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The Blenheim Report

CONFIDENTIAL INTELLIGENCE REPORT

ENERGY, OIL AND GAS PRODUCERS

SEPTEMBER 2013



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INTRODUCTION

Energy, Oil and Gas overview

The Energy sector — petroleum and mining — has been one of the main drivers of Australia's prosperity throughout the nation's history and in the last decade in particular. Its role must be recognised and embraced as a creator of national wealth.

The industry's current economic contribution is enormous and growing, and Australia is on track to become the world's largest liquefied natural gas (LNG) exporter by the end of this decade.

Seven LNG projects (more than \$190 billion in capital expenditure) are being built, representing more than half the LNG projects underway globally. About 35% of all committed business investment in Australia currently are in oil and gas and as a consequence of the significant projects currently underway, the petroleum sector's contribution to gross domestic product is expected to rise from 2.1 per cent to 3.5 per cent by 2020. These investments will also require a construction workforce peaking at over 100,000 full-time equivalent jobs. By 2025, it is estimated that the construction and operation of these projects will add more than \$260 billion (net present value) to Australia's GDP and contribute around \$7 billion a year in taxation revenue.

Exploration expenditure hit a new peak in 2012 of \$4 billion, reflecting both increased exploration costs and increased activity onshore. Without the wealth generated by the sector, the global financial crisis would have struck Australia more harshly and the country would probably not be enjoying its current prosperity and low levels of unemployment. The industry has paid annual tax revenue between \$6 billion and \$8.5 billion each year since 2005. However, Australia's production of oil, condensate and LPG has steadily declined over the last decade and liquids production is forecast to trend downwards over the next two decades, increasing the need for imports to meet rising demand. On the other hand, gas production has almost doubled since 2000, meeting growth in domestic and export demand.

Australia has a tremendous opportunity to gain from strongly growing LNG demand in Asia. We have world-scale gas resources, technically and commercially sophisticated project proponents and equity participants, and a strong track record of reliable supply to customers in Japan, China and Korea. Recognising this, several more Australian LNG expansions and additional projects are currently being considered.

In recent years, cost competitiveness has become a major barrier to future success. Australia has become a high-cost investment destination, and it is now recognised that maintaining the country's competitiveness will require action by both industry and government.

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CHEVRON AUSTRALIA PTY LTD

Employees: around 3,000 | **Operations:** Australia | **Head office:** Perth

Chevron has had operations in Australia since 1952 and is today is the largest holder of untapped natural gas resources in Australia. Approximately 70% of the natural gas produced by Chevron Australia is sold as liquefied natural gas (LNG), primarily under long-term contract to major utilities in Japan, South Korea, China and Taiwan. Natural gas also is sold into the Western Australian domestic gas market.

For almost three decades Chevron has been a joint venture participant producing natural gas for domestic use with partners in the nation’s biggest operational LNG project to date, the North West Shelf Venture (NWSV). For almost 25 years, the NWSV has been exporting LNG to international customers in the Asia-Pacific region and approximately 70% of the natural gas produced by Chevron Australia is sold as LNG, primarily under long-term contract to major utilities in Japan, South Korea, China and Taiwan. Natural gas also is sold into the Western Australian domestic gas market.

Chevron is now developing the Gorgon Project, an LNG and domestic gas joint venture based in the Greater Gorgon gas fields off Western Australia’s Pilbara Coast, which contain more than 40 trillion cubic feet of gas, or 25% of Australia’s total known gas resources.

The company is also developing its majority-owned and operated Wheatstone Project as an LNG and domestic gas operation near Onslow on the mainland of Western Australia.

Chevron also runs a program to explore offshore opportunities and operates Australia’s largest onshore oil operation at Barrow Island and Thevenard Island in Australia’s north-west region.

The Perth Global Technology Centre which was established in 2007 to align with Chevron's long-term energy growth strategy. It is one of only two such facilities in the company, with the other located in Aberdeen, Scotland. Chevron also has a 50% ownership in ASX listed Caltex.

