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IEEFA.org

IEEFA Briefing Note: Massive gas subsidy will further gas cartel profits at Australian gas consumers expense

Australian Labor Party announces new policy in lead up to Federal Election

On 23 April 2019 the Australia Labor party announced[1] a $1.5 billion financing facility for the development of coal seam gas (CSG) in the Galilee and Bowen basins in Queensland, and shale gas in the Beetaloo basin in the Northern Territory (refer Section 1).

The Institute for Energy Economics and Financial Analysis (IEEFA) considers the announcement a poor decision as the already heavily subsidised gas industry has a proven track record of destroying wealth,[2] price gouges Australian consumers, and has negative economic[3] and environmental consequences (see Section 2).

In brief:

- The onshore gas industry has *not* paid its share of taxation or royalties yet is in line for a large subsidy in the form of very cheap financing (see Section 3).
- Gas being accessed in the Northern Territory is very high-cost gas with high piping costs in a low-cost gas world. Producing high-cost gas does *not* bring down the cost of gas for domestic consumers in Australia. (Section 4)
- Even if cheap onshore gas can be accessed it will *not* result in lower prices for consumers. Australia's east coast gas cartel artificially sets the price,[4] ensuring charges domestically are above prices Australia's customers pay in Asia.
- Prices for gas in Asia have collapsed. The world is awash with Liquefied Natural Gas (LNG) capacity and globally prices are very weak. The spot price of gas in Asia[5] is now $7.14/GJ (as at 24 April 2019). The same gas that Australia exports was $9.11 in the state of Victoria - some 28% more. (Section 5)
- The extent of the gas price gouge means it is now economic to import gas into Australia. There are currently five gas import terminal proposals in Australia. If all are built, they will have the capacity to supply over 90% of

[1] Canberra Times, Labor to axe the NAIF in bid to develop nation's north, 23 April 2019.
[2] IEEFA, Australia's Export LNG Plants at Gladstone - The Risks Mount, Page 28, June 2017.
[3] Sydney Morning Herald, 'Sense of contempt': ACCC boss slams gas suppliers, 5 March 2019.
[4] News.com, 'Gas cartel' is pushing gas prices up in Australia, 6 July 2017.
[5] Platts JKM™ (Japan Korea Marker) LNG Price Assessment.

Australia's east coast market (Section 6). Australia - the world's largest gas exporter - will be an import supplied market. This is an absurd situation.

- The gas cartel's treatment of the Australian business and retail consumer has resulted in industry closure[6] and will see further industrial destruction.

- Gas is no longer a competitive fuel for electricity production in Australia and its usage is falling. Gas usage for power generation is at its lowest level in a decade at just 7.6% of the National Energy Market (NEM) in 2018. While wind and solar have increased from less than 0.5% to 11.9% over the last decade, gas usage has fallen. Simply put, gas is not a transition fuel in Australia. It is too expensive (Section 7).

- The opening up of two major gas provinces in Queensland and the Northern Territory will ensure that Australia fails to meet its Paris commitments[7] and leaves the Labor party's climate policy credibility in tatters.

To support a loss-making industry that has failed to supply Australian consumers with gas at a reasonable price, or pay its fair share of royalties and tax, is total policy failure. The Labor party should reverse this populist decision in the nation's interest.

[6] Australian Financial Review, East coast gas crisis sends Remapak to the wall, 20 January 2019.
[7] Sydney Morning Herald, Top End shale gas development would blow Australia's carbon budget, TAI says, 5 February 2018.

1. The Announcement to Subsidise Australia's Domestic Gas Market

On 23 April 2019, Australia's federal Labor Party announced up to A$1.5 billion to be set aside to unlock gas supply in Queensland's Galilee and Bowen basins, while also connecting the Northern Territory's Beetaloo basin to Darwin and the east coast of Australia.

The Party suggests the project would support Darwin as a manufacturing and gas export powerhouse as well as increasing supply to Queensland and the eastern seaboard of Australia in order to put downward pressure on prices for gas users.

People living on the Australian east coast are paying well above international prices.

The Party suggests opening up the Beetaloo basin alone could provide enough gas to supply Australia's domestic market for up to 400 years.[8]

2. The Staggering Cost of Gas in Australia

Ten Fast Facts

1: Australia is the largest LNG exporter in the world.

Australia is the leading global net exporter of gas, with exports from both the east and west coast. The U.S. and Qatar are the next lead exporters.

2: Gas prices on the east coast of Australia are higher than global parity.

