NIEIR, *Unintended Consequences* (2012)

KEY POINT 4.

Well tested solutions exist and are used by other gas exporting nations

With good policy, Australia can support a thriving manufacturing sector while transitioning to a leading LNG exporter.

There are many precedents for dealing with this issue. A number of other countries (such as Canada) have addressed this issue specifically through introducing a 'national interest test' for export, intervention in resource tax structures, reservation of certain supply for domestic use or other incentives.

Australia has similar policy levers at their disposal should they choose to use them. In fact, Western Australia has a reservation system in place with no obvious negative impact on its thriving gas production and LNG export industries.

Intervention by State and Federal governments is urgent and necessary, before our energy advantage is sent offshore, never to return.

With good policy, australia can support a thriving manufacturing sector while transitioning to a leading lng exporter

Policy options

- Introducing a National Interest Test for export (such as in Canada)
- Reserving a percentage of gas for domestic use (such as in WA)
- Reserving tenements for domestic use and compelling gas companies to "use it or lose it"
- Mandating that existing, pre-export consumption is met before export licenses are granted
- A combination of other incentives such as royalty arrangements or tax incentives

Intervention by State and Federal governments is **urgent** and **necessary**, before our energy advantage is sent offshore, never to return