OIL AND GAS OPERATIONS

Project	Ownership interest / joint venture share	Operator	Production FY13	Opening year	Location	State
North West Shelf	Each of the six consortium partners holds an equal one-sixth share of the project. The six parties are: BHP Billiton Petroleum (North West Shelf) Pty Ltd BP Developments Australia Pty Ltd	Woodside Petroleum	The Karratha Gas Plant has the capacity to produce; Domestic gas: 12,000 tonnes/day. LNG: 52,000 tonnes/day. LPG: 3,000 tonnes/day.	1984	Northern Carnarvon Basin	WA

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	Chevron Australia Pty Ltd Japan Australia LNG (Mitsubishi/Mitsui) Pty Ltd Shell Development (Australia) Pty Ltd Woodside Energy (Ltd) Operator		Condensate: 130,000 barrels/day. Crude oil: 6.87 mmbbl NGL: 1.37 mmbbl Natural gas: 131 bnCf			
Wheatstone LNG*	Chevron 64% / Apache 13% / Kuwait Foreign Petroleum Exploration Company 7% / Shell 6% / Kyushu Electric Power 1% / Tepco 8%.	Chevron. Ownership in project facilities: Chevron 72% / Apache 13% / Kuwait Foreign Petroleum Exploration Company 7% / Shell 6% / Kyushu Electric Power 1%.	n/a	2016	Western Carnarvon Basin, Ashburton	WA
Gorgon**	Chevron 47% / Shell 25% / ExxonMobil 25% / Osaka Gas, Tokyo Gas, Chubu Electric Power 3%.	Chevron	n/a	2014	Northern Carnarvon Basin, Barrow Island	WA
Barrow Island and Thevenard Island***	Chevron	Chevron		1969/Barrow Island 1989/ Thevenard Island	Off-shore from Onslow	WA

*8.9 million tonnes of LNG per year and 200 terajoules per day domestic gas plant.

** 15 million tonnes of LNG per year and 300 terajoules per day domestic gas plant.

*** Crude oil production and facilities. LNG facility being built on Barrow Island as part of Gorgon project.

EXECUTIVE LEADERSHIP TEAM

Name	Title	Background	Location	Comments
		Please contact Blenheim Partners for information.	Perth	

STRATEGY

Chevron Corporation has stated: "The Asia Pacific region is key to Chevron's growth strategy and our strong Australian natural gas portfolio continues to be bolstered by our strategic approach to finding and developing resources that will help meet the growing energy needs in the region."

George Kirkland, Vice Chairman, Chevron Corporation (Press Release from California on 7 February 2013 announcing Chevron's 20th discovery off the coast of Western Australia since mid-2009).

Melody Meyer, President, Chevron Asia Pacific Exploration and Production Company, said in the same press release: "Kentish Knock South-1 is an important addition to our queue of high-quality offshore natural gas opportunities in Australia and further supports our long-term plans to expand our Australian LNG position."

In May 2013 Managing Director Roy Krzywosinski announced Australian businesses supporting the development of the Chevron-operated Gorgon and Wheatstone Projects have now received commitments of a massive \$30 billion in local content spending. The Gorgon Project has now committed \$20 billion to local businesses while the Wheatstone Project has committed close to \$10 billion.

The two natural gas projects have also created 14,000 direct and indirect jobs across Australia – 10,000 on the Gorgon Project and 4,000 on Wheatstone and both projects are key elements of Chevron's global gas commercialisation strategy.

Chevron is making a significant strategic investment in the LNG sector in Australia at the moment. It is generally estimated that there is around \$190 billion in LNG projects underway in Australia at present, and with a commitment of \$30 billion this is equivalent to around 16% of the total.

Simultaneously, Chevron is also investing heavily in exploration for both oil and gas as part of its strategic plan. It is the largest holder of discovered gas resources in Australia. It is estimated to have a market share of the oil and gas extraction business in Australia of 14.5%, just behind BHP Billiton with 15% and Woodside Petroleum with 18% and well ahead of Shell with an estimated market share of 8% and Santos with 7%.