Domestic gas is usually low cost for people living in top-tier gas exporting countries. However, due to Australian market deregulation, companies can control the price and supply of gas.

People living on the Australian east coast are paying well above international prices.

3: South Australia is home to the highest electricity prices in Australia.

The cost of domestic gas in South Australia is two times more than the U.S. and three times more than Qatar.

South Australia's electricity market is primarily controlled by AGL Energy, Engie and Origin Energy, holding 84% of the wholesale market and 86% of the retail market.

The market is concentrated, and the players involved take advantage of that fact.

4: The east coast of Australia must import gas to meet demand.

[8] Australian Labor Party, Bill Shorten - Joint Media Release - Northern Australia Development Fund To Unlock The Economic Potential Of Our Great North, 23 April 2019.

Despite the east coast of Australia producing three times more gas than it consumes, a shortage in domestic gas supplies due to high export volume is forcing a reliance on imports.

5: Australia is considering five proposals to build import gas terminals.

Having relied on domestic supplies, Australia is currently without an import gas terminal.

To date, ExxonMobil has proposed an import terminal for Victoria, Australian Industrial Energy for New South Wales, Kogas for New South Wales, AGL for Victoria, and Mitsubishi for South Australia.

Fracking is not a profitable industry.

Import gas terminals embed the cost of liquification and shipping into the domestic price.

Australian consumers should *not* be paying additional costs for gas already sourced from our region.

6: Increased gas production has not lowered the price of domestic gas.

Australia's gas market is lacking a fundamental mechanism to ensure prices have parity, that is an open market.

In recent years, there has been a tripling in gas production on the east coast of Australia, yet prices have also tripled.

Without a market, more gas production will *not* bring down the cost of gas.

7: Shell controls over 40 percent of coal seam gas reserves on the east coast of Australia.

Australia has given a very large proportion of our east coast gas reserves to Shell, including permits to develop more gas reserves, however they are 'going slow' on the development.

It would appear Shell wants to keep the Australian market above global parity prices. This is classic cartel behaviour.

8: Fracking loses money both in the U.S. and Australia.

Fracking is *not* a profitable industry. The U.S. fracking industry spent US$196bn more than what it recouped from gas sold between 2010 – 2018.

There have also been massive fracking losses in Australia. The BG Group wrote down their Australian fracking project by AUS$5.4bn before they sold it to Shell. BHP and Santos have had multiple right-offs, and BHP lost US$10bn recently in the U.S., Origin wrote off an entire Queensland gas field because they were unable to find gas.

9: Coal seam gas is high cost gas.

The long-term coal seam gas fields in South Australia and the Bass Strait fields are fairly low-cost in terms of the production of gas.

Australia's newer fracking fields are high cost. Instead of producing gas between A$2.20 and A$2.70 a gigajoule as the operators expected, they produce gas between A$3.50 and A$8.50 a gigajoule, making it very expensive gas.

The fracking industry has misjudged the costs, both in terms of capital as it is very expensive to build and operate the plants, but also in terms of what the fields actually produce. Operators have discovered the wells decline more quickly than expected and the fields produce less gas and more water.

10: Gas is the price setter for energy costs in Australia.

With 40% of South Australia's power coming from wind and 8% from rooftop solar, the state should have cheap energy prices.

However, under the rules of the National Electricity Market (NEM), the gas generators set the price for electricity, as gas generators are the highest cost producers of power.

At A$10-$12 per gigajoule, east coast gas is over twice the cost in Western Australia. These high gas prices ensure South Australians pay the highest price for electricity in Australia.

3. Over-estimating Queensland's CSG Royalties

Queensland large-scale LNG exports began in January 2015.[9]

Based on fanciful forecasts by the CSG industry, Queensland Treasury estimated then that royalty revenues would be in excess of $600m in 2017-18 (see Table 1). The CSG industry delivered less than a quarter of the forecast royalties in 2017-18, paying an estimated $130m (Table 2).

The CSG industry has long trumpeted how much tax and royalties it would pay. The reality has never matched the hype. In 2010, LNG exporter BG Group's Catherine Tanna stated that:

> *"We also expect to pay about $1 billion a year in federal taxes and a further $300 million or so each year in royalties to the Queensland government," Ms Tanna said today.*[10]

In 2018, the entire Queensland LNG industry paid less than half the figure that the BG Group claimed it alone would pay in royalties.

[9] ABC, First shipment of LNG to leave Gladstone in central Queensland bound for Asia, 2 January 2015.
[10] News.com, BG Group announces $15bn LNG project, 31 October 2010.