30 August 2013

The Australian Financial Review

Fuming: 17 years of NSW gas supply lost

It's almost a year since the NSW government gave the supposed green light for coal seam gas explorers and the industry is still at a standstill.

In many ways, it has gone backwards, with the effective exit of smaller players, such as Metgasco, Planet Gas and Dart Energy, who have given up on ventures that looked to have a commercial footing, given NSW's low level of gas self-sufficiency.

The CSG industry has struggled with the many twists and turns to planning and environmental rules over recent years as the government picks an uneasy line between strident community opposition and providing a framework for investment to develop much-needed energy supplies.

The two projects proposed by Santos and AGL would go some way to filling the hole. The NSW government says Santos' Pilliga venture would contribute 25 per cent of NSW gas market needs, and AGL's Gloucester project another 18 per cent. Santos's Pilliga venture is much less affected by the new rules, but chief executive David Knox is still not prepared to invest.

Article: http://www.afr.com/p/business/companies/fuming_years_of_nsw_gas_supply_lost_W6Q6Q4NMHcGejyQtojt7bM

30 August 2013

The Australian

'Turn gas tap on or crisis looms'

The NSW gas industry has warned of higher gas prices, job cuts and a significant risk to the state's energy security if the coal-seam gas sector is not developed. James Baulderstone, vice-president of eastern Australia at Santos, said without indigenous gas of its own, NSW had no ability to control its energy supply security.

Industry leaders, including Santos, Origin, AGL and industry body the Australian Petroleum Production and Exploration Association have used submissions to the government's inquiry into downstream gas supply to add weight to their CSG campaign. The development of NSW's CSG reserves has been strongly opposed by green groups and farmers, leading the government to announce several policies over the past 18 months that the industry argued negatively impacted investor sentiment.

Article: <http://www.theaustralian.com.au/news/nation/turn-gas-tap-on-or-crisis-looms/story-e6frg6nf-1226706991616>

27 August 2013

The Australian

Japan ups ante on gas push

JAPAN has ratcheted up its attack on high Australian LNG prices -- hailing US shale gas exports as a game changer that could slash prices by up to 30 per cent -- and is inviting industry players to Tokyo next month as it looks to break the traditional LNG pricing model and encourage new supply. An official from the industry ministry said yesterday buying US shale gas was like purchasing from a "supermarket" at true market prices. He said shale gas exports coupled with a coming "boom" in supply had the potential to turn LNG pricing in Asia on its head. The official, Shinichi Kihara, added that suppliers would gather in Tokyo in a little over two weeks as Japan searched for new sources of supply and ways to push for cheaper prices.

Article: <http://www.theaustralian.com.au/business/mining-energy/japan-ups-ante-on-gas-push/story-e6frg9df-1226704586215>

12 June 2013

The Sydney Morning Herald

Windfall seen in shale oil and gas

Australia could reap a significant windfall from its shale oil and gas reserves, which could be as much as 10 times the existing known reserves, according to a US government report. A report, by the US Department of Energy, found there were sufficient shale oil and shale gas reserves globally to fuel demand for several years, at least, on present estimates. As much one-third of all potential gas reserves globally could be recoverable from shale and around 10 per cent of oil, the report argued. For Australia, the prospect of significant oil to be tap from shale reserves holds significant promise, amid dwindling domestic oil reserves, which has resulted in a surge in imports.

Article: <http://www.smh.com.au/business/windfall-seen-in-shale-oil-and-gas-20130611-2o24a.html#ixzz2dQLn1Qrl>

1 June 2013

The Australian

LNG projects face more delays, blowouts: IEA

THE International Energy Agency has warned of further delays and cost blowouts at Australia's \$190 billion pipeline of LNG projects, many of which it says may be too exposed to any changes in LNG pricing. The Paris-based energy watchdog also does not see expansions of plants such as Gorgon, let alone any new developments, going ahead in the nation's current uncompetitive environment, which is becoming more exposed as US LNG prospects grow. In its latest medium-term gas market report, the IEA takes aim not only at the nation's high environment but at the complex nature of the plants being built here. Delays, even those based on technological issues, will not only postpone export revenue but will drive development prices higher.

Article: <http://www.theaustralian.com.au/business/mining-energy/lng-projects-face-more-delays-blowouts-iea/story-e6frg9df-1226667134309>

29 May 2013

The Australian

LNG costs in focus as \$60bn gas deals shelved

Australia's high-cost liquefied natural gas projects - the investment backbone of the nation's economy - are under increasing pressure from Asian buyers demanding steeper discounts. Evidence that at least \$60 billion worth of gas supply deals have fallen over. As burgeoning supply centres emerge in the US and east Africa, operators of Australia's \$200bn project pipeline LNG plants on the northwest coast of Western Australia and in Gladstone in Queensland will find keener pricing on supply deals, industry leaders warn. Already two big gas export deals with South Korea, worth \$60bn, have been shelved as LNG buyers seek out deals elsewhere.

Chevron, the builder of the \$53bn Gorgon LNG plant on Western Australia's Barrow Island, said a 2009 agreement to sell \$30bn of gas from the project to Korea Gas across 20 years did not get approval from the South Korean government and that the country would not be taking the gas.

Article: <http://www.theaustralian.com.au/business/mining-energy/lng-costs-in-focus-as-60bn-gas-deals-shelved/story-e6frg9df-122>

27 May 2013

ABC Net

Red tape limits oil and gas industry productivity

A report released today reveals productivity in Australia's oil and gas industry is being limited by red tape, lengthy approvals processes and the high Australian dollar. Ernst and Young produced the report with the University of Queensland to identify how productive the industry is and what is holding it back. It found that, if conditions for the industry's climate do improve, Australian projects will no longer be competitive and money will be invested in other countries.

Article: <http://www.abc.net.au/news/2013-05-27/red-tape-limiting-oil-and-gas-industry-productivity/4714308>

MOVEMENTS

There have been a number of movements in the Energy sector this year, some include:

- **Andrew MacKenzie** – Appointed Chief Executive Officer, BHP Billiton Ltd, May 2013
- **Andrew Smith** – Appointed Chairman, Australia, Royal Dutch Shell, Jul 2013
- **Andy Holmes** – Appointed President, Australasia, BP Plc, Jun 2013
- **Bruce Morgan** – Appointed to the Board and Chairman of the Audit Committee, Origin Energy Ltd, Nov 2012
- **Debra Valentine** – Appointed Group Executive Legal External & Regulatory Affairs, Rio Tinto Plc, Feb 2013
- **Fiona Harris** - Appointed to the Board, Oil Search Ltd, Mar 2013
- **Ian Munro** – Appointed Executive General Manager, Gas Business Development, Oil Search Ltd, Aug 2013
- **Kenneth Borda** – Appointed Chairman, Santos Ltd, May 2013
- **Marc England** – Appointed Group Head of Strategy, AGL Energy Ltd, Jul 2013
- **Matt Kay** – Appointed Executive General Manager, Commercial, Oil Search Ltd, commencing Jan 2014
- **Mike Fraser** – Appointed President, Human Resources, BHP Billiton Ltd, Aug 2013
- **Mike Harding** – Appointed Chairman, Oil Search Ltd, Feb 2013
- **Richard Owen** – Appointed Managing Director and Chairman, Exxon Mobil Ltd, Jun 2013
- **Rick Lee** – Appointed Chairman, Oil Search Ltd, Feb 2013
- **Rod Duke** – Appointed Vice President, GLNG, Santos Ltd, Feb 2013
- **Tim Cutt** – Appointed President of Petroleum & Potash, BHP Billiton Ltd, Jul 2013
- **Todd Lee** – Appointed Head of Australian Petroleum, BHP Billiton Ltd, Feb 2013

CONCLUSION: THEMES

“The market is going through tremendous change and we are seeing positive and negative responses. There has been adverse press in regards to CSG and in many cases, without the full facts being argued clearly. It also highlights how badly the industry has presented their case to the public and to the media. There is undoubtable opportunity to be further had. In regards to LNG, the projects are on a grand scale, however costs have blown out, industrial relations and the price of labour are a challenge. The government or rather governments have to provide stability and engage more constructively with business.”