Table 1: Taxation and Royalty Revenue Forecasts from the Queensland State Government Budget 2012-13 to 2017-18

Table B.1 Taxation and Royalty Revenue[1]

	2012-13 Actual $ million	2013-14 Est. Act. $ million	2014-15 Budget $ million	2015-16 Projection $ million	2016-17 Projection $ million	2017-18 Projection $ million
Payroll tax	3,751	3,887	4,014	4,267	4,536	4,821
Transfer duty	1,887	2,420	2,653	2,732	2,923	3,128
Other duties	1,164	1,296	1,394	1,475	1,560	1,651
Gambling taxes and levies	1,034	1,048	1,084	1,122	1,161	1,201
Land tax	990	980	995	1,035	1,076	1,120
Motor vehicle registration	1,486	1,532	1,578	1,658	1,741	1,828
Other taxes	645	668	736	754	786	818
Total taxation revenue	**10,957**	**11,831**	**12,455**	**13,041**	**13,783**	**14,567**
Royalties						
Coal	1,737	1,834	2,078	2,686	3,178	3,315
Petroleum[2]	59	68	199	561	660	636
Other royalties[3]	348	369	395	385	346	356
Land rents	158	179	174	180	186	192
Total royalties and land rents	**2,302**	**2,451**	**2,846**	**3,811**	**4,370**	**4,498**

Notes:
1. Numbers may not add due to rounding.
2. Includes liquefied natural gas (LNG) from 2014-15.
3. Includes base and precious metal and other mineral royalties.

Source: Queensland Government, State Budget - Budget Strategy and Outlook 2014-15 – Budget Paper No. 2, Page 176, 2014.

BG Group is now owned by Shell. It would appear that over the last 3 years it has paid $0.00 in income tax on revenue of $6.7 billion.[11]

The onshore gas industry has *not* paid its share of taxation or royalties yet is in line for a large subsidy in the form of very cheap financing.

Table 2: Taxation and Royalty Revenue Forecasts from the Queensland State Government Budget 2018-19

Table 4.5 Royalties and land rents[1]

	2016-17 Actual $ million	2017-18 Est. Act. $ million	2018-19 Budget $ million	2019-20 Projection $ million	2020-21 Projection $ million	2021-22 Projection $ million
Coal	3,405	3,768	3,522	3,135	2,774	2,866
Petroleum[2]	98	188	447	446	438	450
Other royalties[3]	376	371	479	506	515	506
Land rents	122	157	167	172	178	189
Total	**4,000**	**4,484**	**4,615**	**4,260**	**3,904**	**4,011**

Notes:
1. Numbers may not add due to rounding.
2. Includes CSG.
3. Includes base and precious metals and other minerals royalties.

Source: Queensland Government Budget 2018-19 Page 62

[11] Michael West, BG International (Aus) Pty Limited, 2018.

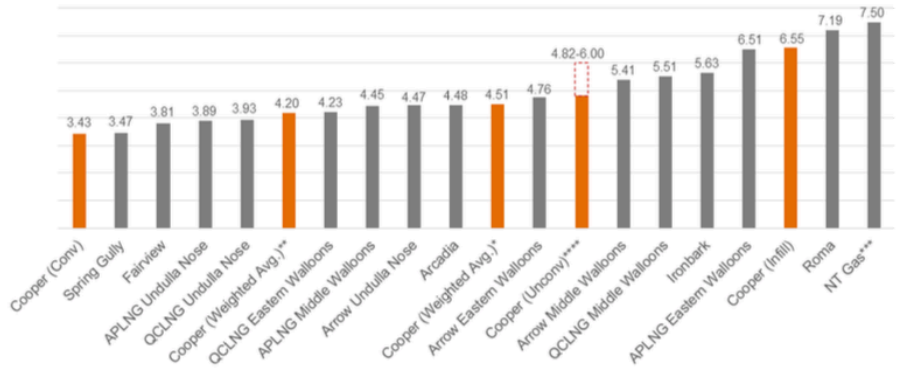
4. Producing High Cost Gas Will Not Bring Down the Cost of Gas for Domestic Consumers

Gas being accessed in the Northern Territory is very high-cost gas with high piping costs in a low-cost gas world.

The CSG industry has consistently under-estimated its costs, including that the Northern Territory will produce expensive gas, as detailed in IEEFA's Submission to the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (April 2017).

Producing high-cost gas does *not* bring down the cost of gas for domestic consumers in Australia.

Figure 1: Gas Production Costs in Australia (AUD/GJ)



Source: Core Energy /AEMO

The onshore gas industry in Australia has consistently underestimated their costs of production.

Santos, in their Environmental Impact Statement (EIS) for the GLNG export terminal at Gladstone, Queensland stated that:

> *"Morgan Stanley (2008) estimates that industry-wide operating and development costs for CSG are in the order of $2.20/GJ to $2.70/GJ, however as resource quality declines and recovery becomes more difficult, these costs are expected to increase, notwithstanding any technological break throughs."*[12]

Current CSG field costs range from A$3.55 through to A$8.50/GJ according to a report commissioned by the Australian Energy Market Operator (AEMO).[13]

Essentially, the industry radically under-estimated its costs of production of gas.

[12] Santos EIS March 2009, Page 6.15.11, 3 August 2019.
[13] Core Energy/AEMO, Gas Production and Transmission Costs - Eastern and South Eastern Australia, February 2015.

In the Northern Territory, production costs have been estimated at A$7.50/GJ[14] by Core Energy in a report commissioned by the South Australian Department of State Development's Energy Resource Division.

This estimate will also likely prove to be optimistic. Even taking the cost of production at face value at A$7.50/GJ, the costs of production do not compare favourably on a global scale. Our two largest competitors, Qatar and the U.S., provide the example. In Qatar, gas production costs are extremely low at below A$0.20/GJ, while in the U.S. the delivered price to the Henry Hub market averaged A$3.55 in March 2017.

Essentially, the industry radically under-estimated its costs of production of gas.

The price of Northern Territory gas blows out in excess of A$11/GJ when delivered to a metropolitan market or to the Wallumbilla Hub. This is more than three times the cost of gas delivered to the Henry Hub in the U.S.

Table 3:

Gas Play	VTS[14]	Adelaide	Sydney	Wallumbilla	Mt Isa
Ironbark	8.03 plus NVI tariff	7.75	8.03	5.63	8.34
APLNG Eastern Walloons	8.91 plus NVI tariff	8.63	8.91	6.51	9.22
Cooper (Infill)	7.55 plus NVI tariff	7.27	7.55	7.45-7.95	8.36
Roma	9.59 plus NVI tariff	9.31	9.59	7.19	9.90
NT Gas	11.86 plus NVI tariff	11.58	11.86	11.76	9.05

Source: Core Energy/AEMO, Gas Production and Transmission Costs - Eastern and South Eastern Australia, February 2015, page 19.

Note: The Victorian Transmission System (VTS) is the transmission network across Melbourne and rural Victoria. The NSW-Vic Interconnect (NVI) is the transmission pipeline running between Victoria and NSW, connecting the VTS and the Moomba to Sydney Pipeline.

5. The Collapse of Global Gas Prices

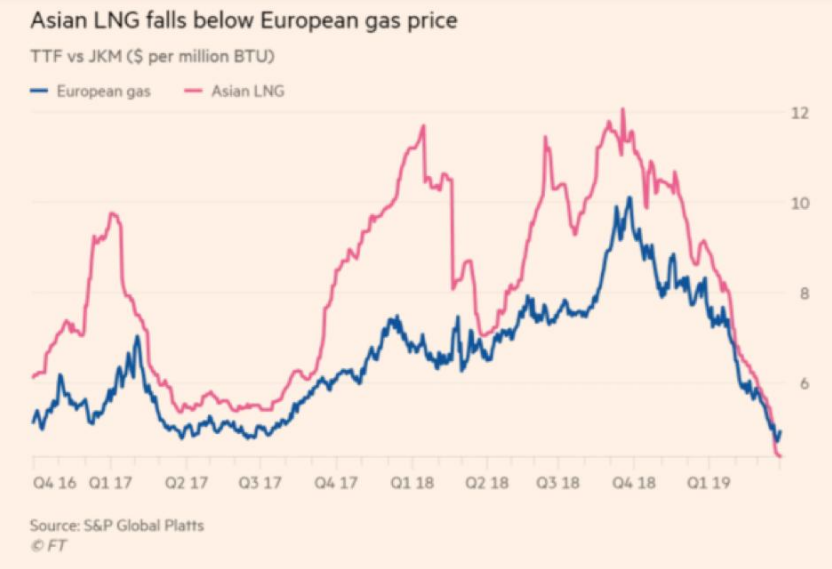
Prices for gas in Asia have collapsed.

The world is awash with Liquefied Natural Gas (LNG) capacity and globally prices are very weak.

The spot price of gas in Asia[15] is now $7.14/GJ (as at 24 April 2019). The same gas that Australia exports was $9.11 in the state of Victoria - some 28% more.

[14] Core Energy Group, Cooper-Eromanga Basin Outlook | 2035, October 2016.
[15] Platts JKM™ (Japan Korea Marker) LNG Price Assessment.

Figure 2: Global LNG Prices Collapse



6. Five Proposed Gas Import Terminals for the World's Largest Exporter of Gas

Australia is the world's largest exporter of LNG,[16] yet there are currently five import terminals proposed to supply the eastern Australian Market (Table 4).

Table 4: Australian Gas Import Terminal Proposals as at January 2019

Australian Gas Import Terminal Proposals as at January 2019					
			Capacity	Expected	
Location	Consortium	Consortium Members	(PJ)	Cost (A$M)	Proposed Start Date
Newcastle, NSW	Energy Projects & Infrastructure Korea (EPIK)	Kogas	200*	550 -590	Commenced preliminary works with the Port of Newcastle
Woolongong, NSW	Australian Industrial Energy	Squadron Energy (Andrew Forrest), JERA, Marubeni	100	200-300	First gas to market in 2020
Cribb , Vic	AGL	AGL	40 rising to 100	250	First gas to market in 2021, Final investment decision by June 2019
Victoria	ExxonMobil	ExxonMobil	50*	150	2022
Pelican Point, SA	Venice Energy	Mitsubishi, Integrated Global Partners	50*	750-800^	December 2020
Total			500		
*IEEFA estimate					
^(including a 500MW gas power station)					

The extent of the domestic gas price gouge means it is now economic to import gas into Australia. Global players have identified a high-priced market in Australia and the opportunity to supply that market with high cost LNG.

Liquefaction of gas is an inherently expensive process. It has high capital costs and very high energy costs to super cool the gas down to -162 °C. LNG plants are in effect

[16] Reuters, Australia grabs world's biggest LNG exporter crown from Qatar in Nov, 10 December 2018.

giant refrigerators that shrink the volume of gas by around 600 times, thereby making it more economic to transport in ships.

That the proposals to build import terminals would supply over 90% of the entire demand for gas on the east coast of Australia is testament to the fact that, in the commercial opinion of a varied selection of LNG global trading companies, Australian consumers pay well above global prices for gas.

The extent of the domestic gas price gouge means it is now economic to import gas into Australia.

Australia - the world's largest gas exporter - would be an import supplied market.

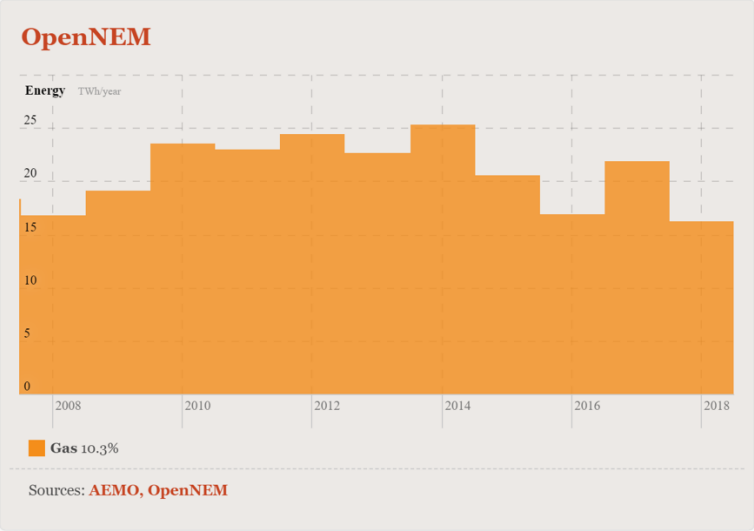
7. Gas Use for Electricity Production Has Fallen in the Last Decade

Gas usage for power generation is at its lowest level in a decade, at just 7.6% of the National Energy Market in 2018 (see Figure 3).

While wind and solar have increased from less than 0.5% to 11.9% over the last decade, gas usage has fallen.

Simply put, gas is not a transition fuel in Australia. It is too expensive.

Figure 3: Gas Usage in the National Electricity Market Has Fallen in the Last Decade



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Investment Analyst Bruce Robertson has been a fund manager and professional investor for over 32 years. He has worked with Perpetual Trustees, UBS, Nippon Life Insurance and BT and is an active participant in the national debate on energy issues in Australia.