Director, Investment Bank

“There is some debate in the industry with regards to the supply and demand situation, and LNG could be expensive compared to the new emerging suppliers from the Middle East and the United States”

Senior Executive, Gas Company

“Australia has uncompetitive work place structuring, it needs to address its industrial relations platform if it is to maximise its opportunity. The Fair Work Australia process is far from being in touch with reality. The mining sector is undergoing a major transitional period, we are watching it closely, we recognise our opportunities, but also recognise the opportunity to squander. There are lessons being learned.”

Chief Executive, Energy Company

“The world market is competitive and whilst Australia has an abundance of natural resources, it has major infrastructure challenges across mining exploration and production. Efficiency and productivity are a concern. The other concern is how it will be addressed, particularly the over complexity and red tape, it makes Australia a more challenging market. Work practices are questionable, as well as the large head office counts.”

Non-Executive Director, Gas Company

“Despite the ups and downs of the Coal and Iron Ore industry, gas brings totally different dimensions. Firstly the projects are enormously large in their capital outlay. Customers are involved in every project and as such cash should roll in very quickly. Unlike the vagaries of the spot prices for coal and iron ore, gas pricing is tied to a formula which mirrors the oil price with caps and cuffs, however oil has been approximately \$70 to \$100 over the last few years which means gas will be profitable. People seem to have lost sight of the scale of the LNG projects. They are long term and deliver cash to the owners which include Australian companies who share in the ownership. Currently Australia is the 5th largest LNG producer shortly we could be number one against Qatar. Rarely has Australia had such major upside, the LNG business will replace coal in value in export earnings second only to iron ore.”

Gas consultant

“CSG has not been well understood. It wasn't managed well in NSW in relations with the government and farmers, particularly in regards to share of wealth. If we look at the Queensland model which has operated for approximately 15 years, farmers have benefitted and have shared the wealth. The locations of the farms have been out west where land has not been profitable. The Queensland government have been involved from the beginning. In NSW we had the industry trying to introduce drilling in St Peters Sydney and in areas of the Hunter Valley where vineyards have produced for many years. This was poorly orchestrated and thought through. If we examine the global market and take the USA as a case study, Farmers have the rights under their land, whereas in Australia, the Crown has the rights. There needs to be a far more equitable distribution of wealth. Not one bore in

CONCLUSION: THEMES

Queensland has gone to legal proceedings, because the land has been chosen appropriately and the wealth has been managed and better shared. In the USA 80-90% of drinking water is bore water, In Australia, Newcastle and Perth have a percentage of their drinking water being bore. Fracking is only 1-2% of all drilling. Secondly the Great Artesian basin is enormously deep and is not being drilled, so this argument needs greater examination. In 10 years Queensland has gone from importing gas from other states to now producing 70% themselves. NSW needs to think through their strategy”

Senior Operations Executive, CSG Company

“It is really an interesting time in Australia’s energy history. It is reaching a turning point. Whilst the economy has slowed globally, we have had enormous opportunities to provide affordable in fact low price energy. However with poor government we have placed doubt in senior decisions makers minds. We have North America coming back, providing low cost and low priced energy. Australia has been the lucky country, but it is bordering on becoming the too difficult county. I hope we wake up.”

Senior Executive, LNG Company



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ABN 21 160 009 236

Level 5, 17-19 Bridge Street, Sydney NSW Australia

p +61 2 9253 0950

w blenheimpartners